

Catalog Home

Catalog Disclaimer

The College Catalog is provided for informational purposes to students/applicants. This Catalog does not constitute a contract, expressed or implied, between any applicant, student or graduate of Blue Ridge CTC. The College reserves the right to change any statement in this document, including, but not limited to course offerings, curricula, academic policies, rules, regulations, refunds, courses, tuition or fees. These changes may occur during a student's enrollment or otherwise. Changes will be implemented at the direction of College Authorities.

Securing a degree does not guarantee employment. Employment is a contract/agreement between employee and employer; the College is not responsible for the hiring decisions of any employer.

Nondiscrimination Statement

Blue Ridge CTC is committed to fostering a diverse and inclusive culture by promoting diversity, inclusion, equality, and intercultural and intercommunity outreach. Accordingly, the College does not discriminate on the basis of race, color, national origin, ancestry, age, physical or mental disability, marital or family status, pregnancy, veteran status, service in the uniformed services (as defined in state and federal law), religion, creed, sex, sexual orientation, genetic information, gender identity, or gender expression in the administration of any of its educational programs, activities, or with respect to admission or employment.

FERPA Statement

The Family Educational Rights and Privacy Act (FERPA) afford students certain rights with respect to their education records. These rights include:

- The right to inspect and review the student's education records within 45 days of the day that BRCTC receives a request for access. A student should submit to the registrar, a written request that identifies the record(s) the student wishes to inspect. The Registrar's Office will make arrangements for access and notify the student of the time and place where the records may be inspected.
 - Records on Disability services and accommodations need to be directed to the Office of Student Affairs
 - Records on Financial Aid need to be directed to the Office of Financial Aid.
 - Records of payments and charges need to be directed to the Cashiers Office.
- The right to request the amendment of the student's education records that the student believes is inaccurate, misleading, or otherwise in violation of the student's privacy rights under FERPA. A student who wishes to ask for an amendment to a record should write the office responsible for the record, clearly identify the part of the record the student wants changed, and specify why it should be changed.
- The right to provide written consent before the College discloses personally identifiable information from the student's education records, except to the extent that FERPA authorizes disclosure without consent.
 - BRCTC discloses education records without a student's prior written consent under the FERPA exception for disclosure to school officials with legitimate educational interests. A school official is a person employed by the College in an administrative, supervisory, academic or research, or support staff position (including law enforcement unit personnel and health staff); a person or company with whom the College has contracted as its agent to provide a service instead of using College employees or officials (such as an attorney, auditor, or collection agent); a person serving on the Board of Trustees; or a student serving on an official committee, such as a disciplinary or grievance committee, or assisting another school official in performing his or her tasks. A school official has a legitimate educational interest if the official needs to review an education record in order to fulfill his or her professional responsibilities for the College.

- The right to file a complaint with the U.S. Department of Education concerning alleged failures by the College to comply with the requirements of FERPA. The name and address of the Office that administers FERPA is: Family Policy Compliance Office, U.S. Department of Education, 400 Maryland Avenue, SW, Washington, DC 20202-5901

Once a student has enrolled and begun attending a post-secondary institution, it is the student who has the rights defined under FERPA. Parents of enrolled students in post-secondary DO NOT have any rights that are mandated under FERPA, regardless of their involvement in helping to fund the student's education. There are three ways in which parents and other individuals may access their student's records.

- If the student signs a written consent giving the access (students can complete this form in the Enrollment Management Office, the student must sign the form in front of EM – this information is then housed in their permanent folder and in banner).
- If the person has a court order or subpoena directing the institution to release the records.
- If the parent can establish that the student is their tax dependent for the most recent tax year according to the IRS Tax Code (this information will be housed in the Financial Aid Office).

The Family Educational Rights and Privacy Act (FERPA), a Federal law, requires that Blue Ridge Community and Technical College, with certain exceptions, obtain your written consent prior to the disclosure of personally identifiable information from your education records. However, Blue Ridge Community and Technical College may disclose appropriately designated "directory information" without written consent, unless you have advised the Registrar's Office to the contrary in accordance with Blue Ridge Community and Technical College procedures. The primary purpose of directory information is to allow Blue Ridge Community and Technical College to include information from your education records in certain publications and during Freedom of Information Act (FOIA) requests. Examples include:

- Deans, Presidents or Honors listings
- Graduation programs
- Enrolled student listings
- Graduate listings

Directory information, which is information that is generally not considered harmful or an invasion of privacy if released, can also be disclosed to outside organizations without prior written consent. Outside organizations include, but are not limited to, other educational institutions and military branches.

If you do not want Blue Ridge Community and Technical College to disclose information designated below as directory information from your education record without your prior written consent, you must notify the Registrar's Office by completing the Request for Confidentiality Status on Student Record (see below). Blue Ridge Community and Technical College has designated the following information as directory information: [Note: a request for information may, but does not have to, include all the information listed below.]

- Student's name
- Address
- Telephone listing
- Electronic mail address
- Date of birth
- Major field of study
- Student type
- Dates of attendance
- Participation in officially recognized activities
- Degrees, honors, and awards received
- The most recent educational agency or institution attended
- Student ID number, user ID, or other unique personal identifier used to communicate in electronic systems but only if the identifier cannot be used to gain access to education records except when used in conjunction

with one or more factors that authenticate the user's identity, such as a PIN, password, or other factor known or possessed only by the authorized user

SUBMITTING A REQUEST FOR CONFIDENTIALITY STATUS ON STUDENT RECORD

Students who wish to submit a request for confidentiality status must complete the online form. Once the form has been received, students should expect a response from the Registrar's Office within 5 business days confirming receipt of the request.

By submitting a request for confidentiality status, students understand that their name will not be included on any College publication, which includes, but is not limited to:

- Deans, Presidents or Honors listings
- Graduation programs
- Enrolled student listings
- Graduate student listings

The form is located within the students Bridge account.

Welcome from the President

Message from the President

Welcome to Blue Ridge Community and Technical College! This past academic year was one of the strangest in my career in higher education. As I write this introduction, the country is in about the fourth month of vaccinations for COVID and the pandemic has the appearance of being contained. There is no way to predict the future, but it does appear to be improving with regard to the virus. It is likely that some of the practices we have adopted as a result of our experience with COVID will continue for the near future. Blended learning, a combination of virtual, online, and remote learning along with live classes, will remain with us as learners.

In my introduction I usually talk about the importance of a good education. As I think about it, it is even more important now than ever. With a good education you can earn a living, raise a family, help those less fortunate, and have a better chance of leading the life you dream. As President of the College, I have the opportunity to see lives improved and students grow and prosper. Being able to do so is a very fulfilling feeling and I am most fortunate to be the President of an institution that changes lives for the better.

Blue Ridge continues to be a very busy place with a lot going on. Within the pages of our catalog, I think you will find an enormous amount of information that will guide you toward a good education and maybe, just maybe, you will find a field of interest that will provide a lifetime of enjoyment and a career that is gratifying and rewarding. Our College continues to deliver in our areas of strength including workforce preparation, transfer programs, and early college for a number of students. For example:

- We offer many opportunities for students to complete work at Blue Ridge Community and Technical College and transfer to a baccalaureate institution.
- We work very closely with regional business and industry to develop curricula that prepare our students for the world of work.
- High school students in Berkeley, Jefferson, and Morgan County Schools experience exciting programs that will prepare completers for a jump start on their college education.
- Our Culinary Academy continues to prepare healthy and affordable meals for purchase by our faculty, staff, and students. Good nutrition is a major part of maintaining a healthy, productive life and our Bruins are there to help with that goal.
- With the passage of Senate Bill 1, students can now qualify for study in selected degree programs at a greatly reduced cost to the student.

At Blue Ridge, students are our reason for being. Our students are the factor in making our College a success. Without our students, we simply would have no reason for being. We have a fantastic group of faculty and staff who are here to

help you succeed in achieving your goals, whether that is to prepare for a career or to transfer to a four-year degree program. The services and education we offer are many and varied and it can be overwhelming at times for the new or even experienced student. Rest assured our faculty and staff can help you in your quest to achieve your goals. We are here to help, and we are glad you have chosen Blue Ridge Community and Technical College.

Welcome to The Ridge!

Best Wishes,

Dr. Peter G. Checkovich

General Information

Mission Statement

Blue Ridge Community and Technical College provides our diverse student population with life-changing education, training, and services that drive economic development within the communities we serve.

Vision Statement

Blue Ridge Community and Technical College is the first choice for higher education that drives career growth and economic development in our region and surrounding communities.

Core Values:

Stewardship:

- Put student access, learning, and success first.
- Support a safe, collaborating, and engaging environment for employees and students.
- Provide an optimum learning environment for students.
- Use College resources responsibly.
- Demonstrate care for facilities.

Integrity:

- Engage and actively contribute to the overall success of the College.
- Think creatively and develop solutions.
- Act honestly and ethically.
- Provide accurate and thorough information.
- Be courageous to be even better.

Civility:

- Communicate with respect, trust, and care.
- Respect differences.
- Listen actively.
- Be aware of your impact on others.
- Discuss differences and resolve conflicts.

Entrepreneurship:

- Embrace our business partners.
- Think proactively and innovatively.
- Be adaptable and flexible for shifting priorities.
- Identify areas for continuous improvement.
- OWN enrollment.
- Take calculated risks wisely.

Policy of Nondiscrimination

Blue Ridge CTC is committed to fostering a diverse and inclusive culture by promoting diversity, inclusion, equality, and intercultural and intercommunity outreach. Accordingly, the College does not discriminate on the basis of race, color, national origin, ancestry, age, physical or mental disability, marital or family status, pregnancy, veteran status, service in the uniformed services (as defined in state and federal law), religion, creed, sex, sexual orientation, genetic information, gender identity, or gender expression in the administration of any of its educational programs, activities, or with respect to admission or employment. This advertisement is for informational purposes only. Printed and/or electronic documents produced by the College do not constitute a contract, expressed or implied, between an applicant or student. For important information about the educational debt, earnings, and completion rates of students enrolled in Certificate Programs at Blue Ridge CTC, visit: www.blueridgectc.edu/GEinfo

Blue Ridge Community and Technical College is required by Section 904, Title IX, Education Amendments of 1972, not to deny admission on the ground of blindness or severely impaired vision; by 45 CFR 84, Subpart E, Section 84.42, and by Section 504 Rehabilitation Act of 1973, nor to deny admission on basis of handicap; by 45 CFR 90, 91 not to discriminate on basis of age; and by 45 CFR 86, Subpart C, Section 86.21, not to deny admission on basis of sex. By Title VI of the Civil Rights Act of 1964, no person shall be subjected to discrimination on the ground of race, color, or national origin. Blue Ridge Community and Technical College is an equal opportunity-affirmative action employer in compliance with Title VII of the Civil Rights Act, West Virginia Human Rights Act, Title IX (Education Amendments of 1972), Section 504, Rehabilitation Act of 1973, American with Disabilities Act, and other applicable laws and regulations.

ADA Coordinator:

Mary Francisco Newlin, Student Development Coordinator
Blue Ridge Community and Technical College
13650 Apple Harvest Drive
Martinsburg, WV 25403
304.260.4380 ext 2117
mfrancis@blueridgectc.edu

EEO Coordinator:

Morgan Gower, Director of Human Resources
Blue Ridge Community and Technical College
13650 Apple Harvest Drive
Martinsburg, WV 25403
304.260.4380 ext 2234
mgower@blueridgectc.edu

Title IX Coordinator:

Ann Paull, Assistant to the Vice President of Enrollment Management
Blue Ridge Community and Technical College
13650 Apple Harvest Drive
Martinsburg, WV 25403
304.260.4380 ext. 2126
apaull@blueridgectc.edu

Academic Calendars

The academic year consists of two, 15-week semesters offered in the fall and spring of each year. Additionally, a 10-week summer session is offered. (Dates are subject to change. Please check the website for updated information).

Fall 2021		
08/13/2021	Fri	Add/Drop and Late Registration (Late Fee Applies) via BRIDGE
08/16/2021	Mon	Classes Begin

08/23/2021	Mon	Last Day to Add/Drop or Late Register via BRIDGE - ends @ 11:00 pm
08/27/2021	Fri	Last Day to Change a Course from Credit to Pass/Fail Status via Bridge
09/06/2021	Mon	Labor Day Holiday – College Closed
09/06/2021	Mon	Last Day to Change a Course from Credit to Audit Status via Bridge
10/01/2021	Fri	Last Day to Withdraw from First 8 Weeks Class
10/04/2021	Mon	First Day of Mid-Term Exams
10/09/2021	Sat	Last Day of Mid-Term Exams
10/11/2021	Mon	Mid-Term Grades due at 9:00 am for 16 Week Classes Final Grades due at 9:00 am for First 8 Weeks Classes Second 8 Weeks Classes Begin First Day of Academic Advisement for Continuing Students for Spring
10/13/2021	Wed	Grades Available on BRIDGE – Tentative
10/18/2021	Mon	First Day of Spring BRIDGE Registration for Continuing Students Spring Booklist Available (Tentative)
11/01/2021	Mon	Last Day to Apply for December Graduation for Associate Degrees via Bridge
11/12/2021	Fri	Last Day to Apply for December Graduation for a Certificate Degree see Advisor
11/19/2021	Fri	Deadline for Administrative Withdraws
11/22/2021	Mon	First Day of Thanksgiving Recess
11/28/2021	Sun	Last Day of Thanksgiving Recess
12/03/2021	Fri	Last Day to Withdraw from Full Semester or Second 8 Week Class Last Day of Classes
12/06/2021	Mon	First Day of Final Exams
12/11/2021	Sat	Last Day of Final Exams
12/13/2021	Mon	Grades Due at 9:00 am
12/15/2021	Wed	Grades Available on BRIDGE - Tentative

Spring 2022		
1/14/2022	Fri	Add/Drop and Late Registration (Late Fee Applies) via BRIDGE
1/17/2022	Mon	Martin Luther King Jr Day, College Closed
1/18/2022	Tue	Classes Begin

1/24/2022	Mon	Last Day to Add/Drop or Late Register via BRIDGE – ends @ 11:00 pm
1/31/2022	Mon	Last Day to Change a Course from Credit to Pass/Fail Status via Bridge
2/07/2022	Mon	Last Day to Change a Course from Credit to Audit Status via Bridge
3/04/2022	Fri	Last Day to Withdraw from First 8-Weeks Class
3/07/2022	Mon	First Day of Mid-Term Exams
3/12/2022	Sat	Last Day of Mid-Term Exams
3/14/2022	Mon	Mid-Term Grades due at 9:00 am for 16 Week Classes Final Grades due at 9:00 am for First 8 Weeks Classes Second 8 Weeks Classes Begin First Day of Academic Advisement for Continuing Students Summer & Fall
3/16/2022	Wed	Grades Available on BRIDGE - Tentative
3/21/2022	Mon	First Day of Summer BRIDGE Registration for Continuing Students Summer Booklist Available (Tentative)
3/23/2022	Wed	First Day of Fall BRIDGE Registration for Continuing Students Fall Booklist Available (Tentative)
4/01/2022	Fri	Last Day to Apply for May Graduation for Associate Degrees
4/15/2022	Fri	Last Day to Apply for May Graduation for a Certificate Degree
4/18/2022	Mon	First Day of Spring Recess
4/24/2022	Sun	Last Day of Spring Recess
4/29/2022	Fri	Deadline for Administrative Withdraws
5/06/2022	Fri	Last Day to Withdraw from Full Semester or Second 8 Week Class Last Day of Classes
5/09/2022	Mon	First Day of Final Exams
5/14/2022	Sat	Last Day of Final Exams
5/16/2022	Mon	Grades Due at 9:00 am
5/18/2022	Wed	Grades Available on BRIDGE - Tentative
5/26/2022	Thur	Commencement (Tentative)
Summer 2022		
1/14/2022	Fri	Add/Drop and Late Registration (Late Fee Applies) via BRIDGE

1/17/2022	Mon	Martin Luther King Jr Day, College Closed
1/18/2022	Tue	Classes Begin
1/24/2022	Mon	Last Day to Add/Drop or Late Register via BRIDGE – ends @ 11:00 pm
1/31/2022	Mon	Last Day to Change a Course from Credit to Pass/Fail Status via Bridge
2/07/2022	Mon	Last Day to Change a Course from Credit to Audit Status via Bridge
3/04/2022	Fri	Last Day to Withdraw from First 8-Weeks Class
3/07/2022	Mon	First Day of Mid-Term Exams
3/12/2022	Sat	Last Day of Mid-Term Exams
3/14/2022	Mon	Mid-Term Grades due at 9:00 am for 16 Week Classes Final Grades due at 9:00 am for First 8 Weeks Classes Second 8 Weeks Classes Begin First Day of Academic Advisement for Continuing Students Summer & Fall
3/16/2022	Wed	Grades Available on BRIDGE - Tentative
3/21/2022	Mon	First Day of Summer BRIDGE Registration for Continuing Students Summer Booklist Available (Tentative)
3/23/2022	Wed	First Day of Fall BRIDGE Registration for Continuing Students Fall Booklist Available (Tentative)
4/01/2022	Fri	Last Day to Apply for May Graduation for Associate Degrees
4/15/2022	Fri	Last Day to Apply for May Graduation for a Certificate Degree
4/18/2022	Mon	First Day of Spring Recess
4/24/2022	Sun	Last Day of Spring Recess
4/29/2022	Fri	Deadline for Administrative Withdraws
5/06/2022	Fri	Last Day to Withdraw from Full Semester or Second 8 Week Class Last Day of Classes
5/09/2022	Mon	First Day of Final Exams
5/14/2022	Sat	Last Day of Final Exams
5/16/2022	Mon	Grades Due at 9:00 am
5/18/2022	Wed	Grades Available on BRIDGE - Tentative
5/26/2022	Thur	Commencement (Tentative)

Accreditation

Blue Ridge Community and Technical College (BRCTC) serves the West Virginia counties of Berkeley, Jefferson, and Morgan. As a major economic driver in the region, Blue Ridge Community and Technical College provides all of our students a firm foundation of knowledge and our graduates the necessary skills to join the workforce as well-prepared professionals. The College has expanded its outreach in numerous areas, including major corporations, high school students, donors, small business, and the local legislative delegation.

Blue Ridge Community and Technical College was independently accredited by the Higher Learning Commission in February 2005. During January 2021, the College received reaffirmation from the Higher Learning Commission after a successful comprehensive evaluation.

For more information regarding the institution's accreditation status, please visit <https://www.blueridgectc.edu/accreditation/>

About Blue Ridge Community and Technical College

Blue Ridge Community and Technical College has a headquarters building located on Apple Harvest Drive, Martinsburg, WV. The 55,000 square foot building offers 18 classrooms, additional parking, and Culinary Academy faculty and student led food service. The gorgeous building is a welcomed addition to the scenery and backdrop within Berkeley County, West Virginia and will easily serve the thousands of students to come.

The College leases over 100,000 square feet of space at its Technical Center located in the Berkeley Business Park, Winchester Avenue, Martinsburg, WV. This facility is designed to accommodate new and emerging careers in the region including sectors such as Allied Health, Manufacturing, Electric Utility, and Information Technology and Computer Science.

A recent partnership with the College, Morgan County Commission, and Procter & Gamble created an opportunity to expand a lease at the Pines Opportunity Center located in Berkeley Springs, WV. This 12,000 square foot space provides the community with opportunity to enroll in high school/early College courses, many degree programs, customized business training, and career advancement. The Pines Opportunity Center is home to the College's Spring Tech Innovation Lab which serves the area as an innovative business incubator.

Workforce Training Solutions

Blue Ridge Community and Technical College is a resource for employers in Berkeley, Morgan, and Jefferson Counties. Its relevant curriculum and educational programs, together with strong business and industry training programs, have created a learning organization whose students and graduates are among the best-prepared citizens and workers in the state.

Blue Ridge Community and Technical College provides educational solutions to the emerging and incumbent workforce that include customized curriculum design and instructional delivery, supports industry certification, internships and apprenticeships, and improves the workplace performance of our customers. For additional information, please visit our website (www.blueridgectc.edu) or contact Amber Butcher at abutcher@blueridgectc.edu, Kim Moss at kmoss@blueridgectc.edu, or Anne Myers at amyers@blueridgectc.edu.

Campus Locations

Headquarters

Blue Ridge Community and Technical College Headquarters is located at 13650 Apple Harvest Drive, Martinsburg, West Virginia 25403, and the phone number is (304) 260-4380. Blue Ridge Community and Technical College administrative and faculty offices are at this location.

Technology Center

Blue Ridge Community and Technical College opened its Technology Center in the Berkeley Business Park, located at 5550 Winchester Avenue, Martinsburg, WV 25405. The Technology Center held its ribbon cutting ceremony on June 18, 2008. Governor Joe Manchin, III gave the keynote address. This building was opened with a partnership with Allegheny Energy. The facility has an indoor and outdoor pole park, classrooms, lab classrooms for Culinary Arts, Mechatronics, Physical Therapy Assisting, Medical Assisting, Applied Lab Technician, Environmental Science, Heavy Equipment Technician, Plastics, computer labs, and many office spaces. This site is approved by The Higher Learning Commission and the Department of Education. Please contact the College for more information.

The Pines Opportunity Center

Blue Ridge Community and Technical College began using the Morgan County Center during the Fall of 2012. The Center is located in the Pines Opportunity Center, 109 War Memorial Drive, at the former Berkeley Springs hospital. Currently, there are five standard classrooms along with several smaller rooms that can easily accommodate small groups and meetings. Please contact the College for more information.

Admissions

Admission Requirements

Students seeking admission to Blue Ridge Community and Technical College as degree-seeking students must have graduated from high school or passed the GED or TASC Assessment. To apply the following items must be submitted to the Admissions Office:

1. Complete Blue Ridge Community and Technical College Degree Seeking Application.
2. \$25 Application Fee.
3. ACT/SAT/or other placement test scores such as the WV Grade 11 Math and English Assessments (*Accuplacer is given to students without scores; for cutoff scores to be placed in foundation level classes, please review the Support Services section of this catalog*).
4. Official transcripts.
 - a. High School, GED or TASC scores
 - b. Any and all colleges attended

Admission to Limited Enrollment Programs

The following associate degree programs have additional requirements for admission into the program.

1. Board of Governors, A.A.S.
2. Electric Utility Technology, A.A.S.
3. Nursing A.S.N.
4. Physical Therapist Assisting, A.A.S.
5. Technical Studies, A.A.S.

Types of Enrollment

First-time Freshmen

Students who have never attended a college or university before are classified as freshmen and must:

1. Complete Blue Ridge Community and Technical College Degree Seeking Application.
2. Pay the \$25 Application Fee.
3. Submit ACT/SAT/or other placement test scores such as the WV Grade 11 Math and English Assessments (*Accuplacer is given to students without scores; for cutoff scores to be placed in foundation level classes, please review the Support Services section of this catalog*).
4. Provide official transcripts.
 - a. High School, GED or TASC scores
5. Complete separate Financial Aid paperwork (FAFSA) if interested in applying for Financial Aid.
6. Register for and complete an Orientation/Registration Session (included with acceptance letter).

Readmits

Students who have previously attended Blue Ridge Community and Technical College, have not attended another institution since prior enrollment, and would like to re-enroll are classified as readmitted students and must:

1. Complete Blue Ridge Community and Technical College Degree Seeking Application.
2. Pay the \$25 Application Fee.
3. Check BRIDGE to make sure you have no holds from previous attendance on your academic record. Holds or suspensions may prevent you from being readmitted.
4. Complete separate Financial Aid paperwork (FAFSA) if interested in applying for Financial Aid.
5. Register for and complete an Orientation/Registration Session (included with acceptance letter).

Continuing students who have not been registered for one or two semesters (not including summer), can meet with their academic advisor to register for courses without reapplying for admission. (NOTE: This policy does not apply to students who have been suspended, attended another institution while not at BRCTC (see Transfer/Readmit below), or who have not been enrolled for longer than two semesters).

Transfers

Students who have previously attended any other college (s) or university (ies) are classified as transfer students. Transfer students must:

1. Complete Blue Ridge Community and Technical College Degree Seeking Application.
2. Pay the \$25 Application Fee.
3. Provide previous official college transcripts from all institutions attended.
4. Provide official High School transcripts, TASC Assessment, or GED Scores, unless you meet both of the following qualifications:
 - a. You have 15 or more college credits from an accredited college and/or program recognized by the US Department of Education.
 - b. It has been 5 years or more since you graduated or received a GED/TASC Assessment.
5. Complete separate Financial Aid paperwork (FAFSA) if interested in applying for Financial Aid.
6. Register for and complete an Orientation/Registration Session (included with acceptance letter).

For an associate's degree, a student must complete at least 24 credit hours of coursework at Blue Ridge Community and Technical College. The last 12 hours of coursework for an associate's degree must be completed at Blue Ridge Community and Technical College. For the Board of Governors, Occupational Development, and Technical Studies Associate of Applied Science degrees, a student must complete at least 12 credit hours at a regionally accredited institution and at least 3 credit hours at Blue Ridge Community and Technical College.

Transfer/Readmits

Students who have previously attended Blue Ridge Community and Technical College and then attended any other college(s) or university(ies) during their absence are considered transfer/readmit students. Transfer/Readmits must:

1. Complete Blue Ridge Community and Technical College Degree Seeking Application.
2. Pay the \$25 Application Fee.
3. Provide official transcripts from schools attended during absence from Blue Ridge Community and Technical College.
4. Complete separate Financial Aid paperwork (FAFSA) if interested in applying for Financial Aid.
5. Register for and complete an Orientation/Registration Session (included with acceptance letter).

For an associate's degree, a student must complete at least 24 credit hours of coursework at Blue Ridge Community and Technical College. The last 12 hours of coursework for an associate's degree must be completed at Blue Ridge Community and Technical College. For the Board of Governors, Occupational Development, and Technical Studies Associate of Applied Science degrees, a student must complete at least 12 credit hours at a regionally accredited institution and at least 3 credit hours at Blue Ridge Community and Technical College.

Absence from College/Readmission

Degree-seeking students in good academic standing who must discontinue their studies for a brief time will be considered eligible to re-enroll in future semesters, as long as they return after no more than two consecutive regular semesters (not including summer sessions), and do not take courses at another institution during that time without prior approval from the College.

Students who are on suspension, who take courses at another institution without prior approval, or who are absent from studies for more than three consecutive regular semesters (not including summer sessions), must re-apply for admission to the College.

Students wishing to return after an absence of no more than two consecutive regular semesters should make an appointment with their advisor and register for classes via BRIDGE.

Orientation/Registration

Blue Ridge Community and Technical College's Orientation/Registration is required for all incoming associate degrees and/or certificate-seeking students. The Orientation/Registration will cost the student \$25.00. The purpose of the Blue Ridge Community and Technical College's Orientation/Registration is to familiarize students with policies, procedures, online services, campus services, and other academic and campus information and to register for classes. Orientation/Registration may be completed virtually and/or in-person. Below are the steps to registering for Orientation/Registration:

1. Admitted students will receive an email with their acceptance letter indicating Orientation/Registration dates.
2. Follow instructions included in the acceptance letter regarding Orientation/Registration.
3. Complete Placement Testing prior to Orientation/Registration if needed. Contact the Testing Center at 304-260-4380, extension 2114 with questions regarding testing.

Non-Degree Seeking Students

Non-degree students are those who wish to take courses at Blue Ridge Community and Technical College but do not desire to enroll in any specific program or desire a degree.

- Non-degree students are generally not eligible for Financial Aid. Some specialized programs may be eligible but they have a separate registration process.
- Non-degree students are not assigned an advisor.
- Steps to enroll:

- a. Complete the non-degree application (available online at www.blueridgectc.edu).
- b. Submit placement test scores or unofficial college transcripts for proper placement in certain courses requiring pre-requisites. If no placement scores are available, schedule a Placement Test at the Testing Center.
- c. Students will receive an email with directions on payment, book(s), confirmation of registration, and instructions regarding BRIDGE.
- d. Pay the required tuition fee after registration.

Note: Once all of the above paperwork is received, non-degree students may continue to register for upcoming semesters in Bridge. If the student does not register for two consecutive semesters, the student will need to reapply. If the student wishes to become degree-seeking, they will need to apply as a degree-seeking student. Non-degree students do not have priority registration in BRIDGE.

High School Students

Students who are currently enrolled in high school and wish to take college-level courses at Blue Ridge Community and Technical College are classified as high school students.

- Students must have at least a 2.0 high school GPA.
- Students must have placement test scores for proper placement in math or English. For specific score requirements, please refer to the Support Services section of this catalog.
- The total number of high school and college instructional hours in one semester is not to exceed 19.
- Steps to enroll:
 - a. Complete the non-degree application (available online at www.blueridgectc.edu), if you have a minimum of a 2.0 high school GPA.
 - b. Submit placement test scores or unofficial college transcripts for proper placement in certain courses requiring pre-requisites. If no placement scores are available, schedule a Placement Test at the Testing Center.
 - c. Submit a current unofficial transcript of high school courses taken.
 - d. Home-schooled students must also submit a letter of current registration from the county in which they are enrolled.
 - e. Submit all of the above together in one packet to the Admissions Office.
 - f. Pay the required tuition fee after registration.

Note: All of the above paperwork is required once per academic year. Students continuing each semester may register through Bridge.

Fee Waiver

Blue Ridge Community and Technical College recognize the American College Test's or College Board's Application Fee Waiver Program for economically-disadvantaged students. The appropriate request for a fee waiver should be submitted by the High School Guidance Counselor with the admissions application form.

Admission of Differently-abled Students

Different abilities can create barriers with admittance into certain programs at Blue Ridge Community and Technical College. College officials seek to provide accommodations to support students with different abilities. The college must have reasonable notice from the student to enroll in the Office of Accessibility Services. The student may be asked to provide documentation regarding their condition, disability, or accommodation needs. Previous IEP or 504 plans do NOT automatically transfer, because accommodations at the collegiate level are self-reported. Please refer to the website for the Accessibility Services Student Handbook to learn more about the intake process and documentation guidelines. Inquiries or requests should be directed to the Office of Accessibility Services Student Development Coordinator at access@blueridgectc.edu.

Classification for Residency for Admissions and Fee Purposes

General

The institutional officer designated by the President shall assign students enrolling in a West Virginia public institution of higher education a residency status for admission, tuition, and fee purposes. In determining residency classification, the issue is essentially one of domicile. In general, the domicile of a person is that person's true, fixed, permanent home, and place of habitation. The decision shall be based upon information furnished by the student and all other relevant information. The designated officer is authorized to require such written documents, affidavits, verifications, or other evidence as is deemed necessary to establish the domicile of a student. The burden of establishing domicile for admission, tuition, and fee purposes is upon the student. If there is a question as to domicile, the matter must be brought to the attention of the designated officer at least two weeks prior to the deadline for the payment of tuition and fees. Any student found to have made a false or misleading statement concerning domicile shall be subject to institutional disciplinary action and will be charged the non-resident fees for each academic term theretofore attended. The previous determination of a student's domiciliary status by one institution is not conclusive or binding when subsequently considered by another institution; however, assuming no change of facts, the prior judgment should be given strong consideration in the interest of consistency. Out-of-state students being assessed resident tuition and fees as a result of reciprocity agreement may not transfer said reciprocity status to another public institution in West Virginia.

Residence Determined by Domicile

Domicile within the state means the adoption of the state as a fixed permanent home and involves personal presence within the state with no intent on the part of the applicant or, in the case of the dependent student, the applicant's parent(s) to return to another state or county. Residing with relatives (other than the parent(s)/legal guardian) does not, in and of itself, cause the student to attain domicile in this state for admission or fee payment purposes. West Virginia domicile may be established upon the completion of at least 12 months of continued presence within the state prior to the date of registration, provided that such 12 months' presence is not primarily for the purpose of attendance at any institution of higher education in West Virginia. The establishment of West Virginia domicile with less than 12 months' presence prior to the date of registration must be supported by evidence of positive and unequivocal action. In determining domicile, institutional officials should give consideration to such factors as the ownership or lease of a permanently-occupied home in West Virginia, full-time employment within the state, paying West Virginia property tax, filing West Virginia income tax returns, registering of motor vehicles in West Virginia, possessing a valid West Virginia driver's license, and marriage to a person already domiciled in West Virginia. Proof of a number of these actions should be considered only as evidence that may be used in determining whether or not a domicile has been established. Factors militating against the establishment of West Virginia domicile might include such considerations as the student not being self-supporting, being claimed as a dependent on federal or state income tax returns or on the parents' health insurance policy if the parents reside out of state, receiving financial assistance from state student aid programs in other states, and leaving the state when school is not in session.

Dependency Status

A dependent student is one who is listed as a dependent on the federal state income tax return of his or her parent(s) or legal guardian or who receives major financial support from that person. Such a student maintains the same domicile as that of the parent(s) or legal guardian. In the event the parents are divorced or legally separated, the dependent student takes the domicile of the parent with whom he or she lives or to whom he or she has been assigned by court order. However, a dependent student who enrolls and is properly classified as an in-state student maintains that classification as long as the enrollment is continuous and that student does not attain independence and establish domicile in another state. A nonresident student, who becomes independent while a student at an institution of higher education in West Virginia, does not, by reason of such independence alone, attain domicile in this state for admission or fee payment purposes.

Change of Residence

A person who has been classified as an out-of-state student and who seeks resident status in West Virginia must assume the burden of providing conclusive evidence that he or she has established domicile in West Virginia with the intention of making a permanent home in this state. The intent to remain indefinitely in West Virginia is evidenced not only by a person's statements but also by that person's actions. In making a determination regarding a request for a change in residency status, the designated institutional officer shall consider those actions referenced in section two above. The change in classification, if deemed to be warranted, shall be effective for the academic term or semester next following the date of the application for reclassification.

Metro Fee

A metro fee was established in Fall 2016. Those students from bordering counties pay a lesser fee than out-of-state students. Neighboring counties include:

- Frederick County, Maryland
- Washington County, Maryland
- Franklin County, Pennsylvania
- Fulton County, Pennsylvania
- Clarke County, Virginia
- Frederick County, Virginia
- Loudoun County, Virginia

Aliens

An alien who is in the United States on a resident visa or who has filed a petition for naturalization in the naturalization court, and who has established a bona fide domicile in West Virginia as defined in section two, may be eligible for in-state residency classification, provided that person is in the state for purposes other than to attempt to qualify for residency status as a student. Political refugees admitted into the United States for an indefinite period of time and without restriction on the maintenance of a foreign domicile may be eligible for an in-state classification as defined in section two. Any person holding a student or other temporary visa cannot be classified as an in-state student. Currently, Blue Ridge Community and Technical College is not a SEVIS institution; therefore, we cannot accept students on an F-1 VISA.

Former Domicile

A person who was formerly domiciled in the state of West Virginia and who would have been eligible for an in-state residency classification at the time of his/her departure from the state may be immediately eligible for classification as a West Virginia resident provided such person returns to West Virginia within a one-year period of time and satisfies the conditions of section two of these rules regarding proof of domicile and intent to remain permanently in West Virginia.

Appeal Process

The initial determination of residency classification by the Registrar may be appealed to the institutional committee on residency appeals, which is established by the President to receive and act on appeals of initial residency decisions. The decision of the institutional committee on residency appeals may be appealed to the President of the Institution. The appeal shall end at the institutional level.

Expenses

Payment

The West Virginia Higher Education Policy Commission regulations require the College to operate strictly on a cash basis with all payments and obligations being collected in advance.

If payment is made by check, registration will be considered incomplete until the check covering the required fees has cleared the bank on which it is written. The Cashier's Office will accept cash, credit cards, money orders, or approved personal checks written for the exact amount of the obligation. All checks must be payable to Blue Ridge Community and Technical College and third-party checks will not be accepted. A student's registration may be canceled when payment is made by a check which is dishonored by the bank. If the returned check is in payment of tuition and fees, the business office is required to declare the fees unpaid and registration canceled. The return of a check for any reason constitutes late registration, and the applicable late-registration fee shall be assessed. In such case, the student may re-register upon redemption of the unpaid check, payment of the \$10 returned check handling charge, and payment of the applicable late fee of \$25. The returned check fee of \$10 will be collected for each check returned unpaid by the bank upon which it is drawn, unless the drawer obtains an admission of error from the bank.

All student charges are payable at the time of registration for each semester. Students in debt to the College from a previous semester or term will not be permitted to enroll until all obligations are paid. Any outstanding and unpaid financial obligation to the College can result in withholding the student's grades, transcript of credits, diploma, and official reports. Students will not be permitted to attend classes until registration has been completed. In addition, outstanding balances greater than 30 days may be referred to a collection agency in accordance with the Blue Ridge Community and Technical College Debt Collection policy. *The College may refer to a College-designated third party agency or an approved contracted collection agency any invoices outstanding 30 days after the "third and final notice" which is given when an invoice is outstanding at 90 days.*

Student employees will be required to pay tuition and fees at the same time as other students. The student employee will receive paychecks from the State of West Virginia for work performed during the previous month. All fees and expenses are subject to change without prior notice.

Enrollment Fees Per Semester—Fall 2021

	West Virginia Students Enrolled at Blue Ridge Community and Technical College	Metro Students Enrolled at Blue Ridge Community and Technical College*	Out-of-State Students Enrolled at Blue Ridge Community and Technical College
Hours	Fee	Fee	Fee
1	\$172.00	\$211.00	\$311.00
2	\$344.00	\$422.00	\$622.00
3	\$516.00	\$633.00	\$933.00
4	\$688.00	\$844.00	\$1,244.00
5	\$860.00	\$1,055.00	\$1,555.00
6	\$1,032.00	\$1,266.00	\$1,866.00
7	\$1,204.00	\$1,477.00	\$2,177.00

8	\$1,376.00	\$1,688.00	\$2,488.00
9	\$1,548.00	\$1,899.00	\$2,799.00
10	\$1,720.00	\$2,110.00	\$3,110.00
11	\$1,892.00	\$2,321.00	\$3,421.00
12	\$2,064.00	\$2,532.00	\$3,732.00

Rates are subject to the approval of the West Virginia Higher Education Policy Commission.

*Students living in Frederick or Washington counties in Maryland; Clark, Frederick, or Loudoun counties in Virginia; or Franklin or Fulton counties in Pennsylvania will receive a metro fee which is less expensive than out of state.

*Students receiving veteran's benefits will receive the same tuition rate as In-State Students.

An Explanation as to Use of Enrollment Fees—Fall 2021

	West Virginia Students (Full-Time Rate)	Metro Students (Full-Time Rate)	Out-of-State Students (Full-Time Rate)
Technology Fee:	\$132.00	\$132.00	\$132.00
Restricted to defray expenses for the development of college technology.			
College Operation Fee:	\$1,932.00	\$2,400.00	\$3,600.00
Unrestricted for general operating purposes.			
TOTAL	\$2,064.00	\$2,532.00	\$3,732.00

Refund Policy

Students who withdraw in accordance with College procedures may receive a refund of tuition and fees in accordance with the schedules outlined below. The refund calculation is based on the amount paid toward tuition and fees. (**No refunds on partial withdrawals**). Refunds are determined from the first day of the school term, which officially begins with orientation and registration days. The official withdrawal date is certified by the Registrar. Refund checks are issued through the State Treasury, and receipt of a refund may take up to six weeks depending on the date of withdrawal.

To get a 100% refund you must drop ALL classes by the end of add/drop.

Regular Session

During the first and second weeks	90%
During the third and fourth weeks	75%
During fifth through eighth weeks	50%
Beginning with ninth week	No Refund

Summer Session

During the first 10% of the term	90%
From 11% to 25% of the term	75%
From 26% to 50% of the term	50%
After 50% of the term is completed	No Refund

Special Fees

Admission Application Fee (nonrefundable)	25.00
Board of Governors Transcript Posting Fee (per credit)	10.00
Diploma Replacement	20.00
Late Payment	25.00
Late Registration	25.00
Online Course Fees per credit hour	25.00
Orientation Fee	25.00
Returned Check Handling Fee	10.00
Science Lab Fee	10.00-100.00
Student ID Replacement	5.00
Transcripts	10.00
Verification Services (Clearinghouse)	10.00

Additional fees may be assessed for individual courses or programs. These fees are listed in the comments section in the schedule of classes.

Audit Fees Per Semester

Enrollment fees for students enrolled in courses for audit (without credit) are the same as if credit were given. (The only exception applies to students who are 65 and over requesting the senior citizen discount.)

Reduced Tuition and Fee Program

WV Residents who are at least 65 Years of Age

1. To be eligible for this program the applicant must complete the application/registration form and choose one of the following options:
 - a. Register under this program for all classes for credit (\$86/per credit hour).
 - b. Register under this program for all classes for noncredit (\$12.50/per credit hour).
(A student cannot mix these two options or mix this program with regular tuition course registration.)
2. A student eligible for this plan follows the same guidelines as other degree and/or non-degree seeking students.
3. The total tuition and standard fees for the credit option will be 50 percent of the normal rates charged to state residents.
4. The total tuition and standard fees for the noncredit option will be \$12.50 per credit hour.
5. Students under this plan will be expected to pay full charges for special fees, including laboratory fees, which are required of all other students.
6. Students must pay at the time of registration to avoid being dropped for nonpayment.
7. In lieu of a grade, an AU will be entered for courses in the noncredit option.
8. Students may withdraw according to established dates.
9. The standard refund policy applies, as do all other college policies not specifically addressed herein.
10. All College academic policies apply.
11. Students who wish to register under this plan must contact the Admissions Office at admissions@blueridgectc.edu to qualify and have their status manually updated each term.

Currently Enrolled High School Students

Students currently enrolled in high school are eligible for reduced tuition rates at \$25 per credit hour. All online, technology, and other lab fees apply.

Scholarships and Financial Aid

Financial Aid for Blue Ridge Community and Technical College students are part of Enrollment Management Services in the offices at 13650 Apple Harvest Drive in Martinsburg. To reach the office by phone, call (304) 260-4380 ext 2106 or visit the website at www.blueridgectc.edu/financial-aid/. Current students can view and update financial aid status using BRIDGE.

Financial assistance is available based on merit and/or financial need. Awards are given for a period of one academic year, which begins in August, and students must apply for financial aid and/or scholarships each year. The following sections describe guidelines for application, financial aid programs, responsibilities of students and/or parents, and deadlines. More detailed information is available from the Financial Aid Office.

Application Process

Any student who wishes to apply for federal and/or state financial assistance must submit the Free Application for Federal Student Aid (FAFSA) and be admitted to the College in an eligible program. Some certificate programs are eligible for federal aid and the WV HEAPS (Higher Education Assistance for Part-time Students) Grant. All applicants are required to submit the FAFSA and are urged to begin the application process as early as possible after October 1, each year that they will be enrolled. If the student will be enrolled for the Fall, he/she is strongly encouraged to fill out a FAFSA by March 1.

Once the FAFSA is filed with the Department of Education, the application may be selected for a process called verification. The Department of Education randomly selects 30 percent or more of all applicants for verification. Students selected will be notified in writing of required documentation, which includes the verification form, signed copies of student and parent tax return transcripts (for dependent students) and W-2s. Any student with special circumstances, such as loss of employment, extraordinary medical/dental expenses, divorce/separation, or other situations, which could not be reported on the FAFSA, may write a letter to the Financial Aid Office asking for a review of his/her circumstances.

Federal and State Grant Programs

Federal Pell Grant

A federal grant, which is based on income, family size, and other factors as determined by filing the FAFSA, is for undergraduate students only. The maximum award for 2021-2022 is \$6,495. Pell Grants do not have to be paid back and are available for full and part-time attendance.

Federal SEOG

The Federal Education Opportunity grant may be available to students demonstrating exceptional need. Awards are available for full and part-time attendance. Standard awards typically range up to \$750 per year but can vary based on financial need.

West Virginia Invests

West Virginia Invests is a "last dollar in" financial aid program that covers up to the cost of tuition for certificate or associate degree programs in specific high-demand fields, as determined by the West Virginia Department of Commerce. Eligible degree and certificate programs are listed on our website at <http://www.blueridgectc.edu>. Student's eligibility is based on enrollment status, previous degree status, number of credit hours completed, a drug test, and community service hours. Interested students should apply online at <http://www.wvinvests.org>.

West Virginia Grant Program

This is a need-based state grant program administered by the Higher Education Policy Commission. Awards are to West Virginia residents and amounts vary by institution. For 2021-2022, the grant amount will range up to \$3,000, based on the Expected Family Contribution and students must be enrolled full-time (12 credit hours or more) each semester. Since it is a need-based program, a FAFSA must be filed by April 15, 2021.

PROMISE Scholarship

West Virginia PROMISE (Providing Real Opportunities for Maximizing In-state Excellence) is a merit-based scholarship program designed to keep qualified students in West Virginia by making college affordable. It pays 100% of mandatory tuition and fees at Blue Ridge Community and Technical College. It is the full responsibility of the student to ensure adherence to the PROMISE guidelines. For full program details, please refer to the College Foundation of WV website: www.cfww.com. The FAFSA and PROMISE application deadline has been extended to July 1, 2021.

Higher Education Assistance for Part-time Student Grant (HEAPS)

This is a need-based state grant for part-time students in a degree or eligible certificate programs. The award amount is based on tuition charges and is determined by individual schools. A FAFSA is required.

Federal Work Study

Federal work-study jobs help students earn money while attending Blue Ridge Community and Technical College. Undergraduate students with work-study jobs may work part-time on or off campus while enrolled. Federal work-study provides part-time jobs for undergraduates with financial need, which allows students to earn money to assist with living expenses. The program encourages community service work and work related to a student's course of study.

If you are interested in obtaining a Federal Work Study job while you are enrolled at Blue Ridge, make sure you apply for aid early. It is encouraged that you complete the FAFSA by March 1 each year. The Financial Aid Office awards funds on a first-come-first-served basis. Please check your award on your BRIDGE account to verify that you are Federal Work Study eligible. If you feel you may be eligible and have not been awarded, please contact the Financial Aid Office.

You will earn at least the current federal minimum wage. However, you may earn more depending on the type of work you do and the skills required for the position. Students must also meet Satisfactory Academic Progress.

Your total work-study award will depend on:

- when you apply,
- your level of financial need, and
- Blue Ridge's funding level.

For a list of Federal Work-Study positions, please check our bulletin board located next to the Human Resources Office as well as on the Human Resources Website, <http://www.blueridgectc.edu/about-blue-ridge/human-resources/faculty-and-staff/>.

Student and Parent Loans

The Financial Aid Office processes student and parent loans through the William D. Ford Federal Direct Loan Program funded by the U.S. Department of Education. Students must be enrolled in a minimum of six credit hours in an eligible program to qualify for a Direct Stafford Loan. Federal regulations require that an origination fee is deducted from every Federal Direct Subsidized and Unsubsidized Stafford Loan. For Direct Stafford loans that are first disbursed after October 1, 2020, the origination fee is 1.057%.

Federal Direct PLUS loans also have origination fees. For PLUS Loans first disbursed after October 1, 2020, the origination fee is 4.228%.

Federal Direct Loans

After the student has completed the FAFSA, all eligible students will be awarded the base Stafford loan amount based on the student's grade level. Any student who wants a lower amount need only indicate that amount when the loan is accepted. The amount any student may borrow each academic year is based on:

1. Grade level
2. Length of the academic program
3. Dependent or independent status
4. Enrollment status (full or part-time) must be at least half-time
5. Institutional budgets assigned to each student

Listed below are the maximum amounts per year a student may borrow under the Direct Loan Program as an undergraduate seeking a two-year degree:

Annual Loan Limits for Dependent Students

(effective July 1, 2009)

Annual Loan Limits for Independent Students

(and dependent students whose parents cannot borrow PLUS)

	Base Amount	Additional Unsubsidized Loan		Base Amount	Additional Unsubsidized Loan
First-Year Students	\$3,500	\$2,000	First-Year Students	\$3,500	\$6,000
Second Year Students	\$4,500	\$2,000	Second Year Students	\$4,500	\$6,000

No student seeking an associate's degree may borrow above \$10,500 each academic year. The amount and type of loan a student may receive vary by his/her total cost of education and the amount of other financial aid received. Grade level for transfer students for loan processing is based on the total number of hours accepted by Blue Ridge Community and Technical College. A student may request more than the base loan amount by completing the "Additional Unsubsidized Loan Request Form". This form is available after July 1 of each year.

When the loan is being processed, a first-time borrower must sign a Master Promissory Note (MPN) and complete Federal Direct Loan Entrance Counseling. The promissory note and entrance counseling should be signed electronically at www.studentloans.gov. The electronic confirmation of entrance counseling and completion of an MPN are sent directly to the Financial Aid Office.

All loans are disbursed in two payments per semester, usually 30 days after the beginning of each term, and again at the midpoint of the term. All funds are applied to any outstanding obligations to the College before the student receives a refund.

Direct Parent Loan for Undergraduate Students (PLUS)

Applications for the Parent Loan for Undergraduate Students (PLUS) are available on the Blue Ridge Community and Technical College website. Parent loans are processed based on the amount requested, on the student's cost of attendance, and on the amount of other financial aid received. A credit check by the Federal Loan Servicer is required for processing. If a parent's credit is denied, a student can apply for an unsubsidized loan in his/her name.

Alternative Loans

Other loans may be available to students with a demonstrated need or special situations. These require credit checks and are available through private banks, credit unions, or other private lending institutions. Outside loan applications are available online at the lenders' websites.

Loan Repayment Information

William D. Ford Federal Direct Loans do not have to be repaid until six months after the student graduates or ceases attending on at least a half-time basis. Any student who drops below six hours of enrollment must begin repaying his/her loan six months from that time. Only one six-month grace period is granted to each student. The repayment process for parent loans begins within 60 days after the last disbursement for the year, usually in March if the loan is for two semesters. Current minimum repayment amounts are \$50, depending on the repayment plan. Several repayment plans exist for all loan programs. To view repayment plan options go to www.studentaid.gov/repay-loans/understand/plans. Exit Counseling must be completed at the time of graduation or when the student goes below half-time enrollment.

Exit Counseling is completed online at www.studentaid.gov.

Other Types of Assistance

Veteran's

Refer to the Veterans section of this catalog.

Vocational Rehabilitation

Students with physical or learning disabilities may be eligible for assistance with education expenses through their state department of vocational rehabilitation. Students should contact the local Division of Rehabilitation Services to inquire about programs available.

Disbursements/Refunds

Disbursement of Funds

Financial aid is awarded for the full academic year with half available for the fall semester and half for the spring semester. Student payment for tuition and fees is due prior to the start of each semester. Students receiving financial aid to assist with these expenses will have that aid applied first to institutional charges. Purchase of books and supplies through Blue Ridge Community and Technical College's bookstore official vendor may be billed directly to the student account if the student has a credit balance.

Refund of Excess Financial Aid

All financial aid, including loans, is applied to the student account to cover institutional costs. No refund is given to the student until all obligations to the College are met. All Title IV funds awarded (Federal Pell Grant, Federal SEOG, and Direct Loans) are refundable according to program regulations. Refunds for excess financial aid are normally available shortly after funds have been disbursed and on a weekly basis thereafter.

Refunds/Returns Due to Withdrawal

The Financial Aid Office is required by federal statute to recalculate federal financial aid eligibility for students who withdraw, drop out, are dismissed, or take a leave of absence prior to completing 60% of a payment period or term. Federal Title IV financial aid program eligibility must be recalculated in these situations.

If a student leaves the institution prior to completing 60% of a payment period or term, the Financial Aid Office recalculates eligibility for Title IV funds. Recalculation is based on the percentage of aid earned using the following Federal Return of Title IV funds formula:

Percentage of payment period or term completed = the number of days completed up to the withdrawal date divided by the total days in the payment period or term. (Any break of five days or more is not counted as part of the days in the term.) This percentage is also the percentage of earned aid.

Funds are returned to the appropriate federal program based on the percentage of unearned aid using the following formula:

Aid to be returned = 100% of the aid that could be disbursed minus the percentage of earned aid multiplied by the total amount of aid that could have been disbursed during the payment period or term.

If a student earned less aid than was disbursed, the institution would be required to return a portion of the funds and the student would be required to return a portion of funds. Keep in mind that when Title IV funds are returned, the student may owe a balance to the institution.

If a student earned more aid than was disbursed to him or her, the institution would owe the student a post-withdrawal disbursement which must be paid within 30 days of the student's withdraw.

Refunds are allocated in the following order:

1. Unsubsidized Federal Stafford Loan
2. Subsidized Federal Stafford Loan
3. Federal Parent (PLUS) Loan
4. Federal Pell Grant
5. Federal Supplemental Opportunity Grant
6. Other Title IV assistance
7. Other State of West Virginia
8. Private and Institutional Aid
9. The student

Satisfactory Academic Progress Policy

The policy for Satisfactory Academic Progress is effective as of July 1, 2011, and supersedes any previous policy. Federal regulations require Blue Ridge Community and Technical College to establish Satisfactory Academic Progress (SAP) standards for all students in an eligible degree or certificate programs who wish to receive financial aid. Any student receiving Title IV Financial Aid is required to maintain Satisfactory Academic Progress according to The Compilation of Financial Aid Regulations (34 CFR, through 12/31/95 as published by the Department of Education, section 668.34). Every student is required to complete a certain number of hours attempted to show that he/she is progressing towards a degree in his/her program of study. Each student must also maintain a grade point average consistent with the regulations governing Satisfactory Academic Progress. Satisfactory Academic Progress is required for students to receive financial aid in any of the following programs: Federal Pell Grant, Federal Supplemental Educational Opportunity Grant, Federal Work-Study, Federal Direct Loans, or Parent Loan for Undergraduate Students (PLUS) and State Grant Programs including the West Virginia Higher Education Grant and Part-time Programs.

Students must satisfy both grade point average and attempted hours standards for progress toward a degree.

Standards Measured by Grade Point Average

1. All Associate Degree and eligible certificate program students must maintain a minimum of a 2.0-grade point average (GPA). This includes transfers and re-admitted students.
2. Any student admitted or readmitted on academic probation who does not meet the grade point average standards may appeal to the Financial Aid Scholarship and Appeals Committee at Blue Ridge Community and Technical College. Please refer to www.blueridgectc.edu/financial-aid/ for more information.

Standards Measured by Hours Attempted

As a student progresses through his/her program, he/she must pass at least 67% of credit hours attempted, including transfer and pass/fail hours and the following:

- F Failure
- I Incomplete

- IF Incomplete/Failure
- W Withdrawals
- R Repeat

The above types of attempted hours are combined with all passing grades in determining progress. Transfer credits accepted by Blue Ridge Community and Technical College will be added to institutional hours to determine total hours attempted.

Example 1	Example 2
Attempt 20	Attempt 25
Pass 15	Pass 15
$15 / 20 = 75\%$	$15 / 25 = 60\%$
Student is passing	Student is failing

Hours Attempted Standard

Standards Measured by Maximum Hours

Any student in a program leading to an associates degree must complete their degree or certificate program within 150% of the usual hours required by the program. Students who will be at maximum hours within 15 credits are also checked at the end of each semester for continued eligibility.

Students working on a second degree or certificate will receive financial aid ONLY for the coursework needed to complete the degree.

Satisfactory Academic Progress will be evaluated at the end of each semester, including summer term(s). Students must meet all Satisfactory Academic Progress standards. The GPA and percentage standards will be checked at the end of each semester and become effective immediately. Students not in compliance with grade point average and/or percentage standards for the first time will automatically be given a warning period of one semester, during which they will have eligibility for financial aid. Those who are given a warning period will be notified in writing. Students failing academic progress after the warning period are suspended from financial aid eligibility and will be notified in writing. Students may appeal the suspension of financial aid based on special circumstances which include, but are not limited to, the death of a close relative or injury or illness of the student. The student must provide documentation of the appeal circumstances. All appeals are considered on a case-by-case basis and a letter of appeal must be submitted, with documentation, to the Financial Aid Office at least one week prior to the appeal date listed in the suspension letter. A student can only regain eligibility by meeting the institutions current Satisfactory Academic Progress Standards.

Blue Ridge Community and Technical College Scholarships

There are various scholarships available to Blue Ridge Community and Technical College Students. Please visit the website at www.blueridgectc.edu/financial-aid/.

Registration Information

Class Schedule

Semester class schedules are available at www.blueridgectc.edu. Students are encouraged to refer to the website for the most up-to-date version of the schedule.

Academic Advisement

Academic advising is a developmental process which assists students in the clarification of their educational and professional goals and the development of plans for the realization of those goals. It is an ongoing and multifaceted process by which students are assisted in realizing their maximum educational potential through communication and information exchanges with an advisor. An Academic Advisor is initially assigned based on academic interest expressed by the student. It is the responsibility of both the student and his/her Academic Advisor to participate in the advising process equally. The Academic Advisor serves as a resource for course/career planning and academic progress review and as an agent of referral to other campus services as necessary. The Academic Advisor is not authorized to change the established policy of the College. After consultation with an Academic Advisor, it is ultimately the student's responsibility to choose and implement his/her academic program and to see that all specific requirements for that program and all general requirements for graduation from the College have been met in an acceptable and timely manner.

BRIDGE

BRIDGE is a secure online program that provides web-based services for students. BRIDGE can be used to:

- Register for classes
- Add/Drop classes
- Partial Withdraws
- Review Charges
- Review & Print Class Schedules
- Review & Print Unofficial Transcripts
- Apply & Review of Financial Aid
- Email Instructors
- Pay for tuition
- Review degree evaluation and progress toward graduation through DegreeWorks
- Apply for Graduation
- Order Official Transcripts
- Print Enrollment Verifications
- Update Veteran Classification and Self Identify

To access BRIDGE, go to the Blue Ridge Community and Technical College Home Page and click the "BRIDGE" link. The User Log-on screen requires a "User ID" and "PIN". The User ID is the 9-digit Student Identification Number. If a student does not know his or her Student ID, he or she can click on "lookup my SID" on the BRIDGE Homepage. The PIN number is originally set as the student's birthday (MMDDYY) entered with no dashes. Immediately after entering BRIDGE for the first time, the student is prompted to create a new PIN; this pin number is a 6-digit number of the student's choice and cannot be retrieved by the faculty or staff at Blue Ridge Community and Technical College. This new PIN will be used with the User ID to access BRIDGE. From that point forward BRIDGE provides students' access to "Student Services", "Financial Aid" and "Personal Information" screens.

DegreeWorks

DegreeWorks is an academic advising and degree audit program that students and advisors use to assess program completion and develop academic plans. Students have easy access to the course descriptions for the courses that they would still need to register for. The student has access to their advisor name and email so they can correspond easily with their advisor without having to go elsewhere to look up their email address. Students can see any holds that may

prevent them from registering and they can also see any degrees that have been applied for or awarded at BRCTC (as well as any degrees they have earned at another institution before transfer). The Release of Information for FERPA has been added to the DegreeWorks header so students, faculty, and staff can easily see if a FERPA release has been granted to a specific individual and exactly what information that person has access to on the student record. Students can see their test scores and what courses they are mandated to take based on their test score which can be a pre-requisite to other courses the student needs to complete their degree. There are What-If audits that can illustrate a student's progress if they are looking at options to change their major and what courses they would need to complete for the new major. There are three built-in GPA calculators to assist students with raising their GPA over time. There is a section for advisor and staff notations so a student can easily go back and see what was discussed with their advisor and these notes will also travel from advisor to advisor and be visible to staff that may be assisting the student. All approved course substitutions will also show to the student as they are listed on their DegreeWorks account. Combined with the Ellucian Program of Study requirements for financial aid, students can easily tell if a course they are taking is outside of their current major so they are ensured that any financial aid will cover their balance of eligible courses.

Registration Information

General Information

To register for classes on BRIDGE, the student must log-on using his or her User ID and PIN number. After selecting the Student Services screen, the student will click on Registration and enter the CRN's for the classes for which he or she wishes to register.

Alternate PIN

To register for classes new students must enter an "Alternate PIN" number. This Alternate PIN number must be obtained from attending a live or virtual Orientation session and is not to be confused with the PIN number used by the student to log-on to BRIDGE. The Alternate PIN is entered on the Registration screen of BRIDGE. This number changes from semester to semester and should be kept throughout the semester to add, drop, or withdraw from courses. Continuing students do not use an Alternate Pin Number.

Course Request Number (CRN)

Class registration on BRIDGE is conducted by entering the Course Request Number (CRN) for each class. The CRN for each class is listed in the Class Schedule. If special permission or approval is required to register for a course, students must communicate with the appropriate person listed in the Schedule of Classes before registering.

Registration Holds

BRIDGE will inform students of any holds on their accounts. Students with outstanding financial or other obligations will not be permitted to register until all obligations are cleared by the appropriate office(s).

Online Classes

Technology allows some classes to be taught online. Class formats vary as follows (check the comment section of the course schedule):

Delivery Mode	Percent of contact	Definition	Comments field of class schedule	Additional Course Fee

	hours made online			
Online-Asynchronous	100%	Fully-online course with all contact hours made online; Asynchronous classes let students complete their work on their own time within a given time frame provided by the instructor.	Online	\$25 per credit
Online-Synchronous	100%	Fully-online course with all contact hours made online. Students and instructors in synchronous classes are online at the same time, specified by the day and time on the class schedule. All students must be online at that exact time to participate in the class.	Virtual Class	\$25 per credit
Blended	75-99%	Mostly online courses with approximately five or fewer on-campus meetings; meetings are often held for orientations, proctored exams, or other scheduled activities noted on the syllabus.	Blended: Web & Campus	\$10 per credit
Hybrid	~50%	Approximately half of the course is delivered on-campus while half is delivered online. Courses either meet on-campus at a standard time every other week or just once per week for half the hours.	Hybrid: 50% Online	\$10 per credit
Web-Assisted	0%	All contact hours are made in the classroom, but students complete coursework and access course materials online. The use of the web component is mandatory and has an impact on the students' success.	Web-Assisted	
Traditional	0%	All contact hours are made in the classroom. Content may be made available online but student interaction with online materials does not impact their grade.		

Since the comments field is limited to 28 characters, in some cases only a portion of the designation will fit into the field. Information in the comments field will be listed in the following order, where applicable:

1. Special Fees
2. Pre-requisites
3. Delivery mode (using one of the designations above)

Online classes are enumerated in the online schedule at www.blueridgectc.edu. The specific format of an online class is defined by the instructor and is available during registration in the comments section of the online schedule.

Special Topics Courses

The College offers courses that fulfill short-term needs not justifying permanent listing in the catalog or which respond to requests received on short notice. Credit given will vary from one to four hours, and the course may be repeated as needed by the department. Topics for these courses will be created as needed by each department. Special Topics courses vary in content with each offering. When offered, a Special Topics course title includes a subtitle describing that course's specific content.

Variable Credit Courses

Variable credit courses are listed in the Schedule of Classes with a range of hours the course may be taken. To enter variable credit click on the underlined credit hours for each variable credit course or click on Change Class Options at the bottom of the screen. Enter desired hours (noting allowed range) and click on Submit Changes. Scroll down, check hours, or click Return to Menu, click on Student Detail Schedule and check hours. Changes to variable credit courses MUST be completed by the end of add/drop for each semester. For specific dates, please refer to the Academic Calendar.

Maximum of 19 Credits

Students may register for a maximum of 19 credit hours per semester. A student who wishes to enroll for more than 19 hours must have an overall grade point average of 3.0 or better and secure an email approval of the Academic Advisor and Program Coordinator and update the emails and complete the form in Bridge. If the overall grade point average is less than 3.0, students must first petition the Admissions and Credits Committee for permission before proceeding to get required signatures. Approval forms to enroll for more than 19 hours and Admissions and Credits Petition forms are available in a student's Bridge account.

Closed Class

BRIDGE will indicate if a course is closed by giving a registration error message on the screen. The student can then check other sections of the same course for available openings by scrolling down and clicking on class search. If a class is closed a student may add themselves to the waitlist (if it is not already at capacity).

Waitlisting

If a class is full or closed a student has the option to waitlist themselves in the registration screen in their Bridge account. The student will attempt to register for the course (entering the CRNs in the boxes on the add/drop classes screen in Bridge). Once notified the class is full or closed, choose waitlist from the drop-down menu for the course that should be waitlisted. A maximum of 10 students can be waitlisted for a class. At such a time when a seat becomes available in a course, the first student on the waitlist will be notified via their Blue Ridge Community and Technical College email and they will then have 24 hours to register for the class in their Bridge account. If the 24 hour time expires and the student has taken no action to register in Bridge, they will forfeit their place on the waitlist and the seat becomes available to the next student on the waitlist.

Time Conflicts

If a student requests two courses whose start and/or end time overlap, a time conflict is created. The student can then check other sections of the same course for available openings by scrolling down and clicking on class search. Time conflicts require written permission from the instructor of both courses. One instructor will complete the override in their Faculty Bridge account and then the student will be able to register for courses in their Student Bridge account.

Other Conflicts

Students cannot register in BRIDGE for two sections of the same course. This includes special topics courses with the same number, such as 199 or 299. Students should report to their Academic Advisor for approval.

Confirm Schedule

After all CRN numbers have been entered and if there are no registration errors, the student must click Submit Changes. When finished click on Confirm Schedule. Click on Menu then click on Student Detail Schedule to check accuracy.

Registration Process

Currently Enrolled, Degree-Seeking Students

Students who are degree-seeking and currently enrolled at Blue Ridge Community and Technical College are the first to register for future semester classes. Early registration takes place around October and March. Students must meet with their Academic Advisor to discuss their class schedule. Students are able to choose their schedule by looking at their DegreeWorks account and choosing sections of courses from our website, under Current Schedule. When registration opens, currently enrolled students can log on to BRIDGE, select Student Services, and then select Registration to register for classes. Students who are not registered for classes for two consecutive semesters, excluding summer terms, will need to reapply before the beginning of the semester as a re-admit student. Students who have been academically suspended must apply for readmission.

Special Non-Degree Seeking Students

Registration for Special Non-Degree Seeking Students is on-going when registration opens around March and October. There is no application fee and the student is not eligible for financial aid. Students who have applied for admission and who have been admitted into a degree-seeking program must register for classes during a scheduled advisement and registration session. Students who have not applied for admission and who have not been admitted will be required to complete a Special Non-Degree Seeking Student Application. Payment should be made after the registration process has been completed.

Late Registration

Students who begin registering for classes on or after the Friday before the first day of classes of the semester will be charged a \$25 late registration fee. The student may still register via BRIDGE through the first week of classes. The late registration fee will be charged to the student's account.

Add/Drop Period

The first five class days of the fall and spring semesters and the first four days of summer are known as the Add/Drop period (check the Academic Calendar for specific dates each term). During this period, classes may be added or dropped from the student's schedule via BRIDGE. A course dropped during this period will not appear on the student's transcript and the student will not be charged. The student is not required to gain the Academic Advisor's approval for any classes added or dropped from his or her class schedule. However, communication with the advisor and financial aid is highly encouraged to see how it will affect graduation progress and aid received.

Credits From Other Sources

A Blue Ridge Community and Technical College student may transfer previous college credits from other higher education institutions or prior learning assessments preceding enrollment. This includes but is not limited to Military credits, CLEP, World Education Services (WES), or other applicable transcripts.

Transfer Courses before Enrollment

Blue Ridge Community and Technical College articulates credits from an institution that is accredited by a regional, national, programmatic, or other accredited body recognized by the U.S. Department of Education. There is no time limit on college transcripts; however, there are time limits on certain classes. Successful classes from previous institutions transfer. Courses that received a failing or incomplete grade are not articulated. Coursework meeting 70% or more of the learning objectives of the Blue Ridge CTC comparable course will be accepted. Transfer GPAs are

calculated into the overall GPA at Blue Ridge Community and Technical College. Transfer credits are included in determining Satisfactory Academic Progress and may place a student on Financial Aid and/or Academic Probation upon enrollment. During the application process, the student is required to have all transcripts from previous institutions sent to Blue Ridge Community and Technical College. Only official copies of transcripts will be accepted. Courses on the West Virginia Core Coursework Transfer Agreement are honored. Credits taken at any West Virginia public institution shall count towards a student's credit residency requirement.

Advanced Placement Tests

To receive credit for Advanced Placement Tests, students must have the testing service send the AP results directly to the Blue Ridge Community and Technical College, Office of the Registrar (transcripts@blueridgectc.edu).

CLEP Tests

Credit may be awarded by Blue Ridge Community and Technical College for the successful completion of many of the CLEP Subject Examinations. Information about CLEP Exams can be found at www.collegeboard.com/clep. Blue Ridge CTC is an official CLEP Testing site. To receive credit for CLEP Tests, students must have the testing service send the results directly to the Blue Ridge Community and Technical College, Office of the Registrar (transcripts@blueridgectc.edu).

Courses Taken at Other Institutions while attending Blue Ridge Community and Technical College

Blue Ridge Community and Technical College students must apply for transfer approval before enrollment to take a non-Blue Ridge Community and Technical College course at another institution. To apply for transfer approval, the student must be in good academic standing (institutional and overall GPA of 2.0 or above). No course that a student has attempted at another institution while on suspension shall be accepted by Blue Ridge Community and Technical College as part of the credit hours necessary for graduation. A student who previously enrolled in a Blue Ridge Community and Technical College course may not petition to retake that course at another institution. To receive credit for a non-Blue Ridge Community and Technical College course, the student must complete a Transfer Approval Form making the request. The student will follow all procedures enumerated on that form including signatures of approval. After obtaining the appropriate signatures, the student must submit the completed form to the Registrar's Office. Should any of the signatures not be secured, the student may file a petition with the Blue Ridge Community and Technical College Admissions & Credits Committee. The completed petition along with the completed Transfer Approval Form and the student's written justification for seeking the course elsewhere may be submitted to the Blue Ridge Community and Technical College Admissions and Credits Committee for final action. Articulation course agreements do not apply to any repeated Blue Ridge Community and Technical College course in which a student has received a grade of D or F. No D or F grade can be replaced by an equivalent transfer course. Upon approval of the Transfer Approval Form, the student will receive notification via their Blue Ridge Community and Technical College email address. The student is then responsible for registering and paying for the class at the other institution. When the class has been completed and the other institution has issued a grade to the student, it is the student's responsibility to have an official transcript sent to Blue Ridge Community and Technical College, Office of the Registrar. Once the transcript is received, the Office of the Registrar will post the credits as transfer credit with the grade earned at the other institution.

Reverse Transfer

The BRCTC Reverse Transfer Policy is part of the statewide West Virginia Reverse Transfer (WVRT) policy. This policy was developed to assist students who have earned at least 15 credit hours at BRCTC prior to transferring to a Baccalaureate program. The Reverse Transfer Policy graduation must be requested prior to or at the same time as the Baccalaureate graduation. A student who has earned an associate degree or higher is not eligible for reverse transfer.

Minimum requirements for Reverse Transfer:

- Student must have earned at least 15 credits at BRCTC.
- Student may not have earned an associate degree or higher prior to the request for reverse transfer.
- Student must be in Good Standing in the Baccalaureate program.

WVRT Procedures:

1. The student will contact the Office of the Registrar at the baccalaureate institution (known as the host institution) and request that their transcript be sent to BRCTC (degree granting institution) through the National Student Clearinghouse Reverse Transfer program.
2. The student will complete an application for the WVRT program for BRCTC. This form will be submitted in person to the Welcome Desk, emailed to registrar@blueridgectc.edu, or faxed to 304-260-4376.
3. Once BRCTC receives the records from the National Student Clearinghouse and the application, the student's information will be processed and eligibility determined.
4. BRCTC will notify the student via email if they currently qualify for the degree (based on current degree requirements).
5. If the student qualifies, they will be awarded the degree during the next graduation cycle in May, August, or December.

The degree awarded will not be any different than any other associate degree that BRCTC awards. There is no time limit on students completing the associate degree through the WVRT; however, each candidate must meet all current programmatic and institutional requirements to earn that specific degree.

Special Examination for Course Credit

For certain courses, a student may have the opportunity to take a special examination for course credit.

- Course credit may not be granted through special examination for courses previously attempted or resulted in a failing grade or withdraw.
- Course credit through special examination is only available to currently enrolled, degree-seeking students in good academic standing.
- Course credit through special examination may be attempted only once per course.
- Course credit through special examination is posted to the transcript as CR and will not affect GPA.
- The Special Examination for Course Credit assesses a fee of \$25 per credit hour. Periodically the College will hold workshops designed to prepare the student for Special Examination for Course Credit. Participation in these workshops requires an additional fee. Participation in these workshops is not required to take a Special Examination for Course Credit.
- Payment of the fee for Special Examination of Course Credit must be made before the administration of the exam.
- No money will be refunded if any examination is failed.
- For more information about **Special Examinations for Course Credit** see the Program Coordinator.

For an associate's degree, a student must complete at least 24 credit hours of coursework at Blue Ridge Community and Technical College. The last 12 hours of coursework for an associate's degree must be completed at Blue Ridge Community and Technical College. For the Board of Governors, Occupational Development, and Technical Studies Associate of Applied Science degrees, a student must complete at least 12 credit hours at a regionally accredited institution and at least 3 credit hours at Blue Ridge Community and Technical College.

Enrollment

Academic Load

A semester hour consists of one hour of recitation with two preparation hours per week. Twelve semester hours per semester constitute a minimum full-time academic load. The normal load is 15 hours per semester thus making 60 credit hours in four semesters (two years).

A student wishing to register for more than 19 credits during the semester, including non-Blue Ridge Community and Technical College courses, must complete the Academic Change Form in Bridge and the email approval of the Academic Advisor and Program Coordinator. The student must currently be carrying a 3.0 or higher overall grade point average and demonstrate evidence that current and previously enrolled courses have been completed. In no case may a student enroll for over 23 hours per semester. Any exceptions to this rule must be appealed to the Blue Ridge Community and Technical College Admissions and Credits Committee with documentation and support from the Academic Advisor and the student who desires this exception.

Academic Probation, and Suspension

At the end of each grading period, each student's institutional and cumulative grade point average is calculated. The calculation is determined by dividing the number of earned quality points by the number of quality hours. In the computation of the institutional and cumulative grade point average, a grade of Incomplete will not be included in the quality hours. When the grade of 'I' is replaced by a passing or failing grade, the student's grade point average will be revised by Enrollment Management. However, having a grade of "I" will result in the student not making the Honor's, Dean's, or President's List.

A student whose institutional GPA or cumulative GPA falls below a 2.0 in any semester will be placed on Probation I. If the student fails to raise their institutional and cumulative GPA's to a 2.0 or higher the student will be Continued on Probation (also known as Probation II). To be removed from probation, a student must attain BOTH a 2.0 institutional GPA and a cumulative GPA (includes coursework attempted from other institutions).

Once a student is continued on probation, they are required to maintain an institutional semester GPA of 2.0 or above. If during any semester, their semester GPA drops below a 2.0, the student will be suspended for one semester (two semesters for second suspension and any subsequent suspension). During a period of academic suspension, no credits earned at another institution will be accepted at Blue Ridge Community and Technical College. If students are suspended at the end of the spring semester, they are eligible to register for the summer term, only if mathematically, they are able to raise both their institutional and cumulative GPA to a 2.0 or higher. The student will continue on probation for the summer term but will need to bring their institutional and cumulative GPA's above a 2.0 to be eligible to register for fall.

The student who has been suspended from the College for the first time must re-apply for admission after one semester by completing an application for admission. The student who has been suspended from the College two or more times must apply for readmission after one academic year by completing an application for admission. All suspended students must pay a \$25 application fee. Students receiving federal financial aid must also adhere to satisfactory academic progress requirements set forth by Financial Aid.

Enrollment Verification

Students requiring verification of enrollment for insurance or other purposes can print their Enrollment Verification directly from their BRIDGE account. This is located under Student Services, Student Records, and National Student Clearinghouse.

Repeating Courses

A student may not repeat a course or courses for credit where the original grade was a C or better. Variable credit courses may be repeated until the maximum hours have been earned.

60 Hour Repeat Rule

A student who earns a D, F, or IF grade in any course completed no later than the semester or summer term that the 60th semester hour is attempted (including transfer hours) may repeat the institutional course before receiving an associate degree. The course(s) must be repeated at Blue Ridge Community and Technical College. For each course, the original grade of D, F, or IF shall be disregarded from the GPA and the subsequent grade shall be used for determining the student's GPA. The original grade shall not be deleted from the student's record. If the D, F, or IF is completed after the 61st semester hour is attempted (including transfer hours) both grades will be calculated into the student's GPA.

Grading

Academic Forgiveness Policy

The Academic Forgiveness Policy does not alter, change, or amend any other existing policies at Blue Ridge Community and Technical College and is formulated to be consistent with Series 22 of the West Virginia Council for Community & Technical Education and supersedes all previous Academic Forgiveness Policies at Blue Ridge Community and Technical College.

Academic Forgiveness is intended for the student who is returning to college with a grade point deficiency. This policy covers only those students who have not been enrolled as a full-time student (12 or more semester credit hours) at any institution of higher learning during the four consecutive academic years immediately preceding the readmission semester. This policy is limited to degree-seeking students who have not yet been awarded their first academic degree. Academic Forgiveness will be granted only once for any student. The Academic Forgiveness Policy may be applied after a readmitted student has earned twelve credit hours that apply toward graduation with a minimum GPA of 2.0 (certain programs may have different standards, such as Board of Governors and Technical Studies). These twelve hours must be earned at Blue Ridge Community and Technical College. A student desiring academic forgiveness must complete an Academic Forgiveness Form and file it in the Registrar's Office. This request must certify that the applicant has not been enrolled as a full-time student (twelve or more credit hours) in any institution of higher learning during the four consecutive academic years immediately preceding the readmission semester. If the student has attended any institution of higher education on a part-time basis during the specified four-year period, the student must have earned at least a 2.0 GPA in all coursework attempted.

The Academic Forgiveness Request Form requires the student to indicate whether he or she wishes to exclude from the GPA calculation (1) all F and IF grades; or (2) all F, IF, and D grades earned before the four consecutive academic years immediately preceding the beginning of the readmission semester. This includes those grades appearing as transferred grades on the official transcript. If a student chooses to have all D grades excluded from the GPA calculation, it is with the understanding that the courses for which the D grades were earned cannot be used to satisfy any requirements for graduation. When and if all prerequisite conditions have been met, Academic Forgiveness will be granted upon the successful completion of twelve credit hours of courses numbered 100 or above with a minimum GPA of 2.0. The Registrar will then officially calculate the student's current GPA. However, no grade will be removed from the permanent record. The College is not bound by the decision of any other institution to disregard grades earned in college courses. Similarly, students should be aware that other institutions may not recognize Academic Forgiveness extended by Blue Ridge Community and Technical College.

Final Examination

The policy of the College is to require that final examination be given at the end of each class term. Final exams are to be given during the last week of class at the regularly scheduled meeting time.

Grade Point Average

A student's grade-point average is computed on all work that a student has attempted for college credit (including Blue Ridge Community and Technical College credits and transfer credits). Courses with a grade of W and courses that are taken on a pass/fail or audit basis are not considered courses attempted for college credit in the computation of a student's grade point average. Quality points are based on the point value per semester hour multiplied by the number of hours of coursework attempted. A student taking a three-hour course and receiving a grade of C would earn 6 quality points. (C = 2 quality points times 3 hours.) To compute a grade point average, divide the total quality points accumulated by the total credit hours attempted for which college credit is given toward graduation (e.g., 220 quality points accumulated divided by 88 credit hours attempted for college credit = $(220/88) = 2.50$ GPA).

Grade Reports

Midterm and final grade reports follow the normal grading system. Midterm and final grades are available on BRIDGE.

Grading System

Summary of Grading System		
Grade	Explanation	Point Value per Semester Hour
A	Superior	4
B	Good	3
C	Average	2
D	Below Average, the lowest passing grade	1
F	Failure	0
AU	Audit*	0
I	Incomplete*	
W	Withdraw without grade point penalty*	
P	Pass*	
IF	Failure due to irregular withdrawal from college from a single class	
CR	Credit only awarded*	

* Not used in the computation of grade point average.

Auditing Courses (AU grade)

A student may initially register for a course as an auditor. Declaration of a change in a course from credit status to audit status must be processed within the first 15 class days (Monday–Friday) of a fall or spring academic session or within the first three class days (Monday–Friday) of a summer session. Any later change must be appealed to the Blue Ridge Community and Technical College Admissions and Credits Committee. An auditor is expected to comply with the instructor's attendance policy. Regular College fees are charged for persons auditing a course. No credit is awarded for an audited class.

Incomplete Grades (I grade)

A grade of incomplete may be given to a student who has satisfactorily completed most of the requirements for a course, but because of illness or other extenuating circumstances, has not completed all of the requirements. Students receiving an incomplete must confer with the instructor before the end of the semester to determine the exact deficiencies that are to be made up within the next semester. The instructor and student shall agree on what needs to be submitted and the timeline for the student to complete the work. If the student is not available to meet with the professor before the end of the semester for which the incomplete grade is sought, the student must consult with the instructor early in the following semester to determine the requirements and the timetable for completing the work for the course. When the work has been completed, the instructor must complete and return a Grade Change Form in their Bridge account with the new grade. Incomplete grades issued during the fall semester must be submitted no later than noon on the Friday before final grades are due for the following spring semester. Incomplete grades issued during the spring semester must be submitted no later than noon on the Friday before final grades are due for the following fall semester. Incomplete grades issued during any summer session must be submitted no later than noon on the Friday before final grades are due for the following fall semester. If the incomplete is not made up in accordance with this time schedule, the grade automatically becomes an IF. When an incomplete grade is changed, the student's grade point average is recomputed. However, having a grade of "I" will result in the student potentially not making the President's, Dean's, or Honor's List as these items are calculated at the end of the term and are not recalculated for Incompletes. Any exceptions to these procedures must be submitted to the Blue Ridge Community and Technical College Admissions and Credits Committee.

Pass/Fail (P/F grade)

Students may choose to take elective courses on a pass/fail basis instead of the regular grading system, in accordance with the following:

1. Electives shall be defined as courses not directly required for a degree. Thus, the required electives within the major field of concentration would be excluded from the pass/fail option. In the event of a change in major fields, the course previously taken on a pass/fail option if applicable to the new major field shall be substituted by approved courses. Required general study courses also will be excluded from the pass/fail option. The ultimate responsibility for correct scheduling rests with the student.
2. A passing grade in the pass/fail option will be equivalent to the normal passing range of A through D in the conventional system.
3. All students are eligible for the pass/fail option with the exception of those currently on academic probation.
4. Students will be limited to 24 hours of pass/fail options, with not more than one course to a maximum of four credit hours being taken during one session.
5. A student must make a declaration for the pass/fail option by the tenth class day of the semester. This decision will be final.

Final Grade Appeals

In order to successfully appeal a final grade, a student must offer convincing arguments that good cause exists for mandating a change of grade. A grade may be appealed exclusively for the following reasons: discrimination, error in calculation, or that the grade was awarded in an arbitrary or capricious manner. Refer to the Student Handbook section entitled "Grade Appeal Procedures" for the Student Grade Appeals procedure.

Contact Hours to Credit Hours

A credit hour is an amount of work represented in intended learning outcomes and verified by evidence of student achievement. An institutionally established equivalency reasonably approximates not less than one hour of classroom or direct faculty instruction and a minimum of two hours of out-of-class student work each week for approximately fifteen weeks for one semester. Federal regulations require that a semester hour must include at least 37.5 clock hours

of instruction. One semester credit hour equals 15 classroom hours of lecture, 30 hours of laboratory, and 50 hours of practicum or internship. Institutions may have courses that are in compressed format, self-paced, or otherwise alternatively structured. Credit assignments should be reasonable.

The credit hour is based upon what is often referred to as seat-time because it starts from the amount of time a student spends in a classroom. One semester credit hour consists of 15 hours in a classroom plus an assumed two hours of homework for every hour in the classroom, so that it represents a total of 45 hours. A three-credit course at a college on a semester calendar therefore normally meets three hours a week for 15 weeks and assumes that students are doing 6 hours a week of homework. (Except that an "hour" in the classroom is usually 50 minutes, an understanding developed to accommodate the need for students to have time to get from one class to another on a college campus).

Credit Hour Equivalencies

A semester hour of credit (or credit hour) is based upon the average number of hours of instruction taught weekly. The ratio of weekly contact hours to credit hours varies with the type of instruction being used.

- Theory. Instruction focused on principles, concepts, or ideas. It generally requires extensive out-of-class preparation prior to class each week as well as follow-up assignments. "Theory" instruction is the term, which will be used to include lecture, recitation, discussion, demonstration, seminar, online, and hybrid. "Theory" instruction is under the direct supervision of an instructor. Ratio: 1:15 (one hour of credit for fifteen contact hours).
- Laboratory. A practical application laboratory is generally required in career and technical programs; it requires limited out-of-class assignments per week; emphasis is on the use of equipment, tools, machines, etc. found within the lab environment. "Practical application laboratory" involves the development of manual skills and job proficiency and is under the direct supervision of an instructor. Ratio: 1:30. (One hour of credit for thirty contact hours).
- Internship, Clinical, or Practicum. Student activity is planned and coordinated jointly by an institutional representative and the employer, with the employer having the responsibility for the control and supervision of the student on the job. Ratio: 1:50 (one hour of credit for fifty contact hours).

Withdrawal

Withdrawal from a Course

A student may withdraw from a class during the dates posted on the Academic Calendar for each term or part of a term. Students should speak to their Advisor/Financial Aid/Veterans Office BEFORE withdrawing from a course to see if it may impact their program progress, graduation requirements, or Financial Aid. A grade of W will appear on the student's transcript. A W grade does not affect the grade point average (see Grading System in this section). Too many W grades may affect a student's eligibility for future financial aid (see Satisfactory Academic Progress Policy in the Scholarships and Financial Aid section). Failure to withdraw properly may lead to a grade of "F" on your transcript, students may need to return Financial Aid and/or students may be placed on hold which will prohibit future registration. There are no refunds for a partial withdrawal.

Procedure for a Partial Withdraw

This is to withdraw from one or more, but not all of the courses in a semester. This is completed on the students' Bridge account.

1. Log into Bridge
2. Go to Student Services
3. Click on Registration
4. Go to Add/Drop Classes

5. Choose the appropriate semester (time restrictions do apply)
6. Scroll down and under the Action Drop-Down box, choose "Withdraw Online" from the list for each class that is to be withdrawn
7. Click Submit Changes

****NOTE: There are no refunds for a partial withdrawal.****

Complete Withdrawal

A student wishing to completely withdraw from all enrolled classes in a semester may do so until the date posted on the academic calendar. A Complete Withdraw may be completed on Bridge following the same procedures as a partial withdraw.

1. Log into Bridge
2. Go to Student Services
3. Click on Registration
4. Go to Add/Drop Classes
5. Choose the appropriate semester (time restrictions do apply)
6. Scroll down and under the Action Drop-Down box, choose "Withdraw Online" from the list for each class that is to be withdrawn
7. Click Submit Changes

****NOTE: Refunds on Complete Withdraws are based on the instructor reported last date of attendance.****

Students who discontinue attending class without following the proper withdrawal procedures can receive a grade of F or IF in the course(s) (see *Grading System in this Section*).

A refund of tuition may be available if the **Complete Withdrawal** is during the designated refund period for each semester (see **Refund Policy in the Expenses Section of the Catalog**).

Financial Aid recipients, prior to withdrawing from your last class, contact Financial Aid to see how this withdraw will affect bills, aid, and monies owed to the institution.

Although a student may receive advice from an agent of the College, the final responsibility for a decision concerning withdrawal rests with the student, in consultation with the course instructor and Academic Advisor, in accordance with College policies. Prior to withdrawing from a course, those students receiving financial aid should refer to the Satisfactory Academic Progress Policy in *the Scholarships and Financial Aid Section of this Catalog*.

Summary of Drop/Withdrawal Dates

Dropping some but not all Courses during the Add/Drop Period

ACTION	Drop a course via BRIDGE
DATE	First five class days of the fall and spring semesters
GRADE	A dropped course does not appear on the transcript
REFUND	Potentially, depending on the total registered credit hours (full versus part-time tuition)

Withdrawal from some but not all Courses after the Add/Drop Period

ACTION	Withdraw from a course(s)
--------	---------------------------

DATE	Sixth class day through Friday of the final week of class during the fall and spring semesters
GRADE	W
REFUND	No refund

Complete Drop

ACTION	Drop all Courses in a given Semester by contacting the Associate Dean of Students
DATE	First five class days of the fall and spring semesters
GRADE	A dropped course does not appear on the transcript
REFUND	Potentially, depending on the total registered credit hours (full versus part-time tuition)

Complete Withdrawal

ACTION	Completely withdraw from the College for all enrolled classes by completing a Complete Withdraw Form
DATE	Sixth class day through Friday of the final week of class during the fall and spring semesters
GRADE	W
REFUND	Potentially, depending on the effective date of the Request for Withdrawal From College form

Attendance Policy for all MATH Courses

Required Attendance in all Mathematics (MATH) courses: Students are expected to attend **ALL** classes. In the absence of student/instructor communication, all nonattendance is assumed to be unexcused. During a regular, 16-week term, any student who accumulates two consecutive weeks of unexcused absence in a course will, **without notification**, be administratively withdrawn from that course exactly **ONE** week later unless the student contacts the instructor and provides documentation to Student Services so that it can be determined if the absences are excused. During terms of other lengths, five consecutive class hours of unexcused absence will result in an administrative withdrawal exactly **TWO DAYS** later unless the student contacts the instructor and provides documentation to Student Services so that it can be determined if the absences are excused. Should an administrative withdrawal occur, it may have financial aid, insurance, and college enrollment repercussions. This institutional policy should be taken very seriously. Excused absences include the following: 1) death in the immediate family; 2) incapacitating illness or injury (not including any non-emergency doctors' appointments that could be scheduled at other times); 3) field trips required for other classes, intercollegiate competitions or activities entailing official representation of Blue Ridge CTC; or 4) hazardous, weather-induced driving conditions. In the case of any absence, it is the student's responsibility to confer with the instructor about the absence and missed coursework. With regard to absences outside of the narrowly defined circumstances above, a student may discuss his or her individual circumstances with the instructor; however, the instructor's decision regarding the excused/unexcused nature of the absence will be final.

Attendance Policy for English 100, 100R, and English Co-requisite Pair Courses

During a regular, 16-week term, any student who accumulates three consecutive weeks of unexcused absence in a course will, **without notification**, be administratively withdrawn from that course unless the student contacts the instructor and provides documentation to Student Services so that it can be determined if the absences will be excused. During terms of other lengths, nine consecutive class hours of unexcused absence will result in an

administrative withdrawal unless the student contacts the instructor and provides documentation to Student Services so that it can be determined if the absences are excused. Should administrative withdrawal occur, it may have financial aid, insurance, and college enrollment repercussions.

Transcripts

OFFICIAL ACADEMIC TRANSCRIPT REQUEST - ONLINE *AVAILABLE 24/7!!!*

Any financial obligations to the college, on behalf of the student, must be satisfied before transcripts will be released.

Transcript Ordering, a service of the National Student Clearinghouse, offers a fast, simple and secure way to order copies of your transcript via the Web. You'll be guided through the easy step-by-step process and receive email updates on your order, which may be tracked online.

Transcript Ordering complies with all published guidelines of the Family Educational Rights and Privacy Act (FERPA), which protects students' privacy rights in their education records.

Transcripts can be ordered via the Web 24/7 through the National Student Clearinghouse. You can place as many orders as you like in one session using any major credit card. Your card will only be charged after your order has been completed. Order updates are available via mobile text message and will also be emailed to you. You can also track your order online using your email address and order number.

Students ordering transcripts via the National Student Clearinghouse, who have designated campus to pick up, should wait for a call to ensure transcript availability prior to attempting to retrieve the requested transcript.

OFFICIAL ACADEMIC TRANSCRIPT REQUEST – PAPER

Transcripts not ordered through the Clearinghouse require three to five business days for processing.

STEP 1:

If you need to request an official copy of your transcript, you will need to pick up a Transcript Request form. Transcripts are released only upon written request from the student with the student's signature and printed name plainly shown. E-mail requests cannot be accepted.

STEP 2:

Be sure to include your name, all previous names, addresses, phone numbers, student ID number (or social security number if you can't remember your C number), dates of attendance, and graduation date (if applicable) on the request.

STEP 3:

Include the complete address to which the transcript should be sent.

STEP 4:

Send completed transcript request and payment (\$10 per transcript - make payment at www.blueridgectc.edu, transcripts will not be sent without payment) to the Office of the Registrar by mailing or faxing your completed form to:

Office of the Registrar
Blue Ridge CTC
13650 Apple Harvest Drive
Martinsburg, WV 25403
FAX: 304-260-4376

Financial Obligations

All financial obligations must be reconciled before a transcript will be released.

Attention

Transcripts picked up by students will be stamped ISSUED TO STUDENT. Such a transcript may not be acceptable to the person or institution receiving it.

Graduation

Application for Graduation for Associate Degrees

Students MUST apply for graduation. For associate degrees, students within two semesters of graduation should check with their Academic Advisor to begin the graduation application process, which can be completed in BRIDGE. Generally, students wishing to graduate in May MUST apply for graduation in Bridge no later than April 1, students wishing to graduate in August MUST apply for graduation in Bridge no later than July 1, and students wishing to graduate in December MUST apply for graduation in Bridge no later than November 1. Specific deadlines for graduation application are listed in the Academic Calendar located in the Blue Ridge Community and Technical College Catalog or online at www.blueridgectc.edu.

Associate degree completers from August, December, and May are eligible to participate in the Commencement Ceremony in May.

Ultimately, it is the student's responsibility to initiate the graduation application and evaluation process. Failure to apply for graduation in a timely manner could result in the postponement of graduation for the student.

Application for Graduation for Certificate Degree Programs

For certificate programs, students within one semester of graduation should check with their academic advisor to begin the graduation application process. Certificates are awarded in May, August, and December of each year at the same time as Associate Degrees. Students are required to meet with their advisor to apply for graduation for a Certificate of Applied Science Degree.

Certificate earners do not walk during the Commencement Ceremony.

Ultimately, it is the student's responsibility to initiate the graduation application and evaluation process. Failure to apply for graduation in a timely manner could result in the postponement of graduation for the student.

Minimum Grade Point Average

A minimum 2.0-grade point average (or a C average) is required for both: 1) all collegiate level course work attempted (overall GPA) and 2) all Blue Ridge Community and Technical College course work attempted (institutional GPA).

Minimum Semester Hours

The minimum number of semester hours for an associates degree is 60 semester credit hours of courses numbered 100 and above. The required number of semester hours for each individual associate degree is listed in the Associate Degree Programs section of this catalog.

The minimum number of semester hours for a certificate degree program is 30 semester credit hours of courses numbered 100 and above.

Residence (College) Credit Hours Required

For an associates degree, a student must complete at least 24 credit hours of coursework institutionally, with the last 12 hours of coursework being completed at Blue Ridge Community and Technical College.

For the Board of Governors, Occupational Development, and Technical Studies degrees, a student must complete at least 12 credit hours at a regionally accredited institution and at least 3 credit hours at Blue Ridge Community and Technical College.

For a certificate degree, a student must complete at least 12 credit hours of coursework at any regionally accredited institution of higher education.

Academic Recognition

For the designation of High Honors at graduation, a student must have earned a cumulative grade point average for 3.75 or higher. To graduate with Honors, a student must have earned a cumulative grade point average of 3.50 to 3.74.

Veterans and Military Service Members

College Credit for Military Service

Students who have completed basic training in military service may be granted credits based on training and experience, which may be used to satisfy Liberal Arts physical education and/or elective requirements. It is the student's responsibility to request this credit and to verify this military experience to the Registrar. If the student was not in the Army or another service branch that has basic training then Blue Ridge Community and Technical College will grant the same credit to individuals who present a certified copy of their DD-214 form after completing a minimum of one year of active military service. Other credits may be awarded based upon military experience and/or training. Correspondence work completed at accredited institutions of higher learning cooperating with the Armed Forces Institute is accepted by colleges in West Virginia.

Residency Policy

To remain approved for VA's GI Bill ® programs, schools must charge in-state tuition and fee amounts to "covered individuals." A covered individual is defined in the Choice Act as:

- A Veteran who lives in the state in which the IHL is located (regardless of his/her formal state of residence) and enrolls in the school within three years of discharge from a period of active duty services of 90 days or more.
- A spouse or child using transferred benefits who live in the state in which the IHL is located (regardless of his/her formal state of residence) and enrolls in the school within three years of the transfer discharge from a period of active duty service of 90 days or more.
- A spouse or child using benefits under the Marine Gunnery Sergeant John David Fry Scholarship who lives in the state in which the IHL is located (regardless of his/her formal state of residence) and enrolls in the school within three years of the Service member's death in the line of duty following a period of active duty service 90 days or more.

An individual described above will retain covered individual status as long as he/she remains continuously enrolled (other than during regularly scheduled breaks between terms) at the public IHL. Public IHLs must offer in-state tuition and fees to all covered individuals with Post-9/11 GI Bill and Montgomery GI Bill - Active Duty (MGIB-AD) benefits in order for programs to remain approved for GI Bill benefits for terms beginning after July 1, 2015. VA will not issue payments for any students eligible for the Post-9/11 GI Bill or the MGIB-AD until the school becomes fully compliant.

The residency policy allows veterans and current military service members residing outside of West Virginia to be eligible for in-state tuition. If you are a dependent of a veteran or service member attending Blue Ridge Community and Technical College under any VA Education benefit (i.e. Chapter 33, Chapter 35, MyCAA), you are also eligible for in-state tuition.

VA Education Benefits

The Veterans Administration provides a number of programs for veterans and service personnel seeking funding for education and/ or training. Please contact the School Certifying Official at Blue Ridge Community and Technical College to inquire about available assistance or call 1-888-442-4551 to speak with the VA benefits hotline.

All students using VA education benefits must complete the initial VA application process through www.vets.gov (excluding Chapter 31). Students must submit a copy of their Certificate of Eligibility, the Veteran's DD-214, and a Veteran's Enrollment Reporting Form to the School Certifying Official.

Veteran's Enrollment Reporting Form

If you wish to use VA Education Benefits, you must complete the Veteran's Enrollment Reporting form and submit it to the School Certifying Official. Forms are available online through the Veterans link at <https://www.blueridgectc.edu/financialaid/veterans>. Forms must be completed after registration and should be submitted at least 30 days prior to the start of each semester. VA Education Benefits will not be initiated if the form is not submitted or is submitted incomplete. It is the student's responsibility to notify the School Certifying Official of their registration, ensure all courses for which they are registered are required as part of their degree plan and maintain Satisfactory Academic Progress. Once the completed form is submitted and processed, a registration hold will be placed on the student's account at which point the student will need to contact the School Certifying Official in order to make future changes to that semester's schedule.

Veteran's Re-Education Act

Eligibility for funding by the Veteran's Re-Education Act is determined by the Department of Veterans Affairs, and awards are given to West Virginia residents who have exhausted all other veteran's benefits and must meet other criteria related to need. Applications may be obtained from the Financial Aid Office.

Tuition Assistance

Tuition Assistance is available for all active duty military members including guard and reserve.

State Tuition Assistance for Guard members must be requested 60 days prior to the start of each semester. Grades must be submitted at the completion of each semester.

Federal Tuition Assistance requests must be submitted 2 to 3 weeks prior to the start of each semester. Grades must be submitted at the completion of each semester.

Montgomery GI Bill ® (Chapter 30)

The Montgomery GI Bill ® pays a flat rate per term /semester. The monthly rate is paid to the student and it is the student's responsibility to pay the school for tuition/fees. There is no housing allowance or book stipend for students utilizing this chapter. Students must certify their enrollment through WEAMS or by calling the VA benefits hotline at the end of each month.

VA Vocational Rehabilitation (Chapter 31)

If you have a service-connected disability, you may be entitled to benefits under this program. Veterans will contact their VA Vocational Rehabilitation Counselor and submit an application. It will be necessary to have a disability rating to participate in this program.

Once deemed entitled by Vocational Rehabilitation Counselor and you are accepted to Blue Ridge, the VA counselor will send Blue Ridge an Authorization 1905 Form to certify your enrollment.

Post 9/11 GI Bill (Chapter 33)

The Post 9/11 GI Bill ® will pay the tuition and fees directly to the school. Students attending school with greater than half time rate of pursuit will be given a monthly housing allowance based on the Zip Code of the school. Online only students will receive a housing allowance half of the national average. Every student receives an annual book stipend of up to \$1,000.

Survivors' and Dependents' Educational Assistance (DEA) Program (Chapter 35)

This benefit is for spouses and children of 100% permanently and totally disabled veterans. This benefit pays a monthly amount directly to the student. The student must then pay the school for tuition/fees. There is no housing allowance or book stipend for students utilizing this chapter of benefits.

Reserve/Guard Montgomery GI Bill ® (Chapter 1606)

The Montgomery GI Bill ® pays a flat rate per term /semester. The monthly rate is paid to the student and it is the student's responsibility to pay the school for tuition/fees. There is no housing allowance or book stipend for students utilizing this chapter. Students must submit a NOBE (Form DD2384-1) to the School Certifying Official and certify their enrollment through WEAMS or by calling the VA benefits hotline at the end of each month.

Priority Registration

All students using VA education benefits are eligible for priority registration. In order to participate, students must submit their completed Veteran's Enrollment Reporting Form to the School Certifying Official on the Wednesday prior to open registration for each semester. The Veteran's Enrollment Reporting Form must list the classes for which the student wishes to be registered and must be signed and dated by the student. If there are pre-requisite or program requirements, the School Certifying Official will contact the student at their Blue Ridge e-mail before proceeding to register the student in any course.

Payment Compliance

Blue Ridge Community and Technical College comply with Section 103 of the Veterans Benefits and Transition Act of 2018. This regulation goes into effect on August 1, 2019. For any student using Chapter 33/GI Bill or Chapter 31/Vocational Rehabilitation, BRCTC will not prevent enrollment, will not assess late payment penalties, require additional funding, or deny access to school resources PRIOR to the VA payment. BRCTC does require that students receiving Chapter 33 or Chapter 31 benefits to have submitted the Certificate of Eligibility and Veteran's Enrollment Reporting Form prior to the start of classes.

Military Student Withdraw Policy

Definitions

- Active Military Duty—Called or ordered to state or federal active service in any active duty or reserve component of the Armed Forces of the United States or of the National Guard of this state or any other state.
- Military Member—Any person who is a current, active member of active duty, reserves, or guard unit of any branch of the United States Armed Forces.
- Unexpected Drop—A drop necessitated solely because of an unforeseen, unplanned, emergent military call to duty or geographic reassignment that prevents the student service member from attending class and completing coursework as planned. Geographic reassignment must be demonstrated by orders clearly stating that the student is physically relocating during the term in question.

Policy

In the event of an unexpected call to duty, the student service member shall be afforded a choice of options for completion of enrolled coursework.

- Drop all registered courses without academic penalty and receive no credit for the course pursued, but receive a refund of tuition and fees for the term, as permitted within adherence to financial aid regulations, or
- Receive an "incomplete" grade for the course if at least 70% of coursework is complete with a class average of C or better and written verification of permission from the instructor or department chair is provided.
Course work must be completed within one year of release from military duty.

Student service members seeking relief under this rule must provide proof, in the form of a dated copy of official orders, that the call to duty or reassignment could not reasonably have been foreseen prior to the beginning of the term in which the student was registered.

This rule shall not be applicable in the case of planned military training during an enrolled term if the planned military training was scheduled and the service member was notified of it prior to the beginning of the term. In this case, please follow the guidelines for notifying your instructor outlined in the Student Handbook under attendance.

Military Attendance Policy

Prior to missing class, students will be expected to provide, at a minimum, an e-mail from their command outlining the dates for which they will be absent. Upon their return, the student must provide formal documentation (i.e. orders, or a letter written and signed by the commander) to verify their absence.

If the student is aware of the training prior to the start of the semester, it is the responsibility of that student to work out a plan for completing the missed coursework and assignments with the instructor(s) of the class(s) from which they will be absent.

Additional Services and Support

Blue Ridge CTC Student Veteran Association (BRCTC SVA)

The mission of the BRCTC SVA is to provide veterans, military service members, and their families with resources, support, and advocacy needed to succeed in higher education and following graduation by:

- Assisting new student veterans in the transition to college life
- Serving as an outreach mechanism
- Assisting veterans in locating and accessing the many services and benefits available to them by providing information and support
- Educating the campus and community of current issues facing our veterans and service members
- Inviting guest speakers to campus who support the mission and advocate on behalf of our veterans
- Building camaraderie and providing a peer and professional network for student veterans

- Working with other veteran advocacy groups (IVMF, VFW, American Legion, IAVA, etc.) and attending national conferences
- Building a positive military community and becoming involved on campus and in the community by conducting social, fundraising, networking, and advocacy events.

Veterans' Education Coordinator

The Veterans' Education Coordinator is the designated point of contact on campus for veterans, service members, and their families. The Veterans' Education Coordinator is available to assist with VA education benefits questions, provides access to community resources, ensure VA compliance, and certify enrollment. For questions or to schedule a meeting, please contact vetsource@blueridgectc.edu.

Five Star Challenge

In keeping up with the initiative of the 2015-2016 Five Star Challenge posed by the West Virginia Office of Veterans Education and training, Blue Ridge CTC continues to uphold our commitment to student veterans. We strive to meet the unique needs of this special population by ensuring top-down support of military, veterans, and their families, allowing for easy access and affordability, offering specialized academic support, fostering cultural and social support, and increasing community collaboration.

Principles of Excellence

Blue Ridge CTC adheres to the requirements of the Principles of Excellence. As outlined by the program, Blue Ridge CTC offers easy access to the cost breakdown for students each semester and to their individual education plan. Students can easily view this information through their Bridge account.

GI Bill ® is a registered trademark of the U.S. Department of Veterans Affairs (VA). More information about education benefits offered by VA is available at the official U.S. government Web site at <https://www.benefits.va.gov/gibill>.

Support Services

Academic Recognition

All degree-seeking students have the opportunity to receive academic honors based on their semester GPA. Academic Honors will fall into three categories and will be automatically awarded based on the grades that are submitted at the end of the semester.

- To be named to the President's List, a degree-seeking student must earn a grade point average of 4.0 for the semester.
- To be named to the Dean's List, a degree-seeking student must earn a grade point average of 3.5 to 3.99 for the semester.
- To be named to the Honors List, a degree-seeking student must earn a grade point average of 3.0 to 3.49 for the semester.

All students enrolled at Blue Ridge Community and Technical College have the opportunity to be selected by a faculty member as a recipient of a student award. Each semester, nominations are collected based on an individual's outstanding contributions to the college campus. Recipients may be selected to receive either a Spirit Award or the Outstanding Student of the Semester Award. Receipt of awards are notated on a student's academic transcript.

Bookstore

Blue Ridge Community and Technical College has a dedicated bookstore located on the Main Campus and Technology Center. Students can purchase textbooks in the bookstore and can also order online through the website at www.blueridgectc.edu/bookstore. Textbooks will be available for pick up at both the Main Campus and the Technology Center locations. Other items are also sold within the bookstore, including Blue Ridge CTC apparel, software, study aids, etc. The current bookstore hours vary, extended hours may be available throughout the semester for book buyback and sales.

Follett Blue Ridge Community and Technical College Book Order Website is www.blueridgectc.edu/bookstore.

Student ID Card

Blue Ridge Community and Technical College students, upon enrollment, are provided a BRIDGE Student ID Card. This card should be visible at all times while on campus and must be presented upon request by administrators or faculty of Blue Ridge Community and Technical College for identification purposes. A \$5.00 fee is charged for the replacement of this card. Students are required to carry this card at all times. The BRIDGE card is the property of Blue Ridge Community and Technical College and is nontransferable. Use of this card constitutes acceptance of the terms and conditions in effect at the time of use. Report lost, stolen, or found cards immediately to the Campus Security at 304-260-4380 ext 2250.

E2 Campus

Blue Ridge and Technical College offers the E2 Campus Alert System to notify students of emergency situations and/or emergency closings. To sign-up for E2 Campus, students should text the word "AlertMe" to #79516. Employees should text "employee" to #79516.

Computer Accounts

All registered students are assigned a computer account upon registration. Students are required to obtain their account information over BRIDGE. Computer accounts allow students access and use of the Internet, email and various software in computer labs. College computers cannot be accessed without a username and password. For more information, visit the Information Technology Services website at www.blueridgectc.edu.

Library Services

The College provides web-based library resources through a variety of research database subscriptions. Research and Reference Services are available to students through the E-Learning department to support students in their academic research needs. To obtain Research and Reference Services, email elearn@blueridgectc.edu or call (304) 260-4380 extension 2349.

Career Services

Blue Ridge Community and Technical College provides free career development services for students and alumni. The Office of Career Services supports the full lifecycle of a student from career and degree exploration to job placement. Services include: Career Assessment and Advising, Resume and Cover Letter Assistance, Mock Interviews, Job Search Assistance, Career Training & Workshops, and Job Placement through our campus recruiting opportunities including our online job board, employer connections, career fairs, and networking events. Contact the Office of Career Services by emailing CareerServices@blueridgectc.edu.

Clubs and Orgs

Blue Ridge Community and Technical College has several clubs and special interest groups which meet the needs of a diverse student body. For questions regarding clubs and orgs, contact the Student Government Association Advisor.

Phi Theta Kappa

Phi Theta Kappa International Honor Society serves to recognize and encourage the academic achievement of two-year college students and provide opportunities for individual growth and development through honors, leadership and service programming. To be eligible to join, a student must have a 3.5 GPA.

Developmental Courses

- ENGL 100 - English Essentials (3)
- ENGL 100R - Reading Essentials (3)
- ENGL 101L - English Composition I Lab (3)
- ENGL 110L - Tech Writing & Comm Lab (3)
- MATH 100 - Math Essentials (3)
- MATH 100A - Algebra Essentials (3)

Placement Testing/Assessment

The standards for assessment and placement established by the West Virginia Council for Community and Technical College Education (Title 135 Series 21) are designed to establish uniform procedures for the placement of students in credit-bearing courses in Mathematics and English which can be applied toward an undergraduate academic degree.

Students may be exempted from taking placement tests/assessments by meeting any of the following criteria:

1. The student has already earned a degree from an accredited college (official transcripts must be submitted to the Office of Admissions).
2. Students who have previously taken and received a passing grade in a college level English and Math course from an accredited college (official transcripts must be submitted to the Office of Admissions).
3. Students with acceptable SAT/ACT scores (official score report must be submitted to the Office of Admissions). See chart below for acceptable scores.
4. Students with acceptable Compass, Accuplacer, or Asset scores from other accredited colleges (official score report must be submitted to the Office of Admission). See chart below for acceptable scores.
5. Students with acceptable WV Grade 11 Assessment scores in English and Mathematics.

Placement Testing/Assessment: Scores & Course Placement

Students who do not meet these exemptions have the option of taking the placement tests/assessments. Students may also choose not to take the placement tests/assessments with the understanding that they must start with foundation courses for the subjects which they did not test.

Additional assessments may be available and used for course placement. Please contact the Testing Center about these options.

READING	ACT	SAT *	ACCUPLACER*	SAT (Prior to March 1, 2016)
ENGL 100R (Reading Essentials)	16 or Below (Reading)	22 or Below (Reading)	251 or Below (Reading)	410 or Below (Reading)
Exempt from a Reading Course	17 or Above (Reading)	23 or Above (Reading)	252 or Above (Reading)	420 or Above (Reading)
ENGLISH	ACT	SAT*	ACCUPLACER*	SAT (Prior to March 1, 2016)
ENGL 111 (Applied Technical Writing) OR (Co-requisite Courses) 6 credits in one semester ENGL 101 (Written English) WITH ENGL 101L (Written English Lab) OR ENGL 110 (Technical Writing) WITH ENGL 110L (Technical Writing Lab)	17 or Below (English)	479 or Below OR 12 or below (Composite Essay Score)	249 or below (Writing)	440 or below (Writing)
ENGL-101 (Written English) OR ENGL-110 (Technical Writing)	18 or Above (English)	480 or Above OR 13 or Above Composite Essay Score	250 or Above (Writing)	450 or Above (Writing)

MATH	ACT	SAT*	ACCUPLACER*	SAT (Prior to March 1, 2016)
MATH-100 (Math Essentials)	17 or Below	499 or below (Math)	249 or Below (QAS) or 235 or below (Advanced Algebra Functions)	420 or Below
MATH-100A (Algebra Essentials)	18 or above (Math)	500-509 (Math)	236 or above (Advanced Algebra Functions)	430-450
MATH-101 (Intro to Mathematics) MATH-102 (Technical Math)	19 or Above (Math)	510 or Above (Math)	250 or Above (QAS)	430-450
MATH-105 (College Algebra)	21 or Above	530 or Above (Math)	260 or Above (QAS)	460 or Above
MATH-114 (Elem Probability & Statistics) MATH-154 (Finite Mathematics)	20 or Above	520 or Above (Math)	255 or Above (QAS)	460 or Above

MATH-106(Trigonometry) MATH-108 (Pre-Calculus)	24 or Above	580 or Above (Math)	250 or Above (Advanced Algebra Functions)	550 or Above
MATH-207 (Calculus)	28 or Above	660 or Above (Math)	276 or Above (Adv Alg Functions)	600 or Above

The Office of Accessibility Services

The Office of Accessibility Services (OAS) provides accessibility to students with different abilities as they transition to college. OAS assists students with advocacy, empowerment, goal planning and setting, and study skills. Students seeking accommodations can send appropriate medical documentation to the OAS Student Development Coordinator. After receiving documentation, the student and OAS Student Development Coordinator will schedule an intake. Registering with OAS at Blue Ridge Community and Technical College is a self-reporting process. Please review the documents found at www.blueridgectc.edu. If you identify as a person in need of accommodations due to your psychological or physical diagnoses, we encourage you to contact the OAS Student Development Coordinator at access@blueridgectc.edu or (304) 260-4380, ext. 2117.

Skills 101

SKILLS 101 (ENGL 100S and/or MATH 100S)

SKILLS 101 is an intensive test preparation program designed for all students but with a specific focus on those needing placement testing. While ENGL 100S - Developmental English (1) is designed as a workshop with 16 intensive hours of instruction in a week, MATH 100S - Developmental Mathematics (1) uses an online delivery format. The goal is that students' skills will be enhanced and they can test or retest for successful placement into college-level English or mathematics courses.

Student Conduct

Students are expected to abide by the rules and regulations set forth in the Student Handbook. The Student Handbook reflects the College community's expectations and standards established for each of its members. The handbook and student judicial system are founded on principles of fairness and due process and a commitment to the educational development of students and are designed to balance the interests of the College community as a whole with the protection of students' individual liberties.

Disciplinary action on campus deals administratively and developmentally with prohibited or unacceptable student behavior in the College community. Any complainant may refer to any student or organization to the Office of Student Success. Official College action will be taken when a student's or student group's behavior violates community standards, interferes either with the College's educational purpose or with its duty to protect and preserve individual health, welfare, and property. When the behavior is aggravated or presents a continuing danger to the College community, accused students are subject to separation from the institution.

Thus, the primary purpose of this handbook is to serve the interests of both the Blue Ridge Community and Technical College community and the individual student by:

1. Establishing the College's authority to discipline students.
2. Outlining the general rights and responsibilities of students.
3. Asserting the specific standards of conduct expected of students.
4. Describing actions which can be taken when misconduct occurs.
5. Establishing procedures which ensure due process in the adjudication of complaints concerning students.
6. Imposing sanctions and/or providing conflict resolution in the College setting to protect, deter, and educate.

For further information regarding the standards, proscribed conduct and sanctions of students, refer to the Student Handbook found on the Blue Ridge CTC website at www.blueridgectc.edu.

Title IX

As a recipient of federal funds, Blue Ridge Community and Technical College is required to comply with Title IX of the Higher Education Amendments of 1972 which prohibits discrimination on the basis of sex in education programs or activities. Title IX states that "No person in the United States shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity receiving Federal financial assistance." Sexual misconduct, as defined in this policy, is a form of sex discrimination prohibited by Title IX. We encourage members of the campus community who experience any form of sexual misconduct discussed in this policy to contact our Blue Ridge Community and Technical College's Title IX Coordinator, Ann Paull, at 304-260-4380, extension 2126. Also, complaints can be submitted through the Blue Ridge Community and Technical College's website. For more information regarding Title IX, refer to the Blue Ridge Community and Technical College's website or Student Handbook.

Violation of Student Rights

Any student who believes that his/her rights were violated shall:

1. Refer to the Student Handbook which can be found on the Blue Ridge CTC website at www.blueridgectc.edu.
2. Meet with the Assistant Dean of Student Outreach to file a complaint.

The Student Code of Conduct is founded on principles of fairness and due process, and a commitment to the educational development of students and is designed to balance the interests of the College community as a whole with the protection of students' individual liberties. For more information on the Student Handbook, go to the Blue Ridge CTC website at www.blueridgectc.edu for a copy.

Academic Programs

General Education Core

Associate of Applied Science (AAS) General Education Core

Blue Ridge Community and Technical College has a General Education Core designed to fulfill the three institutional goals:

- The student will develop college-level communication skills.
- The student will develop general knowledge about and awareness of society.
- The student will develop fundamental thinking and reasoning skills necessary for academic study and career success.

To graduate with a certificate after 30 credits of study, a student is required to take 6 credits from the General Education Core, one course in Communication and one in Mathematics, thus addressing goals one and three.

To graduate with an Associate of Applied Science degree, a student is required to take 15 credits from the General Education Core, including one course in Communication, one in Social & Cultural Awareness, and one in Scientific & Quantitative Reasoning, thus addressing all three institutional goals.

For an Associate of Arts degree and an Associate of Science degree – which are degrees that typically prepare a student to continue to a four-year institution or beyond – 24 credits from the General Education Core are required, including one course in Communication, one in Social & Cultural Awareness, and one in Scientific & Quantitative Reasoning, thus addressing all three institutional goals.

Refer to the Academic Programs section in the catalog to see which of the General Education Core courses fulfill the requirements for that degree.

General education courses approved for an Associate of Applied Science degree are included in the following table.

<i>Communication</i>	<i>Scientific & Quantitative Reasoning</i>	<i>Social & Cultural Awareness</i>
CAS 111 Information Literacy (3)++	BIOL 100 Human Body (3)	AGRB 101 Introduction to Agribusiness (3)
COMM 202 Fundamentals of Speech (3)++	BIOL 101 General Biological Science I (4)++	ART 103 Introduction to Visual Arts (3)++
COMM 205 Professional Communication (3)++	BIOL 102 General Biological Science II (4)++	BUSN 160 Organizational Behavior (3)++
ENGL 101 Written English (3)++	BIOL 120 & 121 Anatomy and Physiology I & Lab (4)++	CGEN 100 First Year Experience (3)++
ENGL 102 Writing for Arts and Humanities (3)++	BIOL 122 & 123 Anatomy and Physiology II & Lab (4)++	ECED 105 Child Development (3)
ENGL 110 Technical Writing and Communication (3)++	BIOL 220 & 221 Microbiology & Lab (4)++	ECON 123 Contemporary Economics (3) ++
ENGL 111 Applied Technical Writing (4)++	CHEM 125 Introduction to Chemistry (4)++	EDET 180 Building Better Relationships (2) ++
ENGL 204 Survey of American Literature (3)++	CHEM 127 General Organic & Biological Chemistry I (4)++	EDET 181 Conflict Resolution (2)++
ENGL 208 Survey of World Literature (3)	CHEM 128 General Organic & Biological Chemistry II (4)++	ENGL 215 The Art of Literature (3)
MDIA 101 Introduction to Media Studies (3)	EDET 201 Fundamentals of Electricity I (2)++	GEOG 105 World Cultural Geography (3)
	EDET 202 Fundamentals of Electricity II (2)++	GSPE 210 Fitness for Life (3)

	ENVT 101 Environmental Science (3)	HIST 101 World History to 1500 (3)
	GEOL 101 Geological Sciences (4)	HIST 102 World History Since 1500 (3)
	LTEC 101 Laboratory Technician I (4)	HIST 201 United States History until 1877 (3)
	LTEC 120 Biology for Technicians I (4)	HIST 202 United States History since 1877 (3)
	LTEC 121 Biology for Technicians II (4)	HIST 210 WV and Appalachian History (3)
	MATH 101 Introduction to Mathematics (3)	IT 105 Computer Ethics ++
	MATH 102 Technical Mathematics (3)	MUSC 111 Introduction to Music (3) ++
	MATH 105 Algebra (3)	PHIL 101 Introduction to Philosophy (3)
	MATH 106 Trigonometry (3)	PHIL 111 Phil of World Religions (3)
	MATH 108 Pre-Calculus (4)	PSCI 100 Intro to Political Ideology (3)
	MATH 114 Elementary Probability & Stats (3)	PSCI 101 American Federal Government (3)
	MATH 154 Finite Mathematics (3)	PSCI 201 Intro to Int'l Relations (3)
	MECH 102 & 102L Technical Physics & Lab (4)	PSYC 203 Introduction to Psychology (3)
	PHYS 103 General Physical Science I (4)++	PSYC 210 Human Growth and Development (3)
	PHYS 104 General Physical Science II (4)++	SOCI 203 General Sociology (3)
		SOCI 215 Human Relations (3)

Associate of Arts (AA) General Education Core

Blue Ridge Community and Technical College has a General Education Core designed to fulfill the three institutional goals:

- The student will develop college-level communication skills.
- The student will develop general knowledge about and awareness of society.
- The student will develop fundamental thinking and reasoning skills necessary for academic study and career success.

To graduate with a certificate after 30 credits of study, a student is required to take 6 credits from the General Education Core, one course in Communication, and one in Mathematics, thus addressing goals one and three.

To graduate with an Associate of Applied Science degree, a student is required to take 15 credits from the General Education Core, including one course in Communication, one in Social & Cultural Awareness, and one in Scientific & Quantitative Reasoning, thus addressing all three institutional goals.

For an Associate of Arts degree and an Associate of Science degree – which are degrees that typically prepare a student to continue to a four-year institution or beyond – 24 credits from the General Education Core are required, including one course in Communication, one in Social & Cultural Awareness, and one in Scientific & Quantitative Reasoning, thus addressing all three institutional goals.

Refer to the Academic Programs section in the catalog to see which of the General Education Core courses fulfill the requirements for that degree.

<i>Communication</i>	<i>Scientific & Quantitative Reasoning</i>	<i>Social & Cultural Awareness</i>
COMM 202 Fundamentals of Speech (3) ++	BIOL 100 Human Body (3)	ART 103 Introduction to Visual Arts (3)++
ENGL 101 Written English (3) ++	BIOL 101 General Biological Science I (4) ++	ECON 123 Contemporary Economics (3)++
ENGL 102 Writing for Arts and Humanities (3) ++	BIOL 102 General Biological Science II (4) ++	ENGL 215 The Art of Literature (3)
ENGL 204 Survey of American Literature (3)	BIOL 120 & 121 Anatomy and Physiology I & Lab (4)++	GSPE 210 Fitness for Life (3)
ENGL 208 Survey of World Literature (3)	BIOL 122 & 123 Anatomy and Physiology II & Lab (4)++	HIST 101 Wld Hist to 1500:Early Man-Ren (3)
	BIOL 220 & 221 Microbiology & Lab (4)++	HIST 102 Wld Hist since 1500:Ren-Prsnt (3)
	CHEM 125 Introduction to Chemistry (4)++	HIST 210 WV and Appalachian History (3)
	CHEM 127 General Organic & Biological Chemistry I (4)++	MUSC 111 Introduction to Music (3)++
	CHEM 128 General Organic & Biological Chemistry II (4)++	PHIL 111 Phil of World Religions (3)
	GEOL 101 Geological Sciences (4)	
	MATH 101 Introduction to Mathematics (3)	PSCI 100 Intro to Political Ideology (3)
	MATH 105 Algebra (3)	PSCI 101 American Federal Government (3)

	MATH 106 Trigonometry (3)	PSCI 201 Intro to Int'l Relations (3)
	MATH 108 Pre-Calculus (4)	PSYC 203 Introduction to Psychology (3)
	MATH 114 Elementary Probability & Stats (3)	PSYC 210 Human Growth and Development (3)
	MATH 154 Finite Mathematics (3)	SOCI 203 General Sociology (3)
	PHYS 103 General Physical Science I (4)++	SOCI 215 Human Relations (3)
	PHYS 104 General Physical Science II (4)++	THEA 101 Introduction to Theatre (3)

Associate of Science (AS) General Education Core

Blue Ridge Community and Technical College has a General Education Core designed to fulfill the three institutional goals:

- The student will develop college-level communication skills.
- The student will develop general knowledge about and awareness of society.
- The student will develop fundamental thinking and reasoning skills necessary for academic study and career success.

To graduate with a certificate after 30 credits of study, a student is required to take 6 credits from the General Education Core, one course in Communication, and one in Mathematics, thus addressing goals one and three.

To graduate with an Associate of Applied Science degree, a student is required to take 15 credits from the General Education Core, including one course in Communication, one in Social & Cultural Awareness, and one in Scientific & Quantitative Reasoning, thus addressing all three institutional goals.

For an Associate of Arts degree and an Associate of Science degree – which are degrees that typically prepare a student to continue to a four-year institution or beyond – 24 credits from the General Education Core are required, including one course in Communication, one in Social & Cultural Awareness, and one in Scientific & Quantitative Reasoning, thus addressing all three institutional goals.

Refer to the Academic Programs section in the catalog to see which of the General Education Core courses fulfill the requirements for that degree.

General education courses approved for an Associate of Science degree are included in the following table.

<i>Communication</i>	<i>Scientific & Quantitative Reasoning</i>	<i>Social & Cultural Awareness</i>
CAS 111 Information Literacy (3)++	BIOL 100 Human Body (3)	AGRB 101 Introduction to Agribusiness (3)
COMM 202 Fundamentals of Speech (3)++	BIOL 101 General Biological Science I (4) ++	ART 103 Introduction to Visual Arts (3) ++

ENGL 101 Written English (3)++	BIOL 102 General Biological Science II (4) ++	CGEN 100 First Year Experience (3) ++
ENGL 102 Writing for Arts and Humanities (3) ++	BIOL 120 & 121 Anatomy and Physiology I & Lab (4) ++	ECED 105 Child Development (3)
ENGL 110 Technical Writing and Communication (3) ++	BIOL 122 & 123 Anatomy and Physiology II & Lab (4) ++	ENGL 215 Art of Literature (3)
ENGL 204 Survey of American Literature (3) ++	BIOL 220 & 221 Microbiology & Lab (4) ++	GEOG 105 World Cultural Geography (3)
ENGL 208 Survey of World Literature (3)	CHEM 125 Introduction to Chemistry (4) ++	GSPE 210 Fitness for Life (3)
	CHEM 127 General Organic & Biological Chemistry I (4) ++	HIST 101 World History to 1500 (3)
	CHEM 128 General Organic & Biological Chemistry II (4) ++	HIST 102 World History Since 1500 (3)
	ENVT 101 Environmental Science (3)	HIST 210 WV and Appalachian History (3)
	GEOL 101 Geological Sciences (4)	IT 105 Computer Ethics (3) ++
	MATH 101 Introduction to Mathematics (3)	MUSC 111 Introduction to Music (3) ++
	MATH 102 Technical Mathematics (3)	PHIL 101 Introduction to Philosophy (3)
	MATH 105 Algebra (3)	PHIL 111 Phil of World Religions (3)
	MATH 106 Trigonometry (3)	PSCI 100 Intro to Political Ideology (3)
	MATH 108 Pre-Calculus (4)	PSCI 101 American Federal Government (3)
	MATH 114 Elementary Probability & Stats (3)	PSCI 201 Intro to Int'l Relations (3)
	MATH 154 Finite Mathematics (3)	PSYC 203 Introduction to Psychology (3)
	PHYS 103 General Physical Science I (4) ++	PSYC 210 Human Growth and Development (3)
	PHYS 104 General Physical Science II (4) ++	SOCI 203 General Sociology (3)
		SOCI 215 Human Relations (3)

		THEA 101 Introduction to Theatre (3)
--	--	--------------------------------------

Associate of Science in Nursing (ASN) General Education Core

Blue Ridge Community and Technical College has a General Education Core designed to fulfill the three institutional goals:

- The student will develop college-level communication skills.
- The student will develop general knowledge about and awareness of society.
- The student will develop fundamental thinking and reasoning skills necessary for academic study and career success.

To graduate with a certificate after 30 credits of study, a student is required to take 6 credits from the General Education Core, one course in Communication, and one in Mathematics, thus addressing goals one and three.

To graduate with an Associate of Applied Science degree, a student is required to take 15 credits from the General Education Core, including one course in Communication, one in Social & Cultural Awareness, and one in Scientific & Quantitative Reasoning, thus addressing all three institutional goals.

For an Associate of Arts degree and an Associate of Science degree – which are degrees that typically prepare a student to continue to a four-year institution or beyond – 24 credits from the General Education Core are required, including one course in Communication, one in Social & Cultural Awareness, and one in Scientific & Quantitative Reasoning, thus addressing all three institutional goals.

Refer to the Academic Programs section in the catalog to see which of the General Education Core courses fulfill the requirements for that degree.

General education courses approved for an Associate of Science degree are included in the following table.

<i>Communication</i>	<i>Scientific & Quantitative Reasoning</i>	<i>Social & Cultural Awareness</i>
CAS 111 Information Literacy (3)++	BIOL 100 Human Body (3)	AGRB 101 Introduction to Agribusiness (3)
COMM 202 Fundamentals of Speech (3)++	BIOL 101 General Biological Science I (4) ++	ART 103 Introduction to Visual Arts (3) ++
ENGL 101 Written English (3)++	BIOL 102 General Biological Science II (4) ++	CGEN 100 First Year Experience (3) ++
ENGL 102 Writing for Arts and Humanities (3) ++	BIOL 120 & 121 Anatomy and Physiology I & Lab (4) ++	ECED 105 Child Development (3)
ENGL 110 Technical Writing and Communication (3) ++	BIOL 122 & 123 Anatomy and Physiology II & Lab (4) ++	ENGL 215 Art of Literature (3)
ENGL 204 Survey of American Literature (3) ++	BIOL 220 & 221 Microbiology & Lab (4) ++	GEOG 105 World Cultural Geography (3)
ENGL 208 Survey of World Literature (3)	CHEM 125 Introduction to Chemistry (4) ++	GSPE 210 Fitness for Life (3)

	CHEM 127 General Organic & Biological Chemistry I (4) ++	HIST 101 World History to 1500 (3)
	CHEM 128 General Organic & Biological Chemistry II (4) ++	HIST 102 World History Since 1500 (3)
	ENVT 101 Environmental Science (3)	HIST 210 WV and Appalachian History (3)
	GEOL 101 Geological Sciences (4)	IT 105 Computer Ethics (3) ++
	MATH 101 Introduction to Mathematics (3)	MUSC 111 Introduction to Music (3) ++
	MATH 102 Technical Mathematics (3)	PHIL 101 Introduction to Philosophy (3)
	MATH 105 Algebra (3)	PHIL 111 Phil of World Religions (3)
	MATH 106 Trigonometry (3)	PSCI 100 Intro to Political Ideology (3)
	MATH 108 Pre-Calculus (4)	PSCI 101 American Federal Government (3)
	MATH 114 Elementary Probability & Stats (3)	PSCI 201 Intro to Int'l Relations (3)
	MATH 154 Finite Mathematics (3)	PSYC 203 Introduction to Psychology (3)
	PHYS 103 General Physical Science I (4) ++	PSYC 210 Human Growth and Development (3)
	PHYS 104 General Physical Science II (4) ++	SOCI 203 General Sociology (3)
		SOCI 215 Human Relations (3)
		THEA 101 Introduction to Theatre (3)

Certificate (CAS) General Education Core

Blue Ridge Community and Technical College has a General Education Core designed to fulfill the three institutional goals:

- The student will develop college-level communication skills.
- The student will develop general knowledge about and awareness of society.
- The student will develop fundamental thinking and reasoning skills necessary for academic study and career success.

To graduate with a certificate after 30 credits of study, a student is required to take 6 credits from the General Education Core, one course in Communication and one in Mathematics, thus addressing goals one and three.

To graduate with an Associate of Applied Science degree, a student is required to take 15 credits from the General Education Core, including one course in Communication, one in Social & Cultural Awareness, and one in Scientific & Quantitative Reasoning, thus addressing all three institutional goals.

For an Associate of Arts degree and an Associate of Science degree – which are degrees that typically prepare a student to continue to a four-year institution or beyond – 24 credits from the General Education Core are required, including one course in Communication, one in Social & Cultural Awareness, and one in Scientific & Quantitative Reasoning, thus addressing all three institutional goals.

Refer to the Academic Programs section in the catalog to see which of the General Education Core courses fulfill the requirements for that degree.

General education courses approved for a Certificate of Applied Science degree are included in the following table.

<i>Communication</i>	<i>Scientific & Quantitative Reasoning</i>	<i>Social & Cultural Awareness</i>
CAS 111 Information Literacy (3)++	BIOL 100 Human Body (3)	AGRB 101 Introduction to Agribusiness (3)
COMM 202 Fundamentals of Speech (3)++	BIOL 101 General Biological Science I (4)++	ART 103 Introduction to Visual Arts (3)++
COMM 205 Professional Communication (3)++	BIOL 102 General Biological Science II (4)++	BUSN 160 Organizational Behavior (3)++
ENGL 101 Written English (3)++	BIOL 120 & 121 Anatomy and Physiology I & Lab (4)++	CGEN 100 First Year Experience (3)++
ENGL 102 Writing for Arts and Humanities (3)++	BIOL 122 & 123 Anatomy and Physiology II & Lab (4)++	ECED 105 Child Development (3)
ENGL 110 Technical Writing and Communication (3)++	BIOL 220 & 221 Microbiology & Lab (4)++	ECON 123 Contemporary Economics (3) ++
ENGL 111 Applied Technical Writing (4)++	CHEM 125 Introduction to Chemistry (4)++	EDET 180 Building Better Relationships (2) ++
ENGL 204 Survey of American Literature (3)++	CHEM 127 General Organic & Biological Chemistry I (4)++	EDET 181 Conflict Resolution (2)++
ENGL 208 Survey of World Literature (3)	CHEM 128 General Organic & Biological Chemistry II (4)++	ENGL 215 The Art of Literature (3)
MDIA 101 Introduction to Media Studies (3)	EDET 201 Fundamentals of Electricity I (2)++	GEOG 105 World Cultural Geography (3)
	EDET 202 Fundamentals of Electricity II (2)++	GSPE 210 Fitness for Life (3)
	ENVT 101 Environmental Science (3)	HIST 101 World History to 1500 (3)

	GEOL 101 Geological Sciences (4)	HIST 102 World History Since 1500 (3)
	LTEC 101 Laboratory Technician I (4)	HIST 201 United States History until 1877 (3)
	LTEC 120 Biology for Technicians I (4)	HIST 202 United States History since 1877 (3)
	LTEC 121 Biology for Technicians II (4)	HIST 210 WV and Appalachian History (3)
	MATH 101 Introduction to Mathematics (3)	IT 105 Computer Ethics ++
	MATH 102 Technical Mathematics (3)	MUSC 111 Introduction to Music (3) ++
	MATH 105 Algebra (3)	PHIL 101 Introduction to Philosophy (3)
	MATH 106 Trigonometry (3)	PHIL 111 Phil of World Religions (3)
	MATH 108 Pre-Calculus (4)	PSCI 100 Intro to Political Ideology (3)
	MATH 114 Elementary Probability & Stats (3)	PSCI 101 American Federal Government (3)
	MATH 154 Finite Mathematics (3)	PSCI 201 Intro to Int'l Relations (3)
	MECH 102 & 102L Technical Physics & Lab (4)	PSYC 203 Introduction to Psychology (3)
	PHYS 103 General Physical Science I (4)++	PSYC 210 Human Growth and Development (3)
	PHYS 104 General Physical Science II (4)++	SOCI 203 General Sociology (3)
		SOCI 215 Human Relations (3)

Associate of Applied Science

Accounting, A.A.S.

This two-year program prepares students to enter the workforce directly in technician, paraprofessional, and future accounting supervisory positions. The program includes accounting and business skills as well as college transfer and supporting courses.

Program Overview

Accounting technicians and paraprofessionals are the financial record keepers of a business and examine, analyze and interpret accounting data for the purpose of sharing financial data and reporting financial performance. Duties may include recording financial activity and preparing internal and external financial reports. Responsibilities include updating and maintaining accounting records, processing expenditures, receipts, payables, receivables, and payroll. They may also analyze, verify, prepare and communicate financial information. Excellent reading skills and a combination of interest and ability to concentrate on detail, an analytical mind, good judgment, and absolute integrity are necessary for success in the field of accounting.

Program Outcomes

- Demonstrate a basic understanding of fundamental accounting and business knowledge.
- Apply critical thinking skills by using accounting models to solve accounting problems.
- Analyze various accounting transactions for the purpose of recording and reporting the effects on business operations.
- Exhibit competency in using business and accounting information technology.
- Evaluate both professional conduct and corporate conduct for ethical issues
- Express the appropriate verbal, non-verbal, professional, and technological communication skills.

Career Opportunities

There is a wide range of employment possibilities for accounting paraprofessionals. Job titles may include accounting clerk, auditing clerk, financial analyst, bookkeeper, bank teller, budget analyst, payroll clerk, accounting assistant, loan clerk, tax preparer, and account representative. Typical places of employment include accounting departments in governmental agencies, financial institutions, not for profit, private business and public accounting firms.

Salary Ranges: \$25,000 - \$40,000

Note: All salary estimations are based on the current position and educational trends. Blue Ridge and The School of Professional Studies and University Transfer cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Curriculum for an Associate of Applied Science in Accounting

General Education Core	15
Accounting Core	15
Track	30
Total Credit Hours Required	60

General Education Core

ART 103 - Introduction to Visual Arts (3)

This is an introductory course designed to survey prehistoric to contemporary visual art forms, giving insight into their nature and their relationships to the human condition. The course includes a study of the functions of various forms of art in which students are exposed to a variety of visual arts experiences to promote a deeper understanding of and appreciation for the role of the visual arts throughout human history and in contemporary society.

MUSC 111 - ~Introduction to Music (3)

This course provides training and experiences which will enable the student to acquire a historical-social-aesthetic perspective, to comprehend musical concepts, to discriminate quality levels, to select satisfying and stimulating musical experiences, and to empathize with the creators and performers of music.

ENGL 101 - ~English Composition I (3)

ENGL 101 is an introduction to college writing. This class emphasizes processes for drafting, revising, and editing. It develops a student's ability to read a passage, analyze its meaning, and write an intelligent response which shows not only an understanding of the passage but also a working knowledge of the writing and rhetorical strategies. Students will learn how to make effective arguments and how to locate, synthesize, and evaluate relevant information.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 101L - English Composition I Lab (3), or placement test scores

HIST 101 - ~World History to 1500: Early Man Through the Renaissance (3)

This course is a survey of World History covering the development of ancient civilizations and cultures to the year 1500, beginning with prehistoric humans and the rise of the first civilizations, including Ancient Mesopotamia, Egypt, the Indus River Valley, and Early China. Continuing with the Classical Era, the survey encompasses the Greek and Roman, Indian, Japanese, and Saharan African Civilizations. The course then examines World Civilizations in the Middle Ages, including the Middle East, Europe, Asia, the Americas, and Africa, before concluding with the European Renaissance. The course compares the development and philosophical foundations of all the major world religions including Judaism, Hinduism, Buddhism, Christianity, and Islam, as well as the major political, economic, social, and cultural systems to the year 1500.

HIST 102 - ~World History Since 1500: The Renaissance Through the Present (3)

This course is a survey of World History from the European Renaissance to the present. At the beginning of the course, developments in the Western World between 1500 and 1800 receive special attention, including the Renaissance, Reformation, Scientific Revolutions, Age of Exploration, Enlightenment, colonization of America, and the transition from mercantilism to capitalism. Having identified the dramatic transition taking place in the West, the course then looks at the impact of those changes around the globe through the trans-Atlantic Slave Trade, political revolutions in the Americas and Europe, industrialization, 19th-century imperialism, World Wars I and II, communist revolutions, the rise of fascism, the Cold War, and the 19th and 20th-century decolonization efforts in India, Africa, Southeast Asia, and the Middle East. The course closes with a review of economic and political globalization since the 1970s. Thematically, the course explores the nature of political, economic, and technological power and the relationship of that power to issues of race, class, gender, religion, and environment.

MATH 101 - ~Introduction to Mathematics (3)

During this course topics to be covered are sets, mathematical logic, mathematical systems, the real number system, systematic counting, probability, measurement, and consumer mathematics. History of mathematics, critical thinking skills, problem solving, and use of technology will be incorporated throughout the course.

Prerequisite(s): MATH 100 - Math Essentials (3) or proper placement on test scores

MATH 105 - ^Algebra (3)

Topics explored in this course include properties of the real numbers, operations on polynomials, rational and radical expressions, solutions of linear, quadratic, polynomial, radical and absolute value equations and inequalities. Coordinate geometry including distance, midpoint, lines, and circles will also be explored. Additional topics include systems of linear equations and their applications, analysis of functions, operations on functions, transformations of functions, and properties of linear, piecewise, quadratic, polynomial, rational, exponential and logarithmic functions.

Prerequisite(s): MATH 100A - Algebra Essentials (3) or proper placement on test scores

MATH 154 - ~Finite Mathematics (3)

This course introduces students to selected topics from finite mathematics. Mathematical models for the analysis of decision-making problems are examined. Topics include analyzing linear functions with applications, solving systems of linear equations using the Echelon and Gauss-Jordan methods, matrix operations and inverses, systems of linear inequalities, linear programming optimization by graphing and the simplex method, risk decisions using counting methods and probability. Additional topics may be chosen from financial mathematics, logic, or statistics.

Prerequisite(s): MATH 100A - Algebra Essentials (3) or proper placement on test scores

PSYC 203 - ~Introduction to Psychology (3)

This course will introduce the student to basic psychological principals and to enable the student to examine current thinking about development, personality, sensation and perception, cognition, learning, psychological disorders, and their treatment, and influence.

Corerequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement

SOCI 203 - ~General Sociology (3)

This course introduces students to the core concepts and perspectives of sociology, the study of human social environments and of human interactions within those environments. The course will explore a number of sociological topics to develop a sociological imagination, an ability to understand the effects of group membership on behavior, attitudes, beliefs, and life chances.

Corerequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement

Subtotal Credit Hours Required 15

Accounting Core

ACCT 201 - Principles of Accounting I (3)

This course is a study of the fundamental theory and principles of accounting concepts for reporting financial information to business users. The course stresses the relationship between the rules by which financial statements are prepared and the use of financial statement information for decision making. This course covers accounting terms, organization of accounts, the accounting cycle, working papers, and financial statements. This study continues in ACCT 202 - Principles of Accounting II (3).

Prerequisite(s): MATH 100 - Math Essentials (3) or placement

ACCT 202 - Principles of Accounting II (3)

This course continues and concludes the fundamental study of financial accounting and then introduces the study of theory and principles of managerial and cost accounting concepts. The course stresses the use of accounting information for decision making and role of managerial accounting in a business environment. This course covers budgeting, costs systems, accounting for corporations, and financial statement analysis.

Prerequisite(s): ACCT 201 - Principles of Accounting I (3)

ACCT 261 - Individual Taxation (3)

This course introduces students to the basic issues and concepts of individual taxation principles. Students observe federal tax laws as applied to the preparation of the Form 1040 and related schedules. Tax preparation software is utilized for case projects.

Prerequisite(s): ACCT 201 - Principles of Accounting I (3)

ACCT 280 - QuickBooks Accounting (3)

This course offers a study of the application of general purpose accounting software, Quick Books. In this course, the student will learn to create companies, enter and process data, generate reports and complete the accounting cycle for small businesses. Then the student will complete several comprehensive projects where they will create a new company, record transactions, and produce reports for various types of fictitious companies. The student will be required to take a national competency test, the Quick Books Certified User exam.

Prerequisite(s): ACCT 201 - Principles of Accounting I (3) and CAS 111 - Information Literacy (3)

ACCT 215 - Small Business Accounting (3)

This course offers an introduction to some basic accounting practices for small businesses with application using accounting software. In this course, the student will be developing an accounting system for a small business and then using the system to manage the finances of a small business. This course covers accounting terms, basic accounting concepts, the accounting cycle, and financial statements.

Prerequisite(s): MATH 100 - Math Essentials (3) or placement

LGST 212 - Business Law (3)

This course is an introduction to the American legal system and its impact on the business environment. Topics considered include contracts, employment law, antitrust law, torts, consumer protection, and the business organization. This study prepares students to identify and limit risk in business dealings.

Subtotal Credit Hours Required 15

Specialty Tracks:

The tracks within the AAS Accounting degree offers flexibility for you and your advisor to design your own Accounting Program based on your career goals. You must select ONE of the following specialty tracks:

Paraprofessional Track

ACCT 180 - Personal Finance (3)

This course offers a study of personal financial management. Students are equipped with the tools to make informed decisions related to spending, saving, borrowing, and investing to achieve financial goals now and in the future.

Prerequisite(s): MATH 100 - Math Essentials (3) or placement

ACCT 220 - Payroll Accounting (3)

This course covers the underlying payroll theory, application, and compliance with various state and federal payroll regulations. Presents accounting systems and methods used in computing and recording payroll. Students will complete a comprehensive payroll simulation for a fictitious company's payroll activities for a full quarter, including payroll transactions, pay processing, and tax form completion.

Prerequisite(s): ACCT 201 - Principles of Accounting I (3)

ACCT 292 - Field Experience (3)

Field experience allows students to practice knowledge and essential skills learned in a real work setting beyond the boundaries of campus. Students will be required to complete 50 hours working in the field per credit hour enrolled and a required 1 credit live or online course. The course component will direct students in compiling an employment career portfolio. Must complete 50% of degree requirements.

BUSN 108 - Business Etiquette & Image (3)

This course provides students a hands-on opportunity to develop the professional image needed to succeed in business. Activities range from the handshake and making introductions to telephone etiquette and table manners. Topics also include professional dress, conduct at work, managing technology, networking, interviewing, and resume development.

BUSN 205 - Business Ethics (3)

This course considers business actions and decisions in relation to moral principles and values. Beginning with an introduction to ethical theory and personal credo, students apply a systematic approach to ethical decision making. That approach is then applied to business situations involving employee relations, consumer affairs, finance, government, and international competition. The role and expectations of business in society, both locally and globally, are discussed.

CAS 111 - Information Literacy (3)

This course covers a variety of introductory computing knowledge including how personal computers work, software essentials, hardware components, operating systems and the most popular productivity applications including word processing, spreadsheet, database and presentation software. Students will also be introduced to the Internet and e-mail essentials, file management and digital electronics. This course aligns with the Internet and Computing Core

Certification (IC3), which demonstrates that a student has a clear understanding of the knowledge and application of computers and technology in the modern world.

CAS 213 - Excel Complete (3)

This course provides comprehensive training in the use of Microsoft® Office Excel®. It is directly aligned with the Microsoft® Office Specialist certification exam which serves to validate an individual's skills and knowledge of the Office software. Topics covered include creating and designing spreadsheets, using charts, graphics, formulas, protecting, sharing, and delivering spreadsheet presentations.

Prerequisite(s): CAS 111 - Information Literacy (3)

COMM 202 - ~Fundamentals of Speech (3)

This course equips the student with the necessary tools to construct, deliver, and analyze public communication messages.

COMM 205 - ~Professional Communications (3)

This course examines the process of communication and the challenges to and effective practices of communicating in a professional environment. Topics include listening skills and verbal, nonverbal, and written communications. The dynamics of communicating in a group, in a global society, and in culturally diverse environments is also investigated. Students apply a systematic approach to plan and create effective letters, memos, reports, presentations, electronic and other forms of business and professional communication.

ECON 123 - ~Contemporary Economics (3)

This course introduces students to both macro and microeconomic concepts including the theory of the firm, consumer behavior, economic systems, and managerial economic principles that affect decisions in every venue of our lives.

Note: Not intended for students in majors that require ECON 205 - ~Principles of Macroeconomics (3) and ECON 206 - ~Principles of Microeconomics (3).

Note Not intended for A.S. Business Administration Students.

ECON 205 - ~Principles of Macroeconomics (3)

This class serves as an introduction to fundamental economic concepts including production possibilities and economic growth, market supply and demand analysis, money, banking, government, and monetary policies. Emphasis is placed upon fluctuations in national income, employment, and price level. Overall, the impact of scarcity and human decision making will be imparted.

ECON 206 - ~Principles of Microeconomics (3)

This course provides an introduction to microeconomic theory with a primary focus on the methodology of economics and the behaviors of individuals and firms. Fundamental concepts are covered including demand and supply analysis, marginal analysis, opportunity cost, market structure, pricing, labor markets, and government policy and regulation.

GEOG 105 - ~World Cultural Geography (3)

This course introduces students to fundamental issues and concepts that explain the dynamic and complex relationships between people and the environments they inhabit. Students will explore the ways in which geography affects human settlement, health, diets, language, religion, and overall social, political, and economic development.

GSPE 210 - Fitness for Life (3)

This course is designed to assist participants in developing a healthier lifestyle through appropriate exercise programs, nutrition and behaviors that contribute to optimal health and wellness.

PSCI 101 - ~American Federal Government (3)

This course involves the study of the functions and administration of government in the United States. The course is designed to provide an introduction to the structure, organization and functioning of the national government of the United States. It will examine the powers and relationships of the executive, legislative, and judicial branches of government with special emphasis given to the role that history, political parties, pressure groups, etc. play in influencing these relationships.

Subtotal Credit Hours Required 30

Professional Accounting Transfer Track

ACCT 150 - Intro to Accounting Profession (1)

This course introduces students to the accounting profession and its role in business. The student will explore various fields of accounting and career paths. The purpose is for students to develop an understanding of career possibilities and professional accounting certifications.

BIOL 101 - ^General Biological Science I (4)

This is semester one of a two-semester general biology course which, with BIOL 102, satisfies the Liberal Arts science requirement. This is an integrated lecture and laboratory course dealing with both plants and animals, related to our environment from molecule to biosphere. This course focuses on molecular and cellular biology, patterns of inheritance and genetics, biotechnology, and mechanisms of evolution.

BIOL 102 - ~General Biological Science II (4)

This is semester two of a two-semester general biology course which, with BIOL 101, satisfies the Liberal Arts science requirement. This is an integrated lecture and laboratory course dealing with both plants and animals, related to our environment from molecule to biosphere. This course focuses on plant and animal structure and function, the dynamics of populations, communities and ecosystems, and human impact on the biosphere.

Prerequisite(s): BIOL 101 - ^General Biological Science I (4)

PHYS 103 - ~General Physical Science I (4)

This is an introductory survey course which explores the major concepts in physics and chemistry. Topics covered will include motion, matter and energy, atomic models, nuclear structure, waves, and electricity. A combination of

conceptual framework, practical applications, and problem solving will be utilized in the integrated laboratory and lecture course.

PHYS 104 - ~General Physical Science II (4)

This is an introductory survey course which explores the major concepts in geology, astronomy, and meteorology. Topics covered will include rocks and minerals, weathering and erosion, surface and groundwater, geologic time, plate tectonics, earthquakes, volcanoes, and mountains; light and telescopes, the solar system, stars, nebulae, and galaxies; the origin of the universe; the basics of meteorology, and the effects of weather and climate. A combination of the conceptual framework, practical applications, and problem-solving will be utilized in the integrated laboratory and lecture course.

COMM 202 - ~Fundamentals of Speech (3)

This course equips the student with the necessary tools to construct, deliver, and analyze public communication messages.

ECON 205 - ~Principles of Macroeconomics (3)

This class serves as an introduction to fundamental economic concepts including production possibilities and economic growth, market supply and demand analysis, money, banking, government, and monetary policies. Emphasis is placed upon fluctuations in national income, employment, and price level. Overall, the impact of scarcity and human decision making will be imparted.

ECON 206 - ~Principles of Microeconomics (3)

This course provides an introduction to microeconomic theory with a primary focus on the methodology of economics and the behaviors of individuals and firms. Fundamental concepts are covered including demand and supply analysis, marginal analysis, opportunity cost, market structure, pricing, labor markets, and government policy and regulation.

ENGL 102 - ~English Composition II (3)

ENGL 102 is a continuation of English Composition I that provides experience in analyzing and writing arguments and persuasive prose. A central feature of the course is library research that is intended to develop familiarity with reference sources and skill in summarizing the diverse points of view of multiple sources. Requires students to locate, evaluate, integrate, and document sources effectively.

Prerequisite(s): ENGL 101 - ~English Composition I (3)

ENGL 204 - ~Sur of American Lit (3)

This course is designed to familiarize students with the rich variety of literature produced in America-- from the Colonial through the Modern periods. Students are exposed to a range of writers and traditions that constitute the diverse and multicultural American experience. In addition to tests and quizzes, students are required to write and revise at least two critical essays or equivalent writings (one of which is 1,000-word computer drafted minimum); however, instructors are encouraged to assign significant amounts of writing beyond the required minimum in order to facilitate students' continued acquisition of critical thinking, reading, and writing skills.

Prerequisite(s): ENGL 102 - ~English Composition II (3)

ENGL 208 - ~Survey of World Literature I (3)

This course is designed to familiarize students with great works of world literature—both Western and Eastern traditions—representing Classical, Medieval, and Renaissance periods or non-Western chronological equivalents. Students are exposed to diverse literary traditions through discussion and through critical thinking and writing about significant literary works. In addition to essay tests and quizzes, students are required to write at least one formal, critical essay (1,000 –word computer drafted minimum); however, instructors are encouraged to assign significant amounts of writing beyond the required minimum in order to continue to develop students' critical thinking, reading, and writing skills.

Prerequisite(s): ENGL 102 - ~English Composition II (3)

HIST 201 - ~US History to 1877 (3)

This course will introduce students to the period of United States History until the end of Reconstruction. Special emphasis will be placed upon the political, economic, and social aspects of the nation from the Colonial period until the Civil War era.

HIST 202 - ~US History Since 1877 (3)

This course will explore the Post-Reconstruction era of United States History. Special emphasis will be placed on the political, economic, and social effects upon the United States during the Gilded, Progressive, Depression, World War, and Cold War eras.

GSPE 210 - Fitness for Life (3)

This course is designed to assist participants in developing a healthier lifestyle through appropriate exercise programs, nutrition and behaviors that contribute to optimal health and wellness.

MATH 114 - ~Elem Probability & Statistics (3)

This course introduces the fundamental concepts of probability and statistics. Topics include descriptive statistics, random sampling methods, frequency distributions, measures of central tendency and variability, set theory, probability, permutations and combinations, random variables, probability and sampling distributions, expectation, central limit theorem, confidence intervals and hypothesis testing for means and proportions (one and two sample) and simple linear regression and correlation. Time permitting, one-way ANOVA and non-parametric techniques may be discussed. Appropriate application software will be utilized, and applications from a variety of disciplines will be presented.

Prerequisite(s): MATH 100A - Algebra Essentials (3) or proper placement on test scores

Subtotal Credit Hours Required 30

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Agribusiness, A.A.S.

The goal of this degree is to provide students with knowledge that will prepare them for entry-level positions or the opportunity to start their own business in a variety of agricultural businesses. This degree may assist students in finding employment in agribusiness that includes nursery and landscaping, farm management, and financial and insurance organizations. Students will pursue courses in business practices as well as electives in animal or plant sciences.

Program Outcomes

- Locate entry-level employment opportunities in a variety of agricultural professions, industries, and localities.
- Implement entrepreneurial skills sufficient enough to open a business.
- Implement basic business management skills into an agricultural business setting.
- Exhibit skills for a successful transition for continued education.
- Identify employment opportunities that match students' career goals and abilities.
- Implement sound business practices into an agricultural business setting.

Curriculum for an Associate of Applied Science in Agribusiness

General Education Core	28
Agribusiness Core	32
Total Credit Hours Required	60

General Education Core

BIOL 101 - ^General Biological Science I (4)

This is semester one of a two-semester general biology course which, with BIOL 102, satisfies the Liberal Arts science requirement. This is an integrated lecture and laboratory course dealing with both plants and animals, related to our environment from molecule to biosphere. This course focuses on molecular and cellular biology, patterns of inheritance and genetics, biotechnology, and mechanisms of evolution.

LTEC 120 - Biology for Technicians I (4)

This course will introduce Applied Laboratory Technician, A.A.S. students to cells, genetics, and evolution & diversity with an emphasis on laboratory applications and techniques. Topics include cell structure, patterns of inheritance, and evolution of microbial life. Students will also be able to function successfully within laboratory settings, including the use of basic equipment (microscopes, measurement devices, and computer technologies), as well as utilizing appropriate safety protocols for manufacturing quality control. This course has an emphasis on biological topics needed for quality control/ quality assurance in microbiologic laboratories.

BIOL 102 - ~General Biological Science II (4)

This is semester two of a two-semester general biology course which, with BIOL 101, satisfies the Liberal Arts science requirement. This is an integrated lecture and laboratory course dealing with both plants and animals, related to our environment from molecule to biosphere. This course focuses on plant and animal structure and function, the dynamics of populations, communities and ecosystems, and human impact on the biosphere.

Prerequisite(s): BIOL 101 - ^General Biological Science I (4)

LTEC 121 - Biology for Technicians II (4)

This course is a continuation of LTEC 120 - Biology for Technicians I (4) for students in the Applied Laboratory Technician, A.A.S. This course will introduce students to ecology and animal structure & function with an emphasis on laboratory applications and techniques. Topics include communities and ecosystems and nervous, sensory, and locomotor systems. Students will also be able to function successfully within laboratory settings including the use of basic equipment (microscopes, measurement devices, and computer technologies), and utilize appropriate safety protocols for manufacturing quality control. This course has an emphasis on quality control/quality assurance within manufacturing for biology.

Prerequisite(s): LTEC 120 - Biology for Technicians I (4)

CAS 111 - Information Literacy (3)

This course covers a variety of introductory computing knowledge including how personal computers work, software essentials, hardware components, operating systems and the most popular productivity applications including word processing, spreadsheet, database and presentation software. Students will also be introduced to the Internet and e-mail essentials, file management and digital electronics. This course aligns with the Internet and Computing Core Certification (IC3), which demonstrates that a student has a clear understanding of the knowledge and application of computers and technology in the modern world.

COMM 205 - ~Professional Communications (3)

This course examines the process of communication and the challenges to and effective practices of communicating in a professional environment. Topics include listening skills and verbal, nonverbal, and written communications. The dynamics of communicating in a group, in a global society, and in culturally diverse environments is also investigated. Students apply a systematic approach to plan and create effective letters, memos, reports, presentations, electronic and other forms of business and professional communication.

CHEM 127 - ~General, Organic & Biochem I (4)

This course is designed as the first in a one year sequence of courses intended for nursing or other allied health students who intend to transfer to a four year academic institution which requires a two semester sequence course in General, Organic and Biochemistry (GOB). This course will include an overview of the Metric System, Scientific Notation, Temperature Scales, Density, Atoms, Structure, Isotopes, Electrons, Periodic Table, Chemical Formulae, Types of Chemical Reactions, Quantification of Chemical Reactions, Mass, Moles, Energy, Kinetic, Potential, Law of Conservation of Energy, Thermochemistry, Matter, pH, Fission, Fusion, Functional Groups and Names, and General Organic Reactions to Form Functional Groups. This course sequence could also provide an eight credit General Education Science sequence. The course consists of a lecture portion and a laboratory portion.

Prerequisite(s): MATH 100 - Math Essentials (3) or placement

LTEC 101 - Laboratory Technician I (4)

This course is the introductory course to chemistry concepts. This course will also introduce instrumentation, industrial processes and the science that is needed to be a successful Applied Laboratory Technician.

Corerequisite(s): MATH 100 - Math Essentials (3) or placement

CHEM 128 - ~General, Organic & Biochem II (4)

This course is designed as the second course in a one year sequence of courses intended for nursing or other allied health students who intend to transfer to a four year academic institution which requires a two semester sequence course in General, Organic and Biochemistry (GOB). This course will include an overview of Alcohols, Reactions, Aldehydes and Ketones, Organic Acids, Amines, Aromatic Compounds, Heterocyclic Compounds, DNA, Hyper-, Iso-, Hypotonic Solutions, Metabolic Disorders, Complex Carbohydrates, Proteins, Lipids, Nucleic Acids, Body Fluids, Blood, Clotting Chemistry, Respiratory Exchange, Metabolic and Respiratory Acidosis and Ketosis. This course sequence could also provide an eight credit General Education Science sequence. The course consists of a lecture portion and a laboratory portion.

Prerequisite(s): CHEM 127 - ~General, Organic & Biochem I (4)

LTEC 102 - Laboratory Technician II (4)

This course will continue the discussion of chemistry concepts with a focus on molecular compounds, chemical reactions, acids & bases, and an introduction to organic chemistry concepts. A WorkKeys NCRC Certificate Examination will be conducted at the end of this course.

ENGL 110 - ~Technical Writing & Communication (3)

This course is designed to prepare students to write technical reports and other technical documents. Emphasis is on audience, clarity, conciseness, and accuracy of expression. It covers research techniques, information design, writing style, and effective use of graphics.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

ENGL 101 - ~English Composition I (3)

ENGL 101 is an introduction to college writing. This class emphasizes processes for drafting, revising, and editing. It develops a student's ability to read a passage, analyze its meaning, and write an intelligent response which shows not only an understanding of the passage but also a working knowledge of the writing and rhetorical strategies. Students will learn how to make effective arguments and how to locate, synthesize, and evaluate relevant information.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 101L - English Composition I Lab (3), or placement test scores

MATH 101 - ~Introduction to Mathematics (3)

During this course topics to be covered are sets, mathematical logic, mathematical systems, the real number system, systematic counting, probability, measurement, and consumer mathematics. History of mathematics, critical thinking skills, problem solving, and use of technology will be incorporated throughout the course.

Prerequisite(s): MATH 100 - Math Essentials (3) or proper placement on test scores

PSYC 203 - ~Introduction to Psychology (3)

This course will introduce the student to basic psychological principals and to enable the student to examine current thinking about development, personality, sensation and perception, cognition, learning, psychological disorders, and their treatment, and influence.

Corerequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement

SOCI 203 - ~General Sociology (3)

This course introduces students to the core concepts and perspectives of sociology, the study of human social environments and of human interactions within those environments. The course will explore a number of sociological topics to develop a sociological imagination, an ability to understand the effects of group membership on behavior, attitudes, beliefs, and life chances.

Corerequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement

Subtotal Credit Hours Required

28

Agribusiness Core

Students can take any combination of Agribusiness Core Electives to total 32 credit hours. Below is a partial list of courses available; however, any course with a AGRB subject code will meet the criteria. Students MUST complete AGRB 101 - Agribusiness Introduction (3).

AGRB 101 - Agribusiness Introduction (3)

This course presents a basic introduction to Agribusiness and Agriculture. Students will gain basic understanding of various topics in Agribusiness.

AGRB 110 - Introduction to Animal Science (3)

Students will survey the major disciplines in animal and veterinary sciences. Emphasis will be on terminology and the study of breeds of livestock and identification.

AGRB 112 - Intro to Equestrian Science (3)

Students will focus on the basic understanding of equine science and management. Topics will include the history and future of equine, breeds, health and basic management.

AGRB 113 - Intro to Swine Production (3)

Students will focus on the basic understanding of swine science production and management. Topics will include breeding, health, and overall management.

AGRB 114 - Intro Poultry, Goats, & Llamas (3)

Students will study poultry, goats, and llamas. Emphasis will be on terminology, the study of breeds, and identification.

AGRB 115 - Intro to Cattle Production (3)

Students will focus on the basic understanding of cattle science, production and management. Topics will include breeding, health, and overall management.

AGRB 116 - Companion Animal Science (3)

Students will explore the basic physiology, nutrition, and genetics of companion animals. This course will also explore basic handling, training, behavior and health issues.

AGRB 120 - Intro to Food Production (3)

This course will provide training in food production management with emphasis on large and small-scale food preparation and kitchen operations.

AGRB 122 - Farm to Table & Microgardens (3)

Students will learn the basics of creating microgardens and the fundamentals to produce products almost anywhere. Students will also study how to take their product from the farm to the table.

AGRB 124 - Licensing and Food Safety (3)

Students will study the approved procedures for food safety to include handling of utensils and equipment, food protection, and hygiene. Study will also include discussions in state licensing guidelines.

AGRB 126 - Sustainable Agriculture (3)

Students will study techniques such as crop rotation, soil fertility, erosion prevention, and limiting pests. Larger and more productive harvests are the ultimate goal.

AGRB 128 - Intro to Crop Production (3)

Students will focus on the basic understanding of crop science, production, rotation, and protection. Topics will include types of crops, types of pesticides, and modern rotation practices.

AGRB 130 - Customer Service Excellence (3)

Students will experience what it means to give and receive excellent customer service. Tips, tricks, and techniques from the nation's best companies will be shared.

AGRB 140 - Agribusiness Marketing (3)

This course will introduce concepts in Agriculture marketing. Students will examine the links between producers and consumers and rapidly changing factors that affect the marketplace.

AGRB 150 - Agribusiness Management (3)

This course will provide an overview of the agribusiness decision-making processes. Financial statements and budgeting will be analyzed.

AGRB 160 - Intro to Farm Equipment (3)

Students will study and learn about basic farm equipment. Repair and safety techniques will be taught to assist the student with basic machine repairs.

AGRB 170 - Agricultural Govt Relations (3)

This course presents an introduction to government and the influence that governmental policies and regulations have on today's agriculture. Students will gain an understanding of government policies and regulations and the relationships with these entities and how they impact agriculture.

AGRB 180 - Landscape Design (3)

Students will learn how to design and layout the steps for planning a landscape. The primary focus of this course will be the fundamentals of landscape design and site analysis. Upon successful completion, students will be able to prepare a basic landscape design for future customers.

AGRB 181 - Intro to Landscape Plants (3)

Students will learn to identify landscape plants and expand knowledge to select the correct plant, site, and purpose. Students will understand that care and disease protection of plants are crucial in longevity designs.

AGRB 182 - Intro to Trees & Shrubs (3)

Students will learn to identify landscape trees and shrubs to expand knowledge and understanding of proper tree selections for site and purpose. Students will also understand proper planting and installation.

AGRB 183 - Landscape Accessories (3)

Students will learn about the "extras" that make landscape design unique to each customer. Topics include pond creation, patios, lighting, retaining walls, outdoor entertaining spaces, and water features. Students will learn how to incorporate these "extras" into landscape design projects.

AGRB 210 - Princ of Animal Science (3)

Students will survey the major disciplines in animal and veterinary science. Emphasis will be on terminology and the study of different breeds and identification.

AGRB 212 - Princ of Equine Science (3)

Students will focus on the understanding of equine science and management. Topics will include history and future of equine breeds, health and management.

Prerequisite(s): ENGL 101 - ~English Composition I (3) or ENGL 110 - ~Technical Writing & Communication (3)

AGRB 217 - Animal Nutrition (3)

Students will study, learn and practice basic animal nutrition for a variety of animal breeds. Course will include lecture and practical experience.

Prerequisite(s): MATH 101 - ~Introduction to Mathematics (3)

AGRB 226 - Princ of Sustainable Ag (3)

Students will study techniques such as crop rotation, limiting pests, soil fertility and erosion prevention. Larger and more productive harvests are the goal.

AGRB 228 - Princ of Crop Production (3)

Students will focus on crop science, production, rotation and protection of crops. Topics will include types of crops, types of pesticides and modern rotation principles.

AGRB 240 - Agribusiness Marketing (3)

This course will introduce concepts in agriculture marketing. Students will examine the links between producers and consumers and the rapidly changing factors that affect the marketplace.

AGRB 250 - Principles of AGRB Mgmt (3)

This course will provide an overview of the agribusiness decision-making processes. Financial statements and budgeting will be analyzed.

AGRB 270 - State and Local Government (3)

This course presents an introduction to state and local governments and the influence and impacts each entity has on the agriculture industry today. Students will gain an understanding of regulations, relationships, and differences in how state and local governments are operated and the independent influence of each on today's agriculture.

AGRB 280 - Advanced Landscape Design (3)

Students will learn to create complex landscape designs. Students will practice combining mixed concepts into a design and learn how to work within environmental constraints.

AGRB 281 - Pest Management (3)

Students will learn to identify pests, recognize and control diseases, weeds, and insect issues. Pesticide use and alternate methods will be discussed. Pesticide certification will be reviewed; however, students will not gain certification in this course.

AGRB 292 - Agribusiness Internship (1-4)

The course represents approved internship opportunities in Agribusiness.

Prerequisite(s): AGRB 101 - Agribusiness Introduction (3)

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Applied Laboratory Technician, A.A.S.

The Applied Laboratory Technology degree program prepares students for a challenging career as a laboratory technician. Students in this program will learn to:

- Operate laboratory equipment.
- Conduct routine sample analyses.
- Conduct analyses that evaluate product quality and consistency.
- Operate equipment and instrumentation for quality assurance procedures.
- Monitor chemical processes and test the quality of products to make sure that they meet standards and specifications.
- Demonstrate appropriate setup and maintenance of laboratory instruments and equipment.
- Prepare chemical solutions.
- Conduct chemical and physical experiments, tests, and analyses for a variety of purposes.
- Analyze the results of tests and analyses.

Program Overview

The Applied Laboratory Technology, A.A.S. degree program is a continuation of the Applied Laboratory Technician Certificate program. This program trains students to work in a manufacturing facility conducting routine quality assurance testing and sampling. The Applied Laboratory Technology, A.A.S. degree program gives students the ability to choose two different concentrations at the time of admissions. The *Microbiology Concentration* emphasizes the routine microbiological tasks required in a manufacturing setting. The *Analytical Concentration* emphasizes the routine analytical tasks required in a manufacturing setting. Students will develop the problem-solving skills needed to work in a complex manufacturing environment.

Curriculum for an Associate of Applied Science in Applied Laboratory Technology

General Education Core	15
Applied Laboratory Technician Core	13
Concentration	32
Total Credit Hours Required	60

General Education Core

CAS 111 - Information Literacy (3)

This course covers a variety of introductory computing knowledge including how personal computers work, software essentials, hardware components, operating systems and the most popular productivity applications including word processing, spreadsheet, database and presentation software. Students will also be introduced to the Internet and e-mail essentials, file management and digital electronics. This course aligns with the Internet and Computing Core Certification (IC3), which demonstrates that a student has a clear understanding of the knowledge and application of computers and technology in the modern world.

COMM 205 - ~Professional Communications (3)

This course examines the process of communication and the challenges to and effective practices of communicating in a professional environment. Topics include listening skills and verbal, nonverbal, and written communications. The dynamics of communicating in a group, in a global society, and in culturally diverse environments is also investigated. Students apply a systematic approach to plan and create effective letters, memos, reports, presentations, electronic and other forms of business and professional communication.

ENGL 101 - ~English Composition I (3)

ENGL 101 is an introduction to college writing. This class emphasizes processes for drafting, revising, and editing. It develops a student's ability to read a passage, analyze its meaning, and write an intelligent response which shows not only an understanding of the passage but also a working knowledge of the writing and rhetorical strategies. Students will learn how to make effective arguments and how to locate, synthesize, and evaluate relevant information.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 101L - English Composition I Lab (3), or placement test scores

ENGL 110 - ~Technical Writing & Communication (3)

This course is designed to prepare students to write technical reports and other technical documents. Emphasis is on audience, clarity, conciseness, and accuracy of expression. It covers research techniques, information design, writing style, and effective use of graphics.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

MATH 101 - ~Introduction to Mathematics (3)

During this course topics to be covered are sets, mathematical logic, mathematical systems, the real number system, systematic counting, probability, measurement, and consumer mathematics. History of mathematics, critical thinking skills, problem solving, and use of technology will be incorporated throughout the course.

Prerequisite(s): MATH 100 - Math Essentials (3) or proper placement on test scores

MATH 102 - Technical Mathematics (3)

This course focuses on computational fluency and applied problem solving with emphasis on the following topics: real numbers, ratios, percents, proportions, estimation, exponents, roots, scientific notation, applied algebra, measurement, applied geometry, electrical formulas and laws, basic statistics, basic trigonometry and vectors.

Prerequisite(s): MATH 100 - Math Essentials (3) or proper placement on test scores

SOCI 215 - ~Human Relations (3)

Human Relations instructs students on the relationship between self-esteem and human relations and consequently between human relations skills and career success. Emphasis is on strategies for personal and professional growth based on advancing skills in individual, group, and organizational contexts. The topics looked at include self-esteem, attitudes, values, communications, leadership, emotional control, creativity, conflict and stress management, diversity, business ethics, and productivity.

Subtotal Credit Hours Required 15

Applied Laboratory Technology Core

LTEC 101 - Laboratory Technician I (4)

This course is the introductory course to chemistry concepts. This course will also introduce instrumentation, industrial processes and the science that is needed to be a successful Applied Laboratory Technician.

Corequisite(s): MATH 100 - Math Essentials (3) or placement

LTEC 102 - Laboratory Technician II (4)

This course will continue the discussion of chemistry concepts with a focus on molecular compounds, chemical reactions, acids & bases, and an introduction to organic chemistry concepts. A WorkKeys NCRC Certificate Examination will be conducted at the end of this course.

LTEC 111 - Laboratory Technician III (2)

This course presents a basic introduction to industrial safety health and environmental health concepts. Students will be able to discuss and recognize the various hazards that exist in a manufacturing environment. The students will discuss the remediation of spills and unsafe conditions. This course will provide OSHA 30 General Industry certification that will include OSHA's history.

LTEC 112 - Laboratory Technician IV (3)

Students will continue with basic laboratory principles and will be able to use various types of analytical equipment that an applied laboratory technician will operate in a manufacturing setting. The student will be able to identify various types of process equipment and describe what each piece of equipment does within the manufacturing process.

Subtotal Credit Hours Required 13

Concentration

Choose one concentration for completion of the program:

Analytical Concentration

LTEC 140 - Process Quality (2)

This course will describe the concepts and tools that manufacturers use for quality control in a manufacturing setting. The students will be able to describe the different management systems that are used to develop a quality control program. The students will be able to develop and interpret quality control charts.

LTEC 141 - Analytical Instrumentation (3)

The students will further explore the different analytical testing methods that are used in the industry. The students will be able to complete testing on FT-IR, Spectrophotometer, HPLC, and GC-MS instruments.

LTEC 143 - Process Technology-Operation (3)

This course will discuss the following topics: procedure writing, communication, shift change, maintenance, and other topics that Applied Laboratory Technicians and Quality Control Technicians must understand.

LTEC 144 - Process Technology-Systems (3)

Applied Laboratory Technician students learn the many different systems that an applied laboratory technician will encounter including, but not limited to, water systems, electrical systems, and refrigeration systems.

LTEC 211 - Federal Lab Safety & Regs (3)

This course is for Applied Laboratory Technician, A.A.S. students. This course will build on the knowledge gained in LTEC 111 - Laboratory Technician III (2) with an emphasis on manufacturing applications and techniques. The students will be asked to apply some of the safety concepts learned in LTEC 111 - Laboratory Technician III, like handling equipment safely, handling, storing and disposing of chemicals safely, using emergency equipment; as well as safety planning. This course will also discuss OSHA's Laboratory Safety Guidance document and 29 CFR 1910 as it pertains to laboratory safety. The students will be able to discuss all the physical, chemical, and biological hazards discussed in OSHA's Laboratory Safety Guidance document.

Prerequisite(s): LTEC 111 - Laboratory Technician III (2)

LTEC 255 - Advanced QC: GxP (3)

This course addresses the key components of GxP and its implementation. Topics include SOPs, work instructions, data collection forms, and document templates, and maintaining a laboratory notebook. The fundamentals of change control and document management are discussed, including the importance of having supportive documents, such as raw data and training records.

- Restricted Electives - Choose from List with Advisor (15)

Subtotal Credit Hours Required 32

Microbiology Concentration

LTEC 120 - Biology for Technicians I (4)

This course will introduce Applied Laboratory Technician, A.A.S. students to cells, genetics, and evolution & diversity with an emphasis on laboratory applications and techniques. Topics include cell structure, patterns of inheritance, and evolution of microbial life. Students will also be able to function successfully within laboratory settings, including the use of basic equipment (microscopes, measurement devices, and computer technologies), as well

as utilizing appropriate safety protocols for manufacturing quality control. This course has an emphasis on biological topics needed for quality control/ quality assurance in microbiologic laboratories.

LTEC 121 - Biology for Technicians II (4)

This course is a continuation of LTEC 120 - Biology for Technicians I (4) for students in the Applied Laboratory Technician, A.A.S. This course will introduce students to ecology and animal structure & function with an emphasis on laboratory applications and techniques. Topics include communities and ecosystems and nervous, sensory, and locomotor systems. Students will also be able to function successfully within laboratory settings including the use of basic equipment (microscopes, measurement devices, and computer technologies), and utilize appropriate safety protocols for manufacturing quality control. This course has an emphasis on quality control/quality assurance within manufacturing for biology.

Prerequisite(s): LTEC 120 - Biology for Technicians I (4)

LTEC 200 - Microbiology for Technicians (4)

This course is for Applied Laboratory Technology A.A.S. students and is an introduction to general microbiology for microbiology manufacturing technicians with an emphasis on manufacturing applications and techniques. Overview of cell structure, cell metabolism, genetics, bacterial growth & control, bacterial cultivation, bacterial isolation, bacterial classification, identification of the major groups of bacteria, and identification of infections and immunity; as these topics apply to quality control in manufacturing. The course includes an introduction to viruses, protozoa, fungi, and algae. In both the laboratory and lecture, students will demonstrate an understanding of basic microbiology as it applies to quality control in manufacturing. Students are introduced to safety procedures specific to microbiology laboratory procedures. Students will demonstrate basic laboratory skills and application of these skills performing lab based activities.

Prerequisite(s): LTEC 121 - Biology for Technicians II (4)

LTEC 201 - Industrial Microbiology (4)

In this course for Applied Laboratory Technology A.A.S. students, students will be able to understand the physiology, nutrition, and growth of microorganisms that are important to various industries. Microbiological safety procedures are also emphasized. Students learn diseases specific to laboratory production workers. The students will also understand how to control microbial growth in industrial production processes and also understand the application of microorganisms in the production of cells, primary and secondary metabolites.

Prerequisite(s): LTEC 200 - Microbiology for Technicians (4)

LTEC 211 - Federal Lab Safety & Regs (3)

This course is for Applied Laboratory Technician, A.A.S. students. This course will build on the knowledge gained in LTEC 111 - Laboratory Technician III (2) with an emphasis on manufacturing applications and techniques. The students will be asked to apply some of the safety concepts learned in LTEC 111 - Laboratory Technician III, like handling equipment safely, handling, storing and disposing of chemicals safely, using emergency equipment; as well as safety planning. This course will also discuss OSHA's Laboratory Safety Guidance document and 29 CFR 1910 as it pertains to laboratory safety. The students will be able to discuss all the physical, chemical, and biological hazards discussed in OSHA's Laboratory Safety Guidance document.

Prerequisite(s): LTEC 111 - Laboratory Technician III (2)

LTEC 255 - Advanced QC: GxP (3)

This course addresses the key components of GxP and its implementation. Topics include SOPs, work instructions, data collection forms, and document templates, and maintaining a laboratory notebook. The fundamentals of change control and document management are discussed, including the importance of having supportive documents, such as raw data and training records.

- Restricted Electives - Choose from List with Advisor (10)

Subtotal Credit Hours Required 32

Restrictive Electives

Students must choose Restricted Electives from this list:

EDET 181 - Conflict Resolution (2)

Conflict resolution prepares participants to better deal with conflict in the workplace by helping them become a "conscious communicator". It includes taking a conflict assessment/evaluation. Participants will explore ways and develop tools to enhance their abilities to deal with conflict and reduces stresses and emotions that are often found in the work environment.

LTEC 150 - Precision Measurement and QC (2)

This course provides the study measuring tools used in manufacturing. This course will provide the student with proficiency in using and reading measuring devices used in manufacturing settings.

LTEC 160 - Water Operator I (3)

This course prepares students to take the West Virginia Water Operator I test. The test is administered by the State of West Virginia by Environmental Engineering Division District Office.

LTEC 161 - Waste Water Operator I (3)

This course prepares students to take the West Virginia Waste Water Operator I test. The test is administered by the State of West Virginia by Environmental Engineering Division District Office.

LTEC 292 - Internship (1-4)

Students obtain practical experience in the chemical manufacturing industry, chemical laboratory, or water treatment industry. The student engages in on-the-site activities of a practical nature. Interns learn how to translate classroom theory and methods into professional skills. Activities are under the supervision of trained personnel. Application for the internship must be made to the Applied Laboratory Technician program manager.

Prerequisite(s): LTEC 101 - Laboratory Technician I (4) and LTEC 102 - Laboratory Technician II (4)

MATH 100 - Math Essentials (3)

Students will learn how to perform operations on real numbers, the implications of exponents and the order of operations and how to evaluate algebraic expressions. The concepts of percents and their applications, introductory geometry, statistics, and problem-solving skills will all be incorporated. Students will solve equations in one variable, solve literal equations for a variable, and evaluate/graph inequalities. Students will translate and solve algebraic equations, and learn the skills required to solve application problems in one and two variables. Students will interpret and graph linear equations as well as solving and analyzing systems of equations. Students may also be introduced to operations on polynomials.

MATH 100A - Algebra Essentials (3)

Students will perform operations on polynomials, rational, and radical expressions. Students will use various methods to factor polynomials. Students will solve polynomial, rational and radical equations, and apply these skills to solving application problems. The concept of functions will be introduced as well as their operations. Students will use interval notation to express the domain and range of a function.

Prerequisite(s): MATH 100 - Math Essentials (3) or proper placement on test scores

MATH 101 - ~Introduction to Mathematics (3)

During this course topics to be covered are sets, mathematical logic, mathematical systems, the real number system, systematic counting, probability, measurement, and consumer mathematics. History of mathematics, critical thinking skills, problem solving, and use of technology will be incorporated throughout the course.

Prerequisite(s): MATH 100 - Math Essentials (3) or proper placement on test scores

MATH 105 - ^Algebra (3)

Topics explored in this course include properties of the real numbers, operations on polynomials, rational and radical expressions, solutions of linear, quadratic, polynomial, radical and absolute value equations and inequalities. Coordinate geometry including distance, midpoint, lines, and circles will also be explored. Additional topics include systems of linear equations and their applications, analysis of functions, operations on functions, transformations of functions, and properties of linear, piecewise, quadratic, polynomial, rational, exponential and logarithmic functions.

Prerequisite(s): MATH 100A - Algebra Essentials (3) or proper placement on test scores

MATH 114 - ~Elem Probability & Statistics (3)

This course introduces the fundamental concepts of probability and statistics. Topics include descriptive statistics, random sampling methods, frequency distributions, measures of central tendency and variability, set theory, probability, permutations and combinations, random variables, probability and sampling distributions, expectation, central limit theorem, confidence intervals and hypothesis testing for means and proportions (one and two sample) and simple linear regression and correlation. Time permitting, one-way ANOVA and non-parametric techniques may be discussed. Appropriate application software will be utilized, and applications from a variety of disciplines will be presented.

Prerequisite(s): MATH 100A - Algebra Essentials (3) or proper placement on test scores

MECH 102 - Technical Physics (2)

Technical Physics emphasizes physical concepts as applied to technical fields. The five major areas of concentration include mechanics, matter and heat, wave motion and sound, electricity and magnetism, and light. Lab activities will provide hands on discovery of the concepts covered in the course. MECH 102L - Technical Physics Lab (2) is the laboratory portion of the class.

Corequisite(s): MECH 102L - Technical Physics Lab (2)

Pre-requisite/Co-requisite(s): MATH 102 - Technical Mathematics (3), MATH 105 - ^Algebra (3), MATH 106 - ^Trigonometry (3), MATH 108 - ^Pre-Calculus (4), or MATH 114 - ~Elem Probability & Statistics (3)

MECH 102L - Technical Physics Lab (2)

Technical Physics emphasizes physical concepts as applied to technical fields. The five major areas of concentration include mechanics, matter and heat, wave motion and sound, electricity and magnetism, and light. This laboratory portion will include activities that will provide hands on discovery of the concepts covered in the course.

Corequisite(s): MECH 102 - Technical Physics (2)

Pre-requisite/Co-requisite(s): MATH 102 - Technical Mathematics (3), MATH 105 - ^Algebra (3), MATH 106 - ^Trigonometry (3), MATH 108 - ^Pre-Calculus (4), or MATH 114 - ~Elem Probability & Statistics (3)

MECH 260 - Process Control & Instrumentation (3)

Process Controls cover a wide range of topics such as measurement methods, pressure measurement devices, temperature measurement devices, flow measurement devices, level measurement devices, pilot valves, pneumatic controls, electronic controls, and process controls. Students will learn to install, maintain, monitor and troubleshoot process control equipment.

Prerequisite(s): MECH 105 - Electricity & Commercial Wiring (1) or MECH 106 - Electricity & Electronics (2)

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Applied Technology, A.A.S.

If you have a trade and hope to increase your earning potential, consider a degree in Applied Technology. Specially designed for trade professionals (in areas such as carpentry, HVAC, surgical technology, culinary arts, automotive, masonry, agriculture, or information technology), the Blue Ridge Community and Technical College Degree in Applied Technology gives credit to students with existing national certifications and prepares their path to additional certifications.

Program Overview

The Associate of Applied Science Degree in Applied Technology is a broad-spectrum technical studies degree program designed to accommodate the transfer of credit for students from a variety of technical, trade, and skills-based backgrounds. It is a useful option for individuals who wish to earn an applied degree and who have been trained in areas such as carpentry, automotive, masonry, agriculture, information technology, or other technical trades.

Students complete 9 hours of required general education courses as well as 15 hours of coursework from restricted content areas. Technical electives used to complete the program of study can be a combination of credits earned from previous college coursework, trade-based training or vocational studies, and will be evaluated on a case-by-case basis. Additional technical electives can be selected by the student under the guidance of his or her academic advisor.

A student may not complete a Board of Governors A.A.S. and this degree.

Program Outcomes

- Demonstrate the interpersonal and evaluative skills necessary to effectively provide and receive constructive feedback.
- Identify ways in which lifelong learning and technical interests correlate with college level learning.
- Exhibit skills necessary for a successful transition to other colleges/universities or into the workforce.
- Apply work experience to reduce the average time toward earning a degree.
- Assess historical, social, political trends that have shaped culture through completing general education courses.
- Cultivate an understanding of basic computer concepts applicable in the real world environment.
- Explain theoretical correlation of prior learning from previous experience and how it applies to the current degree path.
- Identify soft skills necessary for successful transition into the technical workplace.

Career Opportunities

Upon earning an applied technology associate degree, students will be prepared to be chosen in their field because of enhanced skills. The skills earned from an applied technology degree can potentially earn a student over \$1 million in extra income over a lifetime.

Note: All salary estimations are based on the current position and educational trends. Blue Ridge Community and Technical College cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Curriculum for an Associate of Applied Science in Applied Technology

General Education Core	9
Restricted Coursework	15
Field Experience	3
Technical Electives	33
Total Credit Hours Required	60

General Education Core

CAS 111 - Information Literacy (3)

This course covers a variety of introductory computing knowledge including how personal computers work, software essentials, hardware components, operating systems and the most popular productivity applications including word processing, spreadsheet, database and presentation software. Students will also be introduced to the Internet and e-mail essentials, file management and digital electronics. This course aligns with the Internet and Computing Core

Certification (IC3), which demonstrates that a student has a clear understanding of the knowledge and application of computers and technology in the modern world.

ENGL 110 - ~Technical Writing & Communication (3)

This course is designed to prepare students to write technical reports and other technical documents. Emphasis is on audience, clarity, conciseness, and accuracy of expression. It covers research techniques, information design, writing style, and effective use of graphics.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

ENGL 101 - ~English Composition I (3)

ENGL 101 is an introduction to college writing. This class emphasizes processes for drafting, revising, and editing. It develops a student's ability to read a passage, analyze its meaning, and write an intelligent response which shows not only an understanding of the passage but also a working knowledge of the writing and rhetorical strategies. Students will learn how to make effective arguments and how to locate, synthesize, and evaluate relevant information.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 101L - English Composition I Lab (3), or placement test scores

MATH 101 - ~Introduction to Mathematics (3)

During this course topics to be covered are sets, mathematical logic, mathematical systems, the real number system, systematic counting, probability, measurement, and consumer mathematics. History of mathematics, critical thinking skills, problem solving, and use of technology will be incorporated throughout the course.

Prerequisite(s): MATH 100 - Math Essentials (3) or proper placement on test scores

Subtotal Credit Hours Required 9

Restricted Coursework

- Communication & Life Skills (6)
(e.g. COMM, CAS 110, 111, 230, ENGL 101, 102, 110, 204, 208, MDIA 101)
- Social Awareness (3)
(e.g. ART 103, BUSN 160, CGEN 100, ECON 123, EDET 180, 181, ENGL 215, GSPE 210, HIST 101, 102, 201, 202, 210, IT 105, 269, MUSC 111, PHIL 100, 101, 201, PSYC 203, PSYC 210, SOCI 203)
- Scientific & Quantitative Reasoning (6)
(e.g. BIOL, CHEM 125, 127, 128, EDET 201, 202, GSPE 210, LTEC 120, 121, MATH, PHYS 103, 104)

Subtotal Credit Hours Required 15

Field Experience

CGEN 292 - Field Experience (1-6)

This is a capstone course in experiential learning. The student participates in an internship, externship, or cooperative with an appropriate agency, company, or organization. Students will develop professional and career readiness competencies.

Prerequisite(s): Must have completed over half of the requirements for degree completion and have above a 2.0 Overall GPA. CAS 192 - Computer Apps Practicum (1), CYBR 192 - Practicum (3), IT 191 - Practicum (2), OR MDIA 192 - Media Practicum (1)

Subtotal Credit Hours Required **3**

Technical Electives

- Transfer credits and/or any combination of electives (33)

Subtotal Credit Hours Required **33**

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Applied UAS Technologies, A.A.S.

The Applied UAS (Unmanned Aerial Systems) Technologies A.A.S. program is a workforce education program designed to prepare students for a career as a drone technician or GIS technician. The program includes courses covering UAS operations and UAS and small pilot flight planning. The program prepares students for the FAA part 107 license; the passage of the exam is not guaranteed. Students will be able to plan a data-gathering project, collect reliable data, manipulate data, and publish professional maps using these data. Data processing using GIS software is a focus of the program.

Students may obtain a variety of jobs upon completion of the program including Drone Technicians, Remote Sensing Technicians, Photogrammetrists, GIS Analysts for local government, and Data Entry Clerks.

Program Outcomes

- Have the skills necessary to obtain employment as a drone operator, GIS analyst, photogrammetric or remote sensing technician.
- Operate UAS equipment and prepare small pilot flight plans.
- Interpret FAA part 107 legislation to prepare for remote pilot certification.
- Analyze collected data and publish aerial data as a professional deliverable.
- Implement GIS Software in data processing applications.

Curriculum for an Associate of Applied Science in Applied UAS Technologies

Applied UAS Technologies Core	35
Restricted Electives	9
Total Credit Hours Required	60

General Education Core

ENGL 110 - ~Technical Writing & Communication (3)

This course is designed to prepare students to write technical reports and other technical documents. Emphasis is on audience, clarity, conciseness, and accuracy of expression. It covers research techniques, information design, writing style, and effective use of graphics.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

ENVT 101 - Environmental Science (3)

This is an introductory course in environmental science. Students will develop an understanding of the interrelationships between human activities and the environment. Emphasis is on the physical, chemical, and biological principles and processes as they relate to human-environment interactions, the role of energy in human and natural systems, environmental legislation and human behavior.

GEOL 101 - ~Geological Sciences (4)

This is a combined course in physical and historical geology dealing with the composition, structure, and history of planet Earth. Minerals, rocks, tectonic processes, and physical characteristics of the earth's surface will be emphasized in the physical component. Evolution, fossils, and the changing conditions and organisms throughout geologic time constitute the historical component. This class is comprised of three hours lecture and two hours lab per week.

MATH 114 - ~Elem Probability & Statistics (3)

This course introduces the fundamental concepts of probability and statistics. Topics include descriptive statistics, random sampling methods, frequency distributions, measures of central tendency and variability, set theory, probability, permutations and combinations, random variables, probability and sampling distributions, expectation, central limit theorem, confidence intervals and hypothesis testing for means and proportions (one and two sample) and simple linear regression and correlation. Time permitting, one-way ANOVA and non-parametric techniques may be discussed. Appropriate application software will be utilized, and applications from a variety of disciplines will be presented.

Prerequisite(s): MATH 100A - Algebra Essentials (3) or proper placement on test scores

SOCI 215 - ~Human Relations (3)

Human Relations instructs students on the relationship between self-esteem and human relations and consequently between human relations skills and career success. Emphasis is on strategies for personal and professional growth based on advancing skills in individual, group, and organizational contexts. The topics looked at include self-esteem, attitudes, values, communications, leadership, emotional control, creativity, conflict and stress management, diversity, business ethics, and productivity.

Subtotal Credit Hours Required **16**

Applied UAS Technologies Core

ENVT 220 - Environmental Software (3)

This course is an introduction to common environmental software tools. Students will use selected software applications to process and analyze data efficiently.

ENVT 230 - Geoscience Studies (3)

This course is an introduction to the principles and practice of earth science as it relates to environmental problems, including water quality, soil management, and land use practice, landslides, subsidence, waste disposal, legal aspects, and geological aspects of land-use planning.

UAS 101 - Intro to Drone Applications (2)

This course will introduce students to basic drone applications. This course will include the history of UAVs, careers in UAV technicians, and GIS technicians, and a brief introduction into coding and GIS/UAV based software.

UAS 102 - Drone Operations I (3)

This course provides a practical UAV application including UAV flight training, project planning, data creation, data management, and data processing. This course prepares students to take the FAA Remote Pilot Certification exam.

UAS 103 - Drone Operations II (3)

This course is a continuation of the applications side of UAS 102 - Drone Operations I (3). The class will also include how to properly maintain and repair UAVs and related electric motors.

Prerequisite(s): UAS 102 - Drone Operations I (3)

UAS 105 - Introduction to GIS (3)

This course will provide a basic introduction to the geographic information system (GIS) software, ArcGIS. Students will perform labs teaching them how to use the software to make basic maps. Introductory information into the history of GIS as well as the basic information surrounding how a GIS works will be covered.

UAS 201 - Private Pilot Ground School (3)

This course will focus on providing students with the information required for the Private Pilot License. This course covers the written material for the private pilot examination but does not include the private pilot exam or provide the flight hours needed to obtain the license. The course will cover aerodynamics, parts of the airplane, weather, and other factors that affect performance and flight operations.

UAS 205 - Environmental GIS (3)

Remote sensing will be the main focus of this course. Students will use satellite imagery derived from the Landsat series, AVHRR, UAV data, and others to remotely sense different phenomena on Earth's surface as well as establish and manage time series to find changes over time. Student's will be supplemented with introductory information on how remote sensing works.

Prerequisite(s): UAS 105 - Introduction to GIS (3)

UAS 206 - GIS for Urban Planning (3)

Urban planning is a growing career in the field of GIS. This course will teach the concept of proximity in a GIS. It will teach students to make spatially informed decisions in developing a city. It will focus on spatial analysis tools to help with ideas such as stormwater management, construction sites, disaster relief, population density, and other concepts caused by civilization.

Prerequisite(s): UAS 105 - Introduction to GIS (3)

UAS 230 - Aviation Meteorology (3)

This course is designed to teach the principles of meteorology and how it applies to aviation technology and flight safety. The topics covered will include the study of air masses, atmospheric stability, fronts, precipitation development, and temperature.

Prerequisite(s): UAS 201 - Private Pilot Ground School (3)

UAS 240 - Drone Imaging (3)

This course will cover photography and videography elements to give students the ability to take professional quality pictures and videos using UAS. This course will also cover the skills needed to use UAS pictures and videos to inspect certain areas of interest such as construction sites, trash dumps, pollution dumping sites, and others. The course will also introduce students to structure from motion (SfM) which will teach them to build 3D models using UAS imagery.

Prerequisite(s): UAS 103 - Drone Operations II (3)

UAS 270 - Drone Project Planning (3)

This course will cover the skills needed when planning an applied drone or GIS project. This will include the steps of the beginning stages, such as goals and objectives and instruments needed. Then it will move toward flight planning, data needed, data collection, and data manipulation. Then finally the class will cover map and data creation and publishing.

Subtotal Credit Hours Required 35

Restricted Electives

Students must choose 9 credits of Restricted Electives from this list (with their advisor):

AGRB 140 - Agribusiness Marketing (3)

This course will introduce concepts in Agriculture marketing. Students will examine the links between producers and consumers and rapidly changing factors that affect the marketplace.

AGRB 150 - Agribusiness Management (3)

This course will provide an overview of the agribusiness decision-making processes. Financial statements and budgeting will be analyzed.

BUSN 101 - Introduction to Business (3)

This course provides an overview of the complex building blocks of business including administration, management, finance, labor, marketing, law, and ethics. These aspects are considered in reference to local and global markets, e-commerce, and evolving technology and trends.

BUSN 213 - Small Business Fundamentals (3)

This course examines the opportunities and challenges of starting a small business. Various business entities will be explored as ways to start a new business. Other topics covered include financing a new business, partnerships, liability and risk, and franchising with a major emphasis on starting and growing the business.

CAD 201 - 3D Modeling (1)

In this course students will learn to use 3D modeling software to develop parametric design solutions for various engineering problems. Students will develop designs, learn and apply ANSI (American National Standards Institute) standards, explore finite element analysis, and develop working, assembly and presentation drawings.

Corerequisite(s): CAD 201L - 3D Modeling Lab (2)

CAD 201L - 3D Modeling Lab (2)

In this course, students will learn to use 3D modeling software to develop parametric design solutions for various engineering problems. During the lab component, students will develop designs, learn and apply ANSI (American National Standards Institute) standards, explore finite element analysis, and develop working, assembly and presentation drawings.

Corerequisite(s): CAD 201 - 3D Modeling (1)

DBM 101 - Database Concepts/SQL I (3)

Introduction to Database Concepts/SQL I provides a foundation in database design and implementation. The Relational model is analyzed along with SQL commands. Numerous database design methods are identified and applied. A discussion of the various levels of the normalization process is included. Additional topics include requirements gathering, analysis, and trade-off discussions. SQL coverage includes hands-on problems with databases. Students are challenged with critical thinking questions utilizing problem-solving and analytical skills.

ENVT 108 - Intro to OSHA and EPA (3)

This course provides an introduction to OSHA and EPA regulations pertaining to 29 CFR 1910 and 29 CFR 1926 record keeping, OSHA/EPA inspection, fire, chemical exposure, most frequent violations, and other topics.

ENVT 240 - Watershed Studies (3)

This course is an introduction to water ecology, including watershed structural and functional characteristics, as well as the biotic and abiotic components of watersheds. The course emphasizes how human activities can degrade or improve the condition of a watershed, including water quality, fish and wildlife, forests, and other vegetation.

ENVT 270 - Environmental Grant MGT (3)

This course introduces students to monitoring and reporting practices for grants management, technician management, and provides exposure to corporate finance. Regulatory compliance, roles and responsibilities, implementation, and documentation are discussed with respect to grant management. Providing direction, promoting teamwork, and expressing a broader perspective as a new manager are discussed. Finance topics will include the time value of money and risks.

MATH 100A - Algebra Essentials (3)

Students will perform operations on polynomials, rational, and radical expressions. Students will use various methods to factor polynomials. Students will solve polynomial, rational and radical equations, and apply these skills to solving application problems. The concept of functions will be introduced as well as their operations. Students will use interval notation to express the domain and range of a function.

Prerequisite(s): MATH 100 - Math Essentials (3) or proper placement on test scores

RENG 101 - Renewable Energy Technology (1)

This course explores basic Renewable energy concepts and studies Photovoltaics, Wind Turbine and Solar Thermal systems in typical application environments. Topics include a site plan, sizing, safety, regulations, and grid connection. Small scale PV, wind turbine, solar thermal and controllers will be utilized to provide hands-on training. Systems simulation will also be incorporated. This will be a 1 credit hour class, encompassing 1 hour of lecture.

RENG 101L - Renewable Energy Tech Lab (2)

This course explores basic Renewable energy concepts and studies Photovoltaics, Wind Turbine and Solar Thermal systems in typical application environments. Topics include a site plan, sizing, safety, regulations, and grid connection. Small scale PV, wind turbine, solar thermal and controllers will be utilized to provide hands-on training. Systems simulation will also be incorporated. This will be a 2 credit hour class, encompassing 4 hours of Lab.

RENG 201 - Solar Thermal Energy (1)

This course explores Solar Thermal systems in typical application environments. Topics include a site plan, sizing, safety, regulations, and connection, Flat panel, Evacuated Tube as well as geothermal systems will be utilized to provide hands-on training. Systems simulation will also be incorporated. We are planning to acquire an enclosed equipment trailer to build a rolling classroom for hands-on installation of PV, wind turbine, solar thermal and geothermal systems. This will be a 1 credit hour class, encompassing 1 hour of lecture.

RENG 201L - Solar Thermal Energy Lab (2)

This course explores Solar Thermal systems in typical application environments. Topics include a site plan, sizing, safety, regulations, and connection, Flat panel, Evacuated Tube as well as geothermal systems will be utilized to provide hands-on training. Systems simulation will also be incorporated. We are planning to acquire an enclosed

equipment trailer to build a rolling classroom for hands-on installation of PV, wind turbine, solar thermal and geothermal systems. This will be a 2 credit hour class, encompassing 4 hours of lab.

SDE 188 - Intro to Programming Logic (3)

This course introduces the basic concepts of programming logic. Students will examine the basic constructs of selection, sequence, and repetition, abstract data structures of records, arrays, and linked lists, and file access methods.

Corerequisite(s): MATH 100 - Math Essentials (3) or appropriate test scores

SDE 195 - Programming in Python (3)

This course provides an introduction to the Python language. Students will explore its most important libraries and practice recommended programming styles and idioms, using a hands-on approach to how the various language features can be used together to best achieve efficient, secure programs. Topics covered include variables, expressions, statements, data structures, lists, dictionaries, tuples, functions, arguments, conditionals, recursion, strings, regular expressions, object-oriented development, classes, inheritance, iterators, generators, and decorators. This course is not intended for absolute beginners in programming but includes a self-contained review of elementary features.

Prerequisite(s): SDE 188 - Intro to Programming Logic (3)

Corerequisite(s): MATH 100A - Algebra Essentials (3) or higher, or appropriate test scores

UAS 250 - Intro to Small Electronics (3)

Small electronics containing a system on a chip (SoC) are a growing part in environmental monitoring. This course will provide information in designing and controlling single board computers such as Arduino and Raspberry Pi to monitor environmental conditions.

Prerequisite(s): UAS 103 - Drone Operations II (3)

UAS 292 - Internship in Applied UAS (1-4)

Students get practical experience in the workplace. The student will engage in on-the-site activities relating to applied UAS technologies. Interns learn how to translate classroom theory and methods into professional skills. Activities are under the supervision of a trained professional. Application for the internship must be made to the applied UAS Technologies Program Coordinator.

UAS 299 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

UAS 199 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

Baking and Pastry, A.A.S.

To enter a career in the foodservice and hospitality industry, consider a degree in Baking and Pastry. Students learn classical baking and cooking techniques within a wide variety of cuisines. This program provides foundations in nutrition, safety and sanitation, origins of food, and more.

Program Overview

Blue Ridge Community and Technical College Culinary Academy's Programs are designed to provide students with the practical knowledge and skills necessary to prepare for successful employment in an entry to a mid-level position within the foodservice and hospitality and tourism industry through a certificate or degree program.

Students will learn baking fundamentals, which include a wide variety of classical and modern dessert techniques, from scaling ingredients to constructing elaborate centerpieces. This along with courses that build on immersing the student in all aspects of culinary foundations such as nutrition, safety and sanitation, origins of food, food history, food costing, product efficiency, sense of urgency, attention to detail and culinary artistry. Practical lab experiences will help to complete the well-rounded student for entry into the workforce. Students will be able to experience the flow of their product from creation to service in this degree program through our Bruin Café lab and other service opportunities.

Program Outcomes

- Demonstrate an organized and sanitary workstation.
- Demonstrate accurate measuring and portioning.
- Identify and describe procedures and techniques for controlling food costs.
- Demonstrate accurately sized knife cuts.
- Demonstrate how to safely handle and operate knives and kitchen equipment.
- Practice team building and communication.
- Identify baking specific ingredients.
- Follow standardized recipes and production procedures.
- Identify and execute baking methods.
- Demonstrate professionalism (clean and complete uniform, on time, good attitude, respectful).

Career Opportunities

If you choose a degree in Baking and Pastry, you will be prepared for entry to mid-level positions within the industry. You can seek positions within foodservice, hospitality, and tourism.

Curriculum for an Associate of Applied Science in Baking and Pastry

General Education Core	15
Baking and Pastry Core	45
Total Credit Hours Required	60

General Education Core

BUSN 160 - Organizational Behavior (3)

This course examines the behavior of individuals and individuals in groups in organizations, and how the two affect the overall performance of an organization. Students consider the impact of individual attitude, motivation, job satisfaction, and communication on the organization. Group dynamics, leadership, organizational culture, and change are also addressed.

COMM 205 - ~Professional Communications (3)

This course examines the process of communication and the challenges to and effective practices of communicating in a professional environment. Topics include listening skills and verbal, nonverbal, and written communications. The dynamics of communicating in a group, in a global society, and in culturally diverse environments is also investigated. Students apply a systematic approach to plan and create effective letters, memos, reports, presentations, electronic and other forms of business and professional communication.

SOCI 215 - ~Human Relations (3)

Human Relations instructs students on the relationship between self-esteem and human relations and consequently between human relations skills and career success. Emphasis is on strategies for personal and professional growth based on advancing skills in individual, group, and organizational contexts. The topics looked at include self-esteem, attitudes, values, communications, leadership, emotional control, creativity, conflict and stress management, diversity, business ethics, and productivity.

CAS 111 - Information Literacy (3)

This course covers a variety of introductory computing knowledge including how personal computers work, software essentials, hardware components, operating systems and the most popular productivity applications including word processing, spreadsheet, database and presentation software. Students will also be introduced to the Internet and e-mail essentials, file management and digital electronics. This course aligns with the Internet and Computing Core Certification (IC3), which demonstrates that a student has a clear understanding of the knowledge and application of computers and technology in the modern world.

ENGL 110 - ~Technical Writing & Communication (3)

This course is designed to prepare students to write technical reports and other technical documents. Emphasis is on audience, clarity, conciseness, and accuracy of expression. It covers research techniques, information design, writing style, and effective use of graphics.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

GSPE 210 - Fitness for Life (3)

This course is designed to assist participants in developing a healthier lifestyle through appropriate exercise programs, nutrition and behaviors that contribute to optimal health and wellness.

MATH 101 - ~Introduction to Mathematics (3)

During this course topics to be covered are sets, mathematical logic, mathematical systems, the real number system, systematic counting, probability, measurement, and consumer mathematics. History of mathematics, critical thinking skills, problem solving, and use of technology will be incorporated throughout the course.

Prerequisite(s): MATH 100 - Math Essentials (3) or proper placement on test scores

Subtotal Credit Hours Required 15

Baking and Pastry Core

CART 100 - Intro Culinary Food Service (2)

This course is a comprehensive overview of foodservice operational equipment, identification, and maintenance as well as an introduction to culinary terminology, theory and history and how food moves through an operation. This course will also familiarize the student with essential food handling, safety, and storage guidelines encountered within the industry. This course also provides an overview of the professionalism in the culinary industry and career opportunities leading to a career pathway to the Food Service Industry.

Prerequisite(s): Required major in Baking and Pastry Certificate, Baking and Pastry, A.A.S., Catering & Hospitality Management, A.A.S., Culinary Arts Certificate, Culinary Arts, A.A.S., Food Service Retail Management Certificate, or Food Service Retail Management, A.A.S. is required.

CART 115 - Safety/Sanitation in Food Serv (2)

The Safety and Sanitation in the Food Service Industry course follow the format of the National Restaurant Association Educational Foundation ServSafe® Program. The course is designed as an industry-based program that prepares students for careers in the restaurant and foodservice industry. The emphasis of this program is to educate the students about the responsibilities which a foodservice manager and food service worker have to the public in providing safe and sanitary food to the consumer.

Prerequisite(s): Required major in Baking and Pastry Certificate, Baking and Pastry, A.A.S., Catering & Hospitality Management, A.A.S., Culinary Arts Certificate, Culinary Arts, A.A.S., Food Service Retail Management Certificate, or Food Service Retail Management, A.A.S. is required.

CART 120 - Bruin Cafe Lecture (1)

This course teaches students the practice and implementation of management principles as they relate to retail food service.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2)
Corequisite(s): CART 120L - Bruin Cafe Lab (3)

CART 120L - Bruin Cafe Lab (3)

This course continues the development of retail skills in a supervised laboratory setting. Specific skills are correlated to lecture content in CART 120 - Bruin Cafe Lecture (1).

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2)
Corequisite(s): CART 120 - Bruin Cafe Lecture (1)

CART 170 - Bread Fundamentals (1)

This course provides an introduction to the principles and techniques of the art and craft of bread making. Topics include formulas and techniques associated with naturally leavened loaves, hearth breads, focaccia, flat breads, rolls and other breads utilizing a variety of grains. Upon completion, students should be able to prepare classical and specialty breads that meet or exceed the expectations of restaurant and retail establishments.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2)
Corequisite(s): CART 170L - Bread Fundamentals Lab (3)

CART 170L - Bread Fundamentals Lab (3)

This course continues the development of Baking Fundamental skills in a supervised laboratory setting. Specific skills are correlated to lecture content in CART 170.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2)

Corequisite(s): CART 170 - Bread Fundamentals (1)

CART 203 - Culinary Nutrition (3)

This course is a study of functions, sources, and requirements of nutrients. Emphasis is placed on meeting the nutritional needs of individuals of all ages in a variety of situations. It teaches the principles of adapting recipes and menus to accommodate a variety of dietary and nutritional needs including but not limited to texture, nutrients, and allergies.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2), CART 245 - Cooking Fundamentals I Lecture (1), and CART 245L - Cooking Fundamentals I Lab (2)

CART 212 - Baking Skills & Development (4)

This course provides students the fundamental skills for basic baking. Students will produce simple yeast doughs, quick breads, pies, cakes, cookies and other baked goods found in bakeries, restaurants and food markets. Instruction included classification of ingredients and their functions, baking terminology, culinary and bakery tool, and equipment use and recipe conversions.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2)

CART 245 - Cooking Fundamentals I Lecture (1)

This course is concurrent with CART 100 - Intro Culinary Food Service (2) by engaging the student in a practical application of learned terminology, methods, and techniques. Students will engage in ingredient production and recipe application. We will introduce knife handling skills, basic cooking skills, mise en place, plating, reinforcing food safety and sanitation practices, practical application of the chef's prep list, and industry terminology and standards.

Prerequisite(s): Required major in Baking and Pastry Certificate, Baking and Pastry, A.A.S., Catering & Hospitality Management, A.A.S., Culinary Arts Certificate, Culinary Arts, A.A.S., Food Service Retail Management Certificate, or Food Service Retail Management, A.A.S. is required.

Corequisite(s): CART 100 - Intro Culinary Food Service (2) and CART 245L - Cooking Fundamentals I Lab (2)

CART 245L - Cooking Fundamentals I Lab (2)

This course is the companion to CART 245 - Cooking Fundamentals I Lecture (1) and is concurrent with CART 100 - Intro Culinary Food Service (2) by engaging the student in a practical application of learned terminology, methods, and techniques. Students will engage in ingredient production and recipe application. We will introduce knife handling skills, basic cooking skills, mise en place, plating, reinforcing food safety and sanitation practices, practical application of the chef's prep list, and industry terminology and standards

Prerequisite(s): Required major in Baking and Pastry Certificate, Baking and Pastry, A.A.S., Catering & Hospitality Management, A.A.S., Culinary Arts Certificate, Culinary Arts, A.A.S., Food Service Retail Management Certificate, or Food Service Retail Management, A.A.S. is required.

Corequisite(s): CART 100 - Intro Culinary Food Service (2) and CART 245 - Cooking Fundamentals I Lecture (1)

CART 280 - Cake Design and Professional Decorating (4)

This course focuses on the basic and advanced techniques used in wedding cake design, assembly, and construction. Areas of study include stacked and tiered cakes, decorating with buttercream and rolled fondant. Advanced cake decorating techniques will be used to produce upscale cakes to potential consumers.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2) and CART 212 - Baking Skills & Development (4)

CART 292 - Culinary Arts Internship (1–6)

The purpose of the internship is to allow the student to demonstrate his or her skills in an occupational setting. The internship is considered a capstone course of the A.A.S. degree program. Completion of the internship indicates to the college that the student has achieved a satisfactory level of skills to be successful in their degree field.

Prerequisite(s): CART 212 - Baking Skills & Development (4)

CART 294 - International Pastries and Desserts (4)

This course is a study of classical desserts, French and international pastries, hot and cold desserts, ice creams and ices, chocolate work, decorations, and plated dessert composition with emphasis on advanced techniques.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2) and CART 212 - Baking Skills & Development (4)

CART 295 - Pastry Showpieces (4)

In this class, the student will produce decorative showpieces in the mediums of sugar and chocolate. Students will also practice making candies and garnishes in both mediums.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2), CART 212 - Baking Skills & Development (4), and CART 280 - Cake Design and Professional Decorating (4)

MATH 100 - Math Essentials (3)

Students will learn how to perform operations on real numbers, the implications of exponents and the order of operations and how to evaluate algebraic expressions. The concepts of percents and their applications, introductory geometry, statistics, and problem-solving skills will all be incorporated. Students will solve equations in one variable, solve literal equations for a variable, and evaluate/graph inequalities. Students will translate and solve algebraic equations, and learn the skills required to solve application problems in one and two variables. Students will interpret and graph linear equations as well as solving and analyzing systems of equations. Students may also be introduced to operations on polynomials.

- Restricted Electives in CART (3)

Subtotal Credit Hours Required 45

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Board of Governors, A.A.S.

Exclusively designed for the adult learner, the Board of Governor's Degree gives students the flexibility to design their degree and earn it at a faster pace. By using a portfolio process, past work, learning, college, or military experience can potentially count towards college credits. For students out of high school for at least two years and not holding a previous degree, the pace and flexibility of the program will accelerate studies in general education subjects such as business, criminal justice, information technology, and natural sciences.

Program Overview

The Board of Governors A.A.S. requires 60 credit hours, which includes a general education core of 21 credit hours and 39 credit hours of general electives. The structure of the degree assures flexibility in program design to meet the individual needs of adult students. The required general education courses assure the development of essential skills and competencies necessary for an associate-level graduate. The general electives category allows students to demonstrate and document a defined occupational proficiency.

Students are encouraged to explore various options for obtaining credit for prior learning experiences including standardized exams, challenge exams, credential validation, and portfolio credit. Students who choose to earn credit for college-level learning acquired through professional work experience or other life experiences must complete CGEN 112 - Prior Learning Development (3). ENGL 101 - ~English Composition I (3) must be completed with a grade of C or better before registering for CGEN 112. There is a \$300 fee to submit a portfolio. There is a \$10 per credit fee for posting credits to the transcript. The portfolio provides the opportunity for equating documented, college level, experiential learning to college credit. College courses successfully completed at regionally accredited institutions may be transferred into the program and applied toward the 60-credit requirement.

Students in the Board of Governors A.A.S. Program are subject to Blue Ridge Community and Technical College's requirements for admissions, basic skills testing, and appropriate course placement, including developmental education courses, which may not count toward completion of the program. Blue Ridge Community and Technical College Catalog requirements regarding academic standards, student conduct, and graduation procedures also apply.

Students completing the Associate of Applied Science Degree in Board of Governors will:

- Demonstrate the interpersonal and evaluative skills necessary to effectively provide and receive constructive feedback.
- Identify ways in which lifelong learning and aesthetic interests correlate with college-level learning.
- Exhibit skills necessary for a successful transition to other colleges/universities or into the workforce.
- Apply work experience to reduce the average time toward earning a degree
- Assess historical, social, political trends that have shaped culture through completing general education courses.
- Cultivate an understanding of basic computer concepts applicable in the real-world environment.
- Explain the theoretical correlation of prior learning from previous experience and how it applies to the current degree path.

Career Opportunities

This degree program prepares students for entry into or to move up in, a variety of business, criminal justice, technology, or scientific fields.

Curriculum for an Associate of Applied Science Degree in Board of Governors

General Education	21
General Electives	39
Total Credit Hours Required	60

General Education Required Areas

Communications* 6 Credit Hours

Typical Courses: English, Grammar, Composition, Communications

COMM 202 - ~Fundamentals of Speech (3)

This course equips the student with the necessary tools to construct, deliver, and analyze public communication messages.

COMM 205 - ~Professional Communications (3)

This course examines the process of communication and the challenges to and effective practices of communicating in a professional environment. Topics include listening skills and verbal, nonverbal, and written communications. The dynamics of communicating in a group, in a global society, and in culturally diverse environments is also investigated. Students apply a systematic approach to plan and create effective letters, memos, reports, presentations, electronic and other forms of business and professional communication.

ENGL 101 - ~English Composition I (3)

ENGL 101 is an introduction to college writing. This class emphasizes processes for drafting, revising, and editing. It develops a student's ability to read a passage, analyze its meaning, and write an intelligent response which shows not only an understanding of the passage but also a working knowledge of the writing and rhetorical strategies. Students will learn how to make effective arguments and how to locate, synthesize, and evaluate relevant information.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 101L - English Composition I Lab (3), or placement test scores

ENGL 102 - ~English Composition II (3)

ENGL 102 is a continuation of English Composition I that provides experience in analyzing and writing arguments and persuasive prose. A central feature of the course is library research that is intended to develop familiarity with reference sources and skill in summarizing the diverse points of view of multiple sources. Requires students to locate, evaluate, integrate, and document sources effectively.

Prerequisite(s): ENGL 101 - ~English Composition I (3)

ENGL 110 - ~Technical Writing & Communication (3)

This course is designed to prepare students to write technical reports and other technical documents. Emphasis is on audience, clarity, conciseness, and accuracy of expression. It covers research techniques, information design, writing style, and effective use of graphics.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

Note:

**Three credit hours must be ENGL 101 or ENGL 110*

Social Sciences/Humanities 6 Credit Hours

Typical Courses: ASL, ART 103, BUSN 160, CGEN 100, ECED 106, ECON 123, EDET 180, 181, ENGL 215, FREN, GEOG 105, GEOL 101, GSPE 210, GRMN, HIST 101, 102, 201, 202, IT 105, 269, JAPN, MUSC 111, PHIL 101, 111, PSCI, PSYC 203, 210, SPAN

ASL 101 - Sign Language I (3)

In this course, students develop communicative capabilities utilizing American Sign Language (ASL). In addition to learning about deaf culture, students will acquire functional sign phonology, vocabulary, and grammatical skills adequate to receive and convey information and ideas in professional and social situations.

ASL 102 - Sign Language II (3)

This course will continue with sign vocabulary growth and an introduction to idiomatic phrases. Emphasis will be placed on the use of classifiers, expression, body postures, and the signing space.

Prerequisite(s): ASL 101 - Sign Language I (3)

ASL 103 - Sign Language III (3)

This course is a continuation of Sign Language II. The course emphasizes grammar, vocabulary, development and the deaf culture. Students will expand dialogues, short stories, narratives, short conversations that include both receptive and expressive skills. Emphasis will be placed on signing techniques as well as signing speed and accuracy.

Prerequisite(s): ASL 102 - Sign Language II (3)

ASL 104 - Sign Language IV (3)

This course provides a continuation of instruction in the grammatical features of American Sign Language (ASL), vocabulary development, and conversational skills. Students increase comprehension of medium and longer stories, narratives and dialogues presented by the instructor and deaf ASL users. Students express self-generated stories. Students are presented with hypothetical issues and problems, as well as more extensive exposure to the Deaf community, including both directed and non-directed activities.

Prerequisite(s): ASL 103 - Sign Language III (3)

ART 103 - ~Introduction to Visual Arts (3)

This is an introductory course designed to survey prehistoric to contemporary visual art forms, giving insight into their nature and their relationships to the human condition. The course includes a study of the functions of various forms of

art in which students are exposed to a variety of visual arts experiences to promote a deeper understanding of and appreciation for the role of the visual arts throughout human history and in contemporary society.

BUSN 160 - Organizational Behavior (3)

This course examines the behavior of individuals and individuals in groups in organizations, and how the two affect the overall performance of an organization. Students consider the impact of individual attitude, motivation, job satisfaction, and communication on the organization. Group dynamics, leadership, organizational culture, and change are also addressed.

CGEN 100 - First Year Experience (3)

This course will focus on crucial components for the first year of higher education: reading skills, study skills, critical thinking, and good habits for success. This course will provide the student with systematic exposure to successful study skills and will emphasize adaptation to individual learning styles. In addition, students will be required to apply critical reading and thinking skills to a variety of activities drawn from academic disciplines, contemporary issues, and individual life experiences.

ECED 106 - Health, Nutrition and Safety (3)

This course provides a variety of health, nutrition and safety concepts that will enable the individual to implement preventive health and safety practices in the early childcare setting. Students will develop menus for meals and snacks which are nutritious, appealing, and age-appropriate for young children. Recognition and treatment of child abuse victims will be addressed.

ECON 123 - ~Contemporary Economics (3)

This course introduces students to both macro and microeconomic concepts including the theory of the firm, consumer behavior, economic systems, and managerial economic principles that affect decisions in every venue of our lives.

Note: Not intended for students in majors that require ECON 205 - ~Principles of Macroeconomics (3) and ECON 206 - ~Principles of Microeconomics (3).

Note Not intended for A.S. Business Administration Students.

EDET 180 - Building Better Relationships (2)

This class prepares participants to create better work relationships by becoming a "conscious communicator". It includes taking a workplace personality identifier test. Participants will explore ways to enhance their self-knowledge, work effectively as a team and cope with the stresses and emotions that are often found in the work environment.

EDET 181 - Conflict Resolution (2)

Conflict resolution prepares participants to better deal with conflict in the workplace by helping them become a "conscious communicator". It includes taking a conflict assessment/evaluation. Participants will explore ways and develop tools to enhance their abilities to deal with conflict and reduces stresses and emotions that are often found in the work environment.

ENGL 215 - ~The Art of Literature (3)

This course explores the art of literature, specifically how a deeper understanding of form, genre, and style enhances our appreciation of literature and language and our understanding of artistic theory/aesthetics. Through a careful study of literature, students will understand the creative thinking of great writers and sharpen their own creative thinking skills.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

FREN 101 - French I (3)

This is a basic, culturally-oriented course in conversational French designed for beginning students who wish to develop skills in speaking, writing, and comprehending the French language. Emphasis is placed on oral communication through dialogue and guided compositions. French culture is introduced.

FREN 102 - French II (3)

This course allows students to strengthen their comprehension and speaking proficiency in French by providing extensive practice in oral and written communication and self-expression and through discussions and oral presentations of readings in French and Canadian culture.

Prerequisite(s): FREN 101 - French I (3)

GEOG 105 - ~World Cultural Geography (3)

This course introduces students to fundamental issues and concepts that explain the dynamic and complex relationships between people and the environments they inhabit. Students will explore the ways in which geography affects human settlement, health, diets, language, religion, and overall social, political, and economic development.

GEOL 101 - ~Geological Sciences (4)

This is a combined course in physical and historical geology dealing with the composition, structure, and history of planet Earth. Minerals, rocks, tectonic processes, and physical characteristics of the earth's surface will be emphasized in the physical component. Evolution, fossils, and the changing conditions and organisms throughout geologic time constitute the historical component. This class is comprised of three hours lecture and two hours lab per week.

GRMN 101 - German I (3)

Students will be introduced to German by way of all four language skills: listening, speaking, reading, and writing. The course will concentrate on the cultures of the German-speaking world while practicing language skills.

GRMN 102 - German II (3)

Students will continue their study of German by way of all four language skills: listening, speaking, reading, and writing. In addition, the course will continue to concentrate on the cultures of the German-speaking world while practicing language skills.

Prerequisite(s): GRMN 101 - German I (3)

HIST 101 - ~World History to 1500: Early Man Through the Renaissance (3)

This course is a survey of World History covering the development of ancient civilizations and cultures to the year 1500, beginning with prehistoric humans and the rise of the first civilizations, including Ancient Mesopotamia, Egypt, the Indus River Valley, and Early China. Continuing with the Classical Era, the survey encompasses the Greek and Roman, Indian, Japanese, and Saharan African Civilizations. The course then examines World Civilizations in the Middle Ages, including the Middle East, Europe, Asia, the Americas, and Africa, before concluding with the European Renaissance. The course compares the development and philosophical foundations of all the major world religions including Judaism, Hinduism, Buddhism, Christianity, and Islam, as well as the major political, economic, social, and cultural systems to the year 1500.

HIST 102 - ~World History Since 1500: The Renaissance Through the Present (3)

This course is a survey of World History from the European Renaissance to the present. At the beginning of the course, developments in the Western World between 1500 and 1800 receive special attention, including the Renaissance, Reformation, Scientific Revolutions, Age of Exploration, Enlightenment, colonization of America, and the transition from mercantilism to capitalism. Having identified the dramatic transition taking place in the West, the course then looks at the impact of those changes around the globe through the trans-Atlantic Slave Trade, political revolutions in the Americas and Europe, industrialization, 19th-century imperialism, World Wars I and II, communist revolutions, the rise of fascism, the Cold War, and the 19th and 20th-century decolonization efforts in India, Africa, Southeast Asia, and the Middle East. The course closes with a review of economic and political globalization since the 1970s. Thematically, the course explores the nature of political, economic, and technological power and the relationship of that power to issues of race, class, gender, religion, and environment.

HIST 201 - ~US History to 1877 (3)

This course will introduce students to the period of United States History until the end of Reconstruction. Special emphasis will be placed upon the political, economic, and social aspects of the nation from the Colonial period until the Civil War era.

HIST 202 - ~US History Since 1877 (3)

This course will explore the Post-Reconstruction era of United States History. Special emphasis will be placed on the political, economic, and social effects upon the United States during the Gilded, Progressive, Depression, World War, and Cold War eras.

IT 105 - Computer Ethics (3)

This course is designed to educate existing and future Information Technology professionals on the tremendous impact ethical issues have on the use of information technology in the modern business world. The topics covered include an overview of ethics, ethics for IT professionals and IT users, computer internet and crime, privacy, freedom of expression, intellectual property, software development, and employer/employee Issues. Individual case examinations will be presented to more closely represent real-life examples of each of these topics.

IT 269 - Project Management (3)

This comprehensive course examines the various models used to develop and control the Work Breakdown Structure (WBS), Schedule, and Cost. Additionally, the class will perform an analysis on the time, cost models, and evaluate the outcome. There will be case problems and labs utilizing various processing tools.

Prerequisite(s): CAS 111 - Information Literacy (3), ENGL 110 - ~Technical Writing & Communication (3), and completion of a minimum of 45 credits

JAPN 101 - Japanese I (3)

The goal of this course is for the student to gain oral fluency in basic Japanese. The student will engage in constant oral drills and practice. The sentence/word repetition drill, word substitution drill, and structure expansion drill are used to achieve fluency. The basic grammar and vocabulary are interwoven into patterned dialogs. By doing these drills, the student will be making active use of vocabulary words without translating. At the same time, the student will internalize the grammar of basic sentence structure.

JAPN 102 - Japanese II (3)

Students learn new sentence structure and vocabulary. They also learn and practice HIRAGANA and KATAKANA using FUDEPEN, a brush pen, throughout the semester.

Prerequisite(s): JAPN 101 - Japanese I (3)

MUSC 111 - ~Introduction to Music (3)

This course provides training and experiences which will enable the student to acquire a historical-social-aesthetic perspective, to comprehend musical concepts, to discriminate quality levels, to select satisfying and stimulating musical experiences, and to empathize with the creators and performers of music.

PHIL 101 - Introduction to Philosophy (3)

This course introduces students to the major fields, problems, theories, and personalities of philosophy through the biographies and writing of leading thinkers.

PHIL 111 - Phil of World Religions (3)

This course will introduce the study of religion from several disciplinary approaches, including psychology, sociology, philosophy, and history and gender studies.

PSCI 100 - ~Introduction to Political Ideology (3)

This course provides an overview of major political ideologies that shaped the historical political landscape of the world and the United States and will give shape to the 21st century. An examination of liberalism, conservatism, nationalism, multiculturalism, feminism, and Islamism (along with many other 'isms') provide the student with a sense of history and structure.

PSCI 101 - ~American Federal Government (3)

This course involves the study of the functions and administration of government in the United States. The course is designed to provide an introduction to the structure, organization and functioning of the national government of the United States. It will examine the powers and relationships of the executive, legislative, and judicial branches of government with special emphasis given to the role that history, political parties, pressure groups, etc. play in influencing these relationships.

PSYC 203 - ~Introduction to Psychology (3)

This course will introduce the student to basic psychological principals and to enable the student to examine current thinking about development, personality, sensation and perception, cognition, learning, psychological disorders, and

their treatment, and influence.

Corerequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement

PSYC 210 - Human Growth & Development (3)

This course explores the basic principles of human growth and development throughout the lifespan. Prenatal development, as well as physical, emotional, mental, and social changes in children, adolescents, and adults will be reviewed. The multiple factors that influence development and shape personality will be considered.

SOCI 203 - ~General Sociology (3)

This course introduces students to the core concepts and perspectives of sociology, the study of human social environments and of human interactions within those environments. The course will explore a number of sociological topics to develop a sociological imagination, an ability to understand the effects of group membership on behavior, attitudes, beliefs, and life chances.

Corerequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement

SPAN 101 - Spanish I (3)

Spanish I is an introductory course designed to expose beginning students to basic language skills. In this course, students develop the fundamentals of communication, listening and comprehension, speaking, and reading. Spanish culture is introduced as well as composition writing.

SPAN 102 - Spanish II (3)

Spanish II builds upon the basic grammatical structures introduced in Spanish I and continues to develop skills such as pronunciation practice, listening comprehension, and "guided" composition. Correct speaking is emphasized. The study of Hispanic countries and cultures continues to be covered in the course.

Prerequisite(s): SPAN 101 - Spanish I (3)

Mathematics/Science 6 Credit Hours

Typical Courses: BIOL, CHEM 125, 127, 128, EDET 201, 202, GSPE 210, LTEC 120, 121, MATH 101:299, PHYS 103, 104

BIOL 101 - ^General Biological Science I (4)

This is semester one of a two-semester general biology course which, with BIOL 102, satisfies the Liberal Arts science requirement. This is an integrated lecture and laboratory course dealing with both plants and animals, related to our environment from molecule to biosphere. This course focuses on molecular and cellular biology, patterns of inheritance and genetics, biotechnology, and mechanisms of evolution.

BIOL 102 - ~General Biological Science II (4)

This is semester two of a two-semester general biology course which, with BIOL 101, satisfies the Liberal Arts science requirement. This is an integrated lecture and laboratory course dealing with both plants and animals, related to our environment from molecule to biosphere. This course focuses on plant and animal structure and function, the dynamics of populations, communities and ecosystems, and human impact on the biosphere.

Prerequisite(s): BIOL 101 - ^General Biological Science I (4)

BIOL 120 - ^Human Anatomy & Physiology I (3)

This is course one in a two-course sequence that provides a detailed review of the human organism. It will provide a brief overview of the human body and the chemical basis for activities occurring within the body, a detailed review of the cell, tissues, the integumentary, skeletal, muscular, and nervous systems as well as an overview of the human senses.

Corerequisite(s): BIOL 121 - ^Human Anatomy & Phys I Lab (1)

BIOL 121 - ^Human Anatomy & Phys I Lab (1)

This is a laboratory course in human anatomy and physiology to be taken concurrently with BIOL 120.

Corerequisite(s): BIOL 120 - ^Human Anatomy & Physiology I (3)

BIOL 122 - ^Human Anatomy & Physiology II (3)

This is the second course in a two-course sequence that provides a detailed review of the human organism. This course provides a detailed review of cardiovascular, lymphatic, immune, respiratory, digestive, urinary, and reproductive systems.

Prerequisite(s): BIOL 120 - ^Human Anatomy & Physiology I (3) and BIOL 121 - ^Human Anatomy & Phys I Lab (1)

Corerequisite(s): BIOL 123 - ^Human Anatomy & Phys II Lab (1)

BIOL 123 - ^Human Anatomy & Phys II Lab (1)

This is a laboratory course in human anatomy and physiology to be taken concurrently with BIOL 122.

Prerequisite(s): BIOL 120 - ^Human Anatomy & Physiology I (3) and BIOL 121 - ^Human Anatomy & Phys I Lab (1)

Corerequisite(s): BIOL 122 - ^Human Anatomy & Physiology II (3)

BIOL 220 - Microbiology (3)

This is a course for students in the health and life science to be taken concurrently with the 1-credit laboratory. The course will emphasize the impact of microorganisms on human health and disease, including identification and control pathogens, the mechanisms of pathogenicity and disease transmission, host resistance, and immunity. Other aspects of microbiology will also be considered, including basic microbial metabolic activities and their role in nutrient cycling and as experimental subjects; biotechnology and recombinant DNA will be introduced.

Prerequisite(s): CHEM 125 - ~Introduction to College Chemistry (4) or CHEM 127 - ~General, Organic & Biochem I (4)

Corerequisite(s): BIOL 221 - Microbiology Lab (1)

BIOL 221 - Microbiology Lab (1)

This is a laboratory course in microbiological identification and experimentation techniques to be taken concurrently with BIOL 220.

Prerequisite(s): CHEM 125 - ~Introduction to College Chemistry (4) or CHEM 127 - ~General, Organic & Biochem I (4)

Corequisite(s): BIOL 220 - Microbiology (3)

CHEM 125 - ~Introduction to College Chemistry (4)

This course is for students with little or no prior background in chemistry whose program (AS Nursing, for example) requires one semester of chemistry, or who require preparation for additional coursework in chemistry. Emphasis is on calculations and measurement, dimensional analysis, formulas, and equations, stoichiometry, atomic structure and molecular geometry, gas laws and solutions.

Prerequisite(s): MATH 100 - Math Essentials (3) or placement

CHEM 127 - ~General, Organic & Biochem I (4)

This course is designed as the first in a one year sequence of courses intended for nursing or other allied health students who intend to transfer to a four year academic institution which requires a two semester sequence course in General, Organic and Biochemistry (GOB). This course will include an overview of the Metric System, Scientific Notation, Temperature Scales, Density, Atoms, Structure, Isotopes, Electrons, Periodic Table, Chemical Formulae, Types of Chemical Reactions, Quantification of Chemical Reactions, Mass, Moles, Energy, Kinetic, Potential, Law of Conservation of Energy, Thermochemistry, Matter, pH, Fission, Fusion, Functional Groups and Names, and General Organic Reactions to Form Functional Groups. This course sequence could also provide an eight credit General Education Science sequence. The course consists of a lecture portion and a laboratory portion.

Prerequisite(s): MATH 100 - Math Essentials (3) or placement

CHEM 128 - ~General, Organic & Biochem II (4)

This course is designed as the second course in a one year sequence of courses intended for nursing or other allied health students who intend to transfer to a four year academic institution which requires a two semester sequence course in General, Organic and Biochemistry (GOB). This course will include an overview of Alcohols, Reactions, Aldehydes and Ketones, Organic Acids, Amines, Aromatic Compounds, Heterocyclic Compounds, DNA, Hyper-, Iso-, Hypotonic Solutions, Metabolic Disorders, Complex Carbohydrates, Proteins, Lipids, Nucleic Acids, Body Fluids, Blood, Clotting Chemistry, Respiratory Exchange, Metabolic and Respiratory Acidosis and Ketosis. This course sequence could also provide an eight credit General Education Science sequence. The course consists of a lecture portion and a laboratory portion.

Prerequisite(s): CHEM 127 - ~General, Organic & Biochem I (4)

EDET 201 - Fundamentals of Electricity I (2)

Fundamentals of Electricity I provide students with an introduction to Ohms Law and the principles behind how DC and AC electric circuits work.

Prerequisite(s): Current major declared of Electric Distribution Engineering Technology, A.A.S. or Electric Distribution Engineering Technology Certificate

Corequisite(s): EDET 202 - Fundamentals of Electricity II (2)

EDET 202 - Fundamentals of Electricity II (2)

Fundamentals of Electricity II builds on the students learning in Fundamentals of Electricity I. Three phase circuits and transformer functions are covered.

Prerequisite(s): Current major declared of Electric Distribution Engineering Technology, A.A.S. or Electric Distribution Engineering Technology Certificate

Pre-requisite/Co-requisite(s): EDET 201 - Fundamentals of Electricity I (2)

GSPE 210 - Fitness for Life (3)

This course is designed to assist participants in developing a healthier lifestyle through appropriate exercise programs, nutrition and behaviors that contribute to optimal health and wellness.

LTEC 120 - Biology for Technicians I (4)

This course will introduce Applied Laboratory Technician, A.A.S. students to cells, genetics, and evolution & diversity with an emphasis on laboratory applications and techniques. Topics include cell structure, patterns of inheritance, and evolution of microbial life. Students will also be able to function successfully within laboratory settings, including the use of basic equipment (microscopes, measurement devices, and computer technologies), as well as utilizing appropriate safety protocols for manufacturing quality control. This course has an emphasis on biological topics needed for quality control/ quality assurance in microbiologic laboratories.

LTEC 121 - Biology for Technicians II (4)

This course is a continuation of LTEC 120 - Biology for Technicians I (4) for students in the Applied Laboratory Technician, A.A.S. This course will introduce students to ecology and animal structure & function with an emphasis on laboratory applications and techniques. Topics include communities and ecosystems and nervous, sensory, and locomotor systems. Students will also be able to function successfully within laboratory settings including the use of basic equipment (microscopes, measurement devices, and computer technologies), and utilize appropriate safety protocols for manufacturing quality control. This course has an emphasis on quality control/quality assurance within manufacturing for biology.

Prerequisite(s): LTEC 120 - Biology for Technicians I (4)

MATH 101 - ~Introduction to Mathematics (3)

During this course topics to be covered are sets, mathematical logic, mathematical systems, the real number system, systematic counting, probability, measurement, and consumer mathematics. History of mathematics, critical thinking skills, problem solving, and use of technology will be incorporated throughout the course.

Prerequisite(s): MATH 100 - Math Essentials (3) or proper placement on test scores

MATH 105 - ^Algebra (3)

Topics explored in this course include properties of the real numbers, operations on polynomials, rational and radical expressions, solutions of linear, quadratic, polynomial, radical and absolute value equations and inequalities. Coordinate geometry including distance, midpoint, lines, and circles will also be explored. Additional topics include systems of linear equations and their applications, analysis of functions, operations on functions, transformations of functions, and properties of linear, piecewise, quadratic, polynomial, rational, exponential and logarithmic functions.

Prerequisite(s): MATH 100A - Algebra Essentials (3) or proper placement on test scores

MATH 106 - Trigonometry (3)

Topics explored in this course include the study of angles in radians and degrees and evaluating trigonometric functions using the right triangle and a unit circle approaches. Other topics to be explored include verifying trigonometric identities, solving trigonometric equations, solving applied problems using right triangles and oblique triangles, analyzing the graphs and characteristics of trigonometric and inverse trigonometric functions, performing composition and transformations on trigonometric functions, and evaluating inverse trigonometric functions. Time permitting topics include polar coordinates, complex numbers, deMoivre's Theorem, and vectors.

Prerequisite(s): MATH 105 - Algebra (3) or proper placement on test scores

MATH 154 - Finite Mathematics (3)

This course introduces students to selected topics from finite mathematics. Mathematical models for the analysis of decision-making problems are examined. Topics include analyzing linear functions with applications, solving systems of linear equations using the Echelon and Gauss-Jordan methods, matrix operations and inverses, systems of linear inequalities, linear programming optimization by graphing and the simplex method, risk decisions using counting methods and probability. Additional topics may be chosen from financial mathematics, logic, or statistics.

Prerequisite(s): MATH 100A - Algebra Essentials (3) or proper placement on test scores

PHYS 103 - General Physical Science I (4)

This is an introductory survey course which explores the major concepts in physics and chemistry. Topics covered will include motion, matter and energy, atomic models, nuclear structure, waves, and electricity. A combination of conceptual framework, practical applications, and problem solving will be utilized in the integrated laboratory and lecture course.

PHYS 104 - General Physical Science II (4)

This is an introductory survey course which explores the major concepts in geology, astronomy, and meteorology. Topics covered will include rocks and minerals, weathering and erosion, surface and groundwater, geologic time, plate tectonics, earthquakes, volcanoes, and mountains; light and telescopes, the solar system, stars, nebulae, and galaxies; the origin of the universe; the basics of meteorology, and the effects of weather and climate. A combination of the conceptual framework, practical applications, and problem-solving will be utilized in the integrated laboratory and lecture course.

Computer Literacy 3 Credit Hours

Typical Courses: Information Literacy, Understanding Computers

CAS 110 - Understanding Computers (3)

This basic course helps students become literate in the terminology and usage of computers. The course covers a description of the hardware and software of a computer system, a brief history of computers, and the following topics on the personal computer Windows®, file management, word processing, electronic spreadsheet, and online learning.

CAS 111 - Information Literacy (3)

This course covers a variety of introductory computing knowledge including how personal computers work, software essentials, hardware components, operating systems and the most popular productivity applications including word processing, spreadsheet, database and presentation software. Students will also be introduced to the Internet and e-mail essentials, file management and digital electronics. This course aligns with the Internet and Computing Core Certification (IC3), which demonstrates that a student has a clear understanding of the knowledge and application of computers and technology in the modern world.

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Business Operations, A.A.S.

The Associate of Applied Science in Business introduces students to foundational business theories and practices related to planning, communication, marketing, human relations, and management. This degree is geared toward the student who may not be pursuing a baccalaureate degree. Students are exposed to the legal and ethical considerations influencing business today and develop effective communication, critical thinking and technical skills needed in the workplace. The program allows students to focus on a specific concentration that best meets their personal and career goals while preparing for employment opportunities in finance, sales, human resources, marketing, or small business.

Graduates will be able to:

- Communicate in a professional manner through both online and in-person communication.
- Evaluate both professional conduct and corporate conduct for ethical issues.
- Apply classroom skills to the real world through experience in the field.

Finance & Analysis

- Define the terms bonds, equity, capital budgeting, default risk, IPO, liquidity, Time Value of Money, financial planning, and corporate finance.
- Analyze corporate financials for both strengths and weaknesses.
- Solve financial issues for corporations using real-world financial data.

Sales & Service

- Understand the sales process and consumer behaviors in the marketplace.
- Successfully construct a sales demonstration/pitch.
- Determine the best types of customer service necessary for various situations.

Human Resources

- Know specific information about HR topics such as compensation, training and development, recruitment, safety, grievance policy, and privacy.
- Construct HR policies for an organization.
- Outline HR issues in the 21st century.

Digital Marketing

- Describe the marketing process from start to finish.
- Determine web site layouts and designs for real businesses.

- Assess social media platforms and best marketing choices for an organization.

Small Business Development

- Build a business plan that is realistic.
- Construct a marketing plan for a small business.
- Determine the best sources of funding for a small business.
- Compile financials for a small business and evaluate their position.

Curriculum for an Associate of Applied Science in Business

General Education Core	15
Business Core	18
Concentration	27
Total Credit Hours Required	60

General Education Core

ART 103 - ~Introduction to Visual Arts (3)

This is an introductory course designed to survey prehistoric to contemporary visual art forms, giving insight into their nature and their relationships to the human condition. The course includes a study of the functions of various forms of art in which students are exposed to a variety of visual arts experiences to promote a deeper understanding of and appreciation for the role of the visual arts throughout human history and in contemporary society.

MUSC 111 - ~Introduction to Music (3)

This course provides training and experiences which will enable the student to acquire a historical-social-aesthetic perspective, to comprehend musical concepts, to discriminate quality levels, to select satisfying and stimulating musical experiences, and to empathize with the creators and performers of music.

ENGL 101 - ~English Composition I (3)

ENGL 101 is an introduction to college writing. This class emphasizes processes for drafting, revising, and editing. It develops a student's ability to read a passage, analyze its meaning, and write an intelligent response which shows not only an understanding of the passage but also a working knowledge of the writing and rhetorical strategies. Students will learn how to make effective arguments and how to locate, synthesize, and evaluate relevant information.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 101L - English Composition I Lab (3), or placement test scores

ENGL 102 - ~English Composition II (3)

ENGL 102 is a continuation of English Composition I that provides experience in analyzing and writing arguments and persuasive prose. A central feature of the course is library research that is intended to develop familiarity with reference sources and skill in summarizing the diverse points of view of multiple sources. Requires students to locate, evaluate, integrate, and document sources effectively.

Prerequisite(s): ENGL 101 - ~English Composition I (3)

ENGL 110 - ~Technical Writing & Communication (3)

This course is designed to prepare students to write technical reports and other technical documents. Emphasis is on audience, clarity, conciseness, and accuracy of expression. It covers research techniques, information design, writing style, and effective use of graphics.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

- MATH 101 or higher (3)

PSCI 101 - ~American Federal Government (3)

This course involves the study of the functions and administration of government in the United States. The course is designed to provide an introduction to the structure, organization and functioning of the national government of the United States. It will examine the powers and relationships of the executive, legislative, and judicial branches of government with special emphasis given to the role that history, political parties, pressure groups, etc. play in influencing these relationships.

PSYC 203 - ~Introduction to Psychology (3)

This course will introduce the student to basic psychological principals and to enable the student to examine current thinking about development, personality, sensation and perception, cognition, learning, psychological disorders, and their treatment, and influence.

Corerequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement

SOCI 203 - ~General Sociology (3)

This course introduces students to the core concepts and perspectives of sociology, the study of human social environments and of human interactions within those environments. The course will explore a number of sociological topics to develop a sociological imagination, an ability to understand the effects of group membership on behavior, attitudes, beliefs, and life chances.

Corerequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement

Subtotal Credit Hours Required 15

Business Core

BUSN 101 - Introduction to Business (3)

This course provides an overview of the complex building blocks of business including administration, management, finance, labor, marketing, law, and ethics. These aspects are considered in reference to local and global markets, e-commerce, and evolving technology and trends.

BUSN 213 - Small Business Fundamentals (3)

This course examines the opportunities and challenges of starting a small business. Various business entities will be explored as ways to start a new business. Other topics covered include financing a new business, partnerships, liability and risk, and franchising with a major emphasis on starting and growing the business.

BUSN 108 - Business Etiquette & Image (3)

This course provides students a hands-on opportunity to develop the professional image needed to succeed in business. Activities range from the handshake and making introductions to telephone etiquette and table manners. Topics also include professional dress, conduct at work, managing technology, networking, interviewing, and resume development.

BUSN 205 - Business Ethics (3)

This course considers business actions and decisions in relation to moral principles and values. Beginning with an introduction to ethical theory and personal credo, students apply a systematic approach to ethical decision making. That approach is then applied to business situations involving employee relations, consumer affairs, finance, government, and international competition. The role and expectations of business in society, both locally and globally, are discussed.

BUSN 175 - Human Resource Management I (3)

This course covers the components of human resource management from organizational assessment to manpower planning including recruitment and selection, training and development, and evaluation and compensation. The impact of employment laws, ethical considerations, global competition, and rapid technological advances on small and large organizations are also considered.

PHIL 205 - Introduction to Ethics (3)

The goals for Introduction to Ethics are to familiarize students with major traditional theories, thinkers, and concepts in ethics and to build students' skills in analyzing and solving ethical problems, defending views both orally and in writing. The study of ethics will enable students to understand, criticize, and construct philosophical arguments. This course will introduce students to questions about right and wrong that have puzzled and provoked thinkers for hundreds of years.

Prerequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement

BUSN 292 - Field Experience (1-6)

This course serves as the capstone in experiential learning for Business majors. Students work a minimum of 100 hours in a professional business environment applying their academic learning while gaining real-world experience and career development. To register, students must have completed 45 credit hours of the requirements for an associate degree, have a 2.0 overall GPA, and receive prior approval from the instructor of the course.

Prerequisite(s): Students must have completed 45 credit hours of the requirements for an associate degree, have a 2.0 overall GPA, and get prior approval from the Field Experience facilitator.

BUSN 295 - Capstone Research (1)

This class is taken in the final semester of the students studies. The student will define a problem in their concentration, apply research techniques to look for ways to solve the problem and offer a solution.

Prerequisite(s): Students must have completed 45 credit hours of the requirements for an associate degree, have a 2.0 overall GPA, and get prior approval from the Capstone facilitator.

- HIST 101 or Higher (3)

LGST 212 - Business Law (3)

This course is an introduction to the American legal system and its impact on the business environment. Topics considered include contracts, employment law, antitrust law, torts, consumer protection, and the business organization. This study prepares students to identify and limit risk in business dealings.

Subtotal Credit Hours Required 18

Concentration

Choose one concentration for completion of the program:

Digital Marketing Concentration

BUSN 165 - Consumer Behavior (3)

This course studies the complex nature of buying decisions and how attitudes and perceptions, social class and family status, and technology and marketing influence those decisions. Consumers are considered as an individual and as members of groups making decisions on sales, advertising, and new product development. Students learn to be more effective marketing managers as well as more savvy consumers.

BUSN 231 - Marketing (3)

This course provides an in-depth study of the four pillars of marketing: product, price, placement, and promotion. These aspects are considered in reference to local and global markets, e-commerce, and evolving technology and trends. Students put newly acquired knowledge to work in the development of a marketing plan.

BUSN 234 - Social Media Marketing (3)

Social media has changed the way businesses now retract and retain customers. Students will learn how businesses have adapted to the internet in order to sell their product and services.

BUSN 245 - Advertising (3)

This course addresses the basic theories, processes, and techniques of the most visible aspect of marketing communications. Local and global markets, e-commerce, and evolving technology and trends are considered as students plan and implement a successful advertising campaign using a variety of media vehicles.

COMM 202 - ~Fundamentals of Speech (3)

This course equips the student with the necessary tools to construct, deliver, and analyze public communication messages.

COMM 205 - ~Professional Communications (3)

This course examines the process of communication and the challenges to and effective practices of communicating in a professional environment. Topics include listening skills and verbal, nonverbal, and written communications. The dynamics of communicating in a group, in a global society, and in culturally diverse environments is also investigated. Students apply a systematic approach to plan and create effective letters, memos, reports, presentations, electronic and other forms of business and professional communication.

ECON 123 - ~Contemporary Economics (3)

This course introduces students to both macro and microeconomic concepts including the theory of the firm, consumer behavior, economic systems, and managerial economic principles that affect decisions in every venue of our lives.

Note: Not intended for students in majors that require ECON 205 - ~Principles of Macroeconomics (3) and ECON 206 - ~Principles of Microeconomics (3).

Note Not intended for A.S. Business Administration Students.

ECON 205 - ~Principles of Macroeconomics (3)

This class serves as an introduction to fundamental economic concepts including production possibilities and economic growth, market supply and demand analysis, money, banking, government, and monetary policies. Emphasis is placed upon fluctuations in national income, employment, and price level. Overall, the impact of scarcity and human decision making will be imparted.

ECON 206 - ~Principles of Microeconomics (3)

This course provides an introduction to microeconomic theory with a primary focus on the methodology of economics and the behaviors of individuals and firms. Fundamental concepts are covered including demand and supply analysis, marginal analysis, opportunity cost, market structure, pricing, labor markets, and government policy and regulation.

- Restricted Elective in MDIA (9)

Subtotal Credit Hours Required 27

Finance Concentration

ACCT 201 - Principles of Accounting I (3)

This course is a study of the fundamental theory and principles of accounting concepts for reporting financial information to business users. The course stresses the relationship between the rules by which financial statements are prepared and the use of financial statement information for decision making. This course covers accounting terms,

organization of accounts, the accounting cycle, working papers, and financial statements. This study continues in ACCT 202 - Principles of Accounting II (3).

Prerequisite(s): MATH 100 - Math Essentials (3) or placement

ACCT 202 - Principles of Accounting II (3)

This course continues and concludes the fundamental study of financial accounting and then introduces the study of theory and principles of managerial and cost accounting concepts. The course stresses the use of accounting information for decision making and role of managerial accounting in a business environment. This course covers budgeting, costs systems, accounting for corporations, and financial statement analysis.

Prerequisite(s): ACCT 201 - Principles of Accounting I (3)

COMM 202 - ~Fundamentals of Speech (3)

This course equips the student with the necessary tools to construct, deliver, and analyze public communication messages.

COMM 205 - ~Professional Communications (3)

This course examines the process of communication and the challenges to and effective practices of communicating in a professional environment. Topics include listening skills and verbal, nonverbal, and written communications. The dynamics of communicating in a group, in a global society, and in culturally diverse environments is also investigated. Students apply a systematic approach to plan and create effective letters, memos, reports, presentations, electronic and other forms of business and professional communication.

ECON 205 - ~Principles of Macroeconomics (3)

This class serves as an introduction to fundamental economic concepts including production possibilities and economic growth, market supply and demand analysis, money, banking, government, and monetary policies. Emphasis is placed upon fluctuations in national income, employment, and price level. Overall, the impact of scarcity and human decision making will be imparted.

ECON 206 - ~Principles of Microeconomics (3)

This course provides an introduction to microeconomic theory with a primary focus on the methodology of economics and the behaviors of individuals and firms. Fundamental concepts are covered including demand and supply analysis, marginal analysis, opportunity cost, market structure, pricing, labor markets, and government policy and regulation.

ECON 210 - Money and Banking (3)

This course looks at the concepts of money, banking, central banking, financial markets and global markets. Students will analyze all these systems and how they interact including financial instruments.

Prerequisite(s): ECON 205 - ~Principles of Macroeconomics (3)

FINC 201 - Principles of Finance I (3)

This course exposes students to corporate finance. Other items covered include risk exposure and the U.S. financial system. Topics touched on will be Time Value of Money and risk.

Pre-requisite/Co-requisite(s): ACCT 201 - Principles of Accounting I (3) and ECON 205 - ~Principles of Macroeconomics (3)

FINC 202 - Principles of Finance II (3)

As a follow up to FINC 201 - Principles of Finance I (3) this class is a continuation. It goes more in depth with corporate finance, banking, international finance, capital budgeting, mergers and acquisitions and the Time Value of Money.

Prerequisite(s): FINC 201 - Principles of Finance I (3)

- Any BUSN or ECON (3)

Subtotal Credit Hours Required **27**

Human Resources Concentration

BUSN 175 - Human Resource Management I (3)

This course covers the components of human resource management from organizational assessment to manpower planning including recruitment and selection, training and development, and evaluation and compensation. The impact of employment laws, ethical considerations, global competition, and rapid technological advances on small and large organizations are also considered.

BUSN 160 - Organizational Behavior (3)

This course examines the behavior of individuals and individuals in groups in organizations, and how the two affect the overall performance of an organization. Students consider the impact of individual attitude, motivation, job satisfaction, and communication on the organization. Group dynamics, leadership, organizational culture, and change are also addressed.

BUSN 201 - Principles of Management (3)

This course examines the basic functions of management – planning, organizing, coordinating, and controlling - in a business organization. Students study management theory and practice in order to identify their own management style and appreciate the complex nature of management. The impact of social responsibility, corporate culture, and technological advances on management are also considered.

BUSN 250 - Management and Leadership (3)

This course empowers students to assess their leadership potential by studying successful leaders of the past and present. With a focus on business, students consider the skills required to set goals for an organization and direct the actions of others to achieve them.

BUSN 255 - Teamwork & Managing Teams (3)

This course examines how managers create, develop, and maintain quality, high-performance teams in the workplace. Students work in teams throughout the semester to develop skills relevant to the individual and team performance. Topics include creating the culture for teamwork, team dynamics, team problem solving, and managing teams.

BUSN 273 - Human Resources Management II (3)

This class is more in depth of BUSN 175 - Human Resource Management I (3). Topics include collective bargaining, small and large HR considerations, benefits, layoffs and other crises in HR.

Prerequisite(s): BUSN 175 - Human Resource Management I (3)

BUSN 277 - HR Compensation & Benefits (3)

This course covers concepts such as retirement plans-self funded and company funded, 401 (k)'s, insurance, IRA's, and Social Security. Students will also work on planning to implement benefits for a company.

Prerequisite(s): BUSN 175 - Human Resource Management I (3)

COMM 202 - ~Fundamentals of Speech (3)

This course equips the student with the necessary tools to construct, deliver, and analyze public communication messages.

COMM 205 - ~Professional Communications (3)

This course examines the process of communication and the challenges to and effective practices of communicating in a professional environment. Topics include listening skills and verbal, nonverbal, and written communications. The dynamics of communicating in a group, in a global society, and in culturally diverse environments is also investigated. Students apply a systematic approach to plan and create effective letters, memos, reports, presentations, electronic and other forms of business and professional communication.

ECON 123 - ~Contemporary Economics (3)

This course introduces students to both macro and microeconomic concepts including the theory of the firm, consumer behavior, economic systems, and managerial economic principles that affect decisions in every venue of our lives.

Note: Not intended for students in majors that require ECON 205 - ~Principles of Macroeconomics (3) and ECON 206 - ~Principles of Microeconomics (3).

Note Not intended for A.S. Business Administration Students.

ECON 205 - ~Principles of Macroeconomics (3)

This class serves as an introduction to fundamental economic concepts including production possibilities and economic growth, market supply and demand analysis, money, banking, government, and monetary policies. Emphasis is placed upon fluctuations in national income, employment, and price level. Overall, the impact of scarcity and human decision making will be imparted.

ECON 206 - ~Principles of Microeconomics (3)

This course provides an introduction to microeconomic theory with a primary focus on the methodology of economics and the behaviors of individuals and firms. Fundamental concepts are covered including demand and supply analysis, marginal analysis, opportunity cost, market structure, pricing, labor markets, and government policy and regulation.

SOCI 215 - ~Human Relations (3)

Human Relations instructs students on the relationship between self-esteem and human relations and consequently between human relations skills and career success. Emphasis is on strategies for personal and professional growth based on advancing skills in individual, group, and organizational contexts. The topics looked at include self-esteem, attitudes, values, communications, leadership, emotional control, creativity, conflict and stress management, diversity, business ethics, and productivity.

Subtotal Credit Hours Required **27**

Sales and Service Concentration

BUSN 120 - Principles of Sales I (3)

This course is an introduction to the principles of selling, the role of the professional salesperson in the marketing process, and sales management. The importance of relationship building and ethical behavior are stressed as students develop techniques for prospecting and qualifying buyers, identifying and overcoming objectives, and closing a sale. Characteristics of the local, as well as the global market, are discussed.

BUSN 125 - Customer Service Management (3)

This course goes beyond just talking about service to analyzing the strategies that enable a business to attract, satisfy, and retain customers profitably. The focus is not identifying service problems but solving them. Students discover the importance of management, communication, and training and demonstrate meeting customers' needs.

BUSN 165 - Consumer Behavior (3)

This course studies the complex nature of buying decisions and how attitudes and perceptions, social class and family status, and technology and marketing influence those decisions. Consumers are considered as an individual and as members of groups making decisions on sales, advertising, and new product development. Students learn to be more effective marketing managers as well as more savvy consumers.

BUSN 201 - Principles of Management (3)

This course examines the basic functions of management – planning, organizing, coordinating, and controlling - in a business organization. Students study management theory and practice in order to identify their own management style and appreciate the complex nature of management. The impact of social responsibility, corporate culture, and technological advances on management are also considered.

BUSN 250 - Management and Leadership (3)

This course empowers students to assess their leadership potential by studying successful leaders of the past and present. With a focus on business, students consider the skills required to set goals for an organization and direct the actions of others to achieve them.

BUSN 220 - Principles of Sales II (3)

This class is a continuation of BUSN 120 - Principles of Sales I (3). Overall goals include honing sales techniques, dealing with rejection, meeting sales goals and performance in a sales career.

Prerequisite(s): BUSN 120 - Principles of Sales I (3)

BUSN 245 - Advertising (3)

This course addresses the basic theories, processes, and techniques of the most visible aspect of marketing communications. Local and global markets, e-commerce, and evolving technology and trends are considered as students plan and implement a successful advertising campaign using a variety of media vehicles.

COMM 202 - ~Fundamentals of Speech (3)

This course equips the student with the necessary tools to construct, deliver, and analyze public communication messages.

COMM 205 - ~Professional Communications (3)

This course examines the process of communication and the challenges to and effective practices of communicating in a professional environment. Topics include listening skills and verbal, nonverbal, and written communications. The dynamics of communicating in a group, in a global society, and in culturally diverse environments is also investigated. Students apply a systematic approach to plan and create effective letters, memos, reports, presentations, electronic and other forms of business and professional communication.

ECON 123 - ~Contemporary Economics (3)

This course introduces students to both macro and microeconomic concepts including the theory of the firm, consumer behavior, economic systems, and managerial economic principles that affect decisions in every venue of our lives.

Note: Not intended for students in majors that require ECON 205 - ~Principles of Macroeconomics (3) and ECON 206 - ~Principles of Microeconomics (3).

Note Not intended for A.S. Business Administration Students.

ECON 205 - ~Principles of Macroeconomics (3)

This class serves as an introduction to fundamental economic concepts including production possibilities and economic growth, market supply and demand analysis, money, banking, government, and monetary policies. Emphasis is placed upon fluctuations in national income, employment, and price level. Overall, the impact of scarcity and human decision making will be imparted.

ECON 206 - ~Principles of Microeconomics (3)

This course provides an introduction to microeconomic theory with a primary focus on the methodology of economics and the behaviors of individuals and firms. Fundamental concepts are covered including demand and supply analysis, marginal analysis, opportunity cost, market structure, pricing, labor markets, and government policy and regulation.

Subtotal Credit Hours Required 27

Small Business Concentration

ACCT 215 - Small Business Accounting (3)

This course offers an introduction to some basic accounting practices for small businesses with application using accounting software. In this course, the student will be developing an accounting system for a small business and then using the system to manage the finances of a small business. This course covers accounting terms, basic accounting concepts, the accounting cycle, and financial statements.

Prerequisite(s): MATH 100 - Math Essentials (3) or placement

COMM 202 - ~Fundamentals of Speech (3)

This course equips the student with the necessary tools to construct, deliver, and analyze public communication messages.

COMM 205 - ~Professional Communications (3)

This course examines the process of communication and the challenges to and effective practices of communicating in a professional environment. Topics include listening skills and verbal, nonverbal, and written communications. The dynamics of communicating in a group, in a global society, and in culturally diverse environments is also investigated. Students apply a systematic approach to plan and create effective letters, memos, reports, presentations, electronic and other forms of business and professional communication.

BUSN 120 - Principles of Sales I (3)

This course is an introduction to the principles of selling, the role of the professional salesperson in the marketing process, and sales management. The importance of relationship building and ethical behavior are stressed as students develop techniques for prospecting and qualifying buyers, identifying and overcoming objectives, and closing a sale. Characteristics of the local, as well as the global market, are discussed.

BUSN 175 - Human Resource Management I (3)

This course covers the components of human resource management from organizational assessment to manpower planning including recruitment and selection, training and development, and evaluation and compensation. The impact of employment laws, ethical considerations, global competition, and rapid technological advances on small and large organizations are also considered.

BUSN 217 - Small Business Dev Plan (3)

Students will work with an existing business to create a new business plan or a local business person to create a new business. The outcome will be a full and detailed business plan that is viable. The plan will be pitched to the owner/idea generator for feedback and acceptance.

Prerequisite(s): BUSN 213 - Small Business Fundamentals (3)

Pre-requisite/Co-requisite(s): FINC 215 - Small Business Finance (3)

BUSN 231 - Marketing (3)

This course provides an in-depth study of the four pillars of marketing: product, price, placement, and promotion. These aspects are considered in reference to local and global markets, e-commerce, and evolving technology and trends. Students put newly acquired knowledge to work in the development of a marketing plan.

BUSN 234 - Social Media Marketing (3)

Social media has changed the way businesses now retract and retain customers. Students will learn how businesses have adapted to the internet in order to sell their product and services.

ECON 205 - ~Principles of Macroeconomics (3)

This class serves as an introduction to fundamental economic concepts including production possibilities and economic growth, market supply and demand analysis, money, banking, government, and monetary policies. Emphasis is placed upon fluctuations in national income, employment, and price level. Overall, the impact of scarcity and human decision making will be imparted.

ECON 206 - ~Principles of Microeconomics (3)

This course provides an introduction to microeconomic theory with a primary focus on the methodology of economics and the behaviors of individuals and firms. Fundamental concepts are covered including demand and supply analysis, marginal analysis, opportunity cost, market structure, pricing, labor markets, and government policy and regulation.

FINC 215 - Small Business Finance (3)

The role of the finance cycle will be explored in detail. Various business entities will be examined as well as creating a business, buying a business and putting a value to an existing one. Funding sources for entities and financial statement analysis will be covered.

Prerequisite(s): BUSN 213 - Small Business Fundamentals (3)

- Restricted Electives in ACCT, BUSN, ECON, or FINC (6)

Subtotal Credit Hours Required **27**

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Catering & Hospitality Management, A.A.S.

To enter a career in the foodservice and hospitality industry, consider a degree in Catering & Hospitality Management. Students learn classical cooking and baking techniques within a wide variety of cuisines. This program provides foundations in nutrition, safety and sanitation, origins of food, hospitality and restaurant management, marketing, and more.

Program Overview

Students will be exposed to classical culinary and baking techniques. In addition to these foundational courses, students will learn safety and sanitation, food purchasing and costing, catering management, and basic business processes. Practical lab experiences, including the operation of a fully equipped food truck, will help to complete the student's education. Students will experience the flow of their product from creation to service in this degree program through our Bruin Café lab, Food Truck lab and other service opportunities.

Program Outcomes

- Demonstrate an organized and sanitary workstation.
- Demonstrate accurate measuring and portioning.
- Follow standardized recipes and production procedures.
- Identify and describe procedures and techniques for controlling food costs.
- Demonstrate customer service skills.
- Practice team building and communication.
- Demonstrate professionalism (clean and complete uniform, on time, good attitude, respectful).
- Demonstrate leadership in both the front and back of the house operations.
- Construct a business plan for a small food service operation.
- Demonstrate critical thinking skills.

Career Opportunities

If you choose a degree in Catering & Hospitality Management, you will be prepared for entry to mid-level positions within the industry. You can seek positions within foodservice, hospitality, and tourism.

Curriculum for an Associate of Applied Science in Catering and Hospitality Management

General Education Core	15
Culinary Arts Core	45
Total Credit Hours Required	60

General Education Core

BUSN 160 - Organizational Behavior (3)

This course examines the behavior of individuals and individuals in groups in organizations, and how the two affect the overall performance of an organization. Students consider the impact of individual attitude, motivation, job satisfaction, and communication on the organization. Group dynamics, leadership, organizational culture, and change are also addressed.

CAS 111 - Information Literacy (3)

This course covers a variety of introductory computing knowledge including how personal computers work, software essentials, hardware components, operating systems and the most popular productivity applications including word processing, spreadsheet, database and presentation software. Students will also be introduced to the Internet and e-mail essentials, file management and digital electronics. This course aligns with the Internet and Computing Core Certification (IC3), which demonstrates that a student has a clear understanding of the knowledge and application of computers and technology in the modern world.

ENGL 110 - ~Technical Writing & Communication (3)

This course is designed to prepare students to write technical reports and other technical documents. Emphasis is on audience, clarity, conciseness, and accuracy of expression. It covers research techniques, information design, writing style, and effective use of graphics.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

MATH 101 - ~Introduction to Mathematics (3)

During this course topics to be covered are sets, mathematical logic, mathematical systems, the real number system, systematic counting, probability, measurement, and consumer mathematics. History of mathematics, critical thinking skills, problem solving, and use of technology will be incorporated throughout the course.

Prerequisite(s): MATH 100 - Math Essentials (3) or proper placement on test scores

MATH 102 - Technical Mathematics (3)

This course focuses on computational fluency and applied problem solving with emphasis on the following topics: real numbers, ratios, percents, proportions, estimation, exponents, roots, scientific notation, applied algebra, measurement, applied geometry, electrical formulas and laws, basic statistics, basic trigonometry and vectors.

Prerequisite(s): MATH 100 - Math Essentials (3) or proper placement on test scores

SOCI 215 - ~Human Relations (3)

Human Relations instructs students on the relationship between self-esteem and human relations and consequently between human relations skills and career success. Emphasis is on strategies for personal and professional growth based on advancing skills in individual, group, and organizational contexts. The topics looked at include self-esteem, attitudes, values, communications, leadership, emotional control, creativity, conflict and stress management, diversity, business ethics, and productivity.

Subtotal Credit Hours Required 15

Culinary Arts Core

CART 100 - Intro Culinary Food Service (2)

This course is a comprehensive overview of foodservice operational equipment, identification, and maintenance as well as an introduction to culinary terminology, theory and history and how food moves through an operation. This course will also familiarize the student with essential food handling, safety, and storage guidelines encountered within the industry. This course also provides an overview of the professionalism in the culinary industry and career opportunities leading to a career pathway to the Food Service Industry.

Prerequisite(s): Required major in Baking and Pastry Certificate, Baking and Pastry, A.A.S., Catering & Hospitality Management, A.A.S., Culinary Arts Certificate, Culinary Arts, A.A.S., Food Service Retail Management Certificate, or Food Service Retail Management, A.A.S. is required.

CART 115 - Safety/Sanitation in Food Serv (2)

The Safety and Sanitation in the Food Service Industry course follow the format of the National Restaurant Association Educational Foundation ServSafe® Program. The course is designed as an industry-based program that prepares students for careers in the restaurant and foodservice industry. The emphasis of this program is to educate the students about the responsibilities which a foodservice manager and food service worker have to the public in providing safe and sanitary food to the consumer.

Prerequisite(s): Required major in Baking and Pastry Certificate, Baking and Pastry, A.A.S., Catering & Hospitality Management, A.A.S., Culinary Arts Certificate, Culinary Arts, A.A.S., Food Service Retail Management Certificate, or Food Service Retail Management, A.A.S. is required.

CART 120 - Bruin Cafe Lecture (1)

This course teaches students the practice and implementation of management principles as they relate to retail food service.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2)
Corerequisite(s): CART 120L - Bruin Cafe Lab (3)

CART 120L - Bruin Cafe Lab (3)

This course continues the development of retail skills in a supervised laboratory setting. Specific skills are correlated to lecture content in CART 120 - Bruin Cafe Lecture (1).

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2)
Corerequisite(s): CART 120 - Bruin Cafe Lecture (1)

CART 204 - Inventory and Purchasing (3)

This course introduces students to inventory and purchasing, the purchasing function, quality standards in purchasing, the procurement process, supplier selection, and inventory control.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2)

CART 212 - Baking Skills & Development (4)

This course provides students the fundamental skills for basic baking. Students will produce simple yeast doughs, quick breads, pies, cakes, cookies and other baked goods found in bakeries, restaurants and food markets. Instruction included classification of ingredients and their functions, baking terminology, culinary and bakery tool, and equipment use and recipe conversions.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2)

CART 245 - Cooking Fundamentals I Lecture (1)

This course is concurrent with CART 100 - Intro Culinary Food Service (2) by engaging the student in a practical application of learned terminology, methods, and techniques. Students will engage in ingredient production and recipe application. We will introduce knife handling skills, basic cooking skills, mise en place, plating, reinforcing food safety and sanitation practices, practical application of the chef's prep list, and industry terminology and standards.

Prerequisite(s): Required major in Baking and Pastry Certificate, Baking and Pastry, A.A.S., Catering & Hospitality Management, A.A.S., Culinary Arts Certificate, Culinary Arts, A.A.S., Food Service Retail Management Certificate, or

Food Service Retail Management, A.A.S. is required.

Corerequisite(s): CART 100 - Intro Culinary Food Service (2) and CART 245L - Cooking Fundamentals I Lab (2)

CART 245L - Cooking Fundamentals I Lab (2)

This course is the companion to CART 245 - Cooking Fundamentals I Lecture (1) and is concurrent with CART 100 - Intro Culinary Food Service (2) by engaging the student in a practical application of learned terminology, methods, and techniques. Students will engage in ingredient production and recipe application. We will introduce knife handling skills, basic cooking skills, mise en place, plating, reinforcing food safety and sanitation practices, practical application of the chef's prep list, and industry terminology and standards

Prerequisite(s): Required major in Baking and Pastry Certificate, Baking and Pastry, A.A.S., Catering & Hospitality Management, A.A.S., Culinary Arts Certificate, Culinary Arts, A.A.S., Food Service Retail Management Certificate, or Food Service Retail Management, A.A.S. is required.

Corerequisite(s): CART 100 - Intro Culinary Food Service (2) and CART 245 - Cooking Fundamentals I Lecture (1)

CART 246 - Cooking Fundamentals II (1)

This course focuses on expanding the knowledge, skills, cooking techniques and principles learned in CART 245 - Cooking Fundamentals I Lecture (1) and CART 245L - Cooking Fundamentals I Lab (2). Special influences are put on knife skills, advanced cooking techniques, portioning and presentation, safety and sanitation. Students will learn to create balanced and eye appealing meals.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2), CART 245 - Cooking Fundamentals I Lecture (1), and CART 245L - Cooking Fundamentals I Lab (2)

Corerequisite(s): CART 246L - Cooking Fundamentals II Lab (2)

CART 246L - Cooking Fundamentals II Lab (2)

This course continues the development of Cooking Fundamentals II skills in a supervised laboratory setting. Specific skills are correlated to lecture content in CART 246 - Cooking Fundamentals II (1).

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2), CART 245 - Cooking Fundamentals I Lecture (1), and CART 245L - Cooking Fundamentals I Lab (2)

Corerequisite(s): CART 246 - Cooking Fundamentals II (1)

CART 264 - Catering Fundamentals (4)

This course focuses on the principles, techniques, and application for both on-premises and off-premises catering operations including food preparation, holding, transporting, and presentation techniques.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2), CART 245L - Cooking Fundamentals I Lab (2) , and CART 245 - Cooking Fundamentals I Lecture (1)

CART 292 - Culinary Arts Internship (1–6)

The purpose of the internship is to allow the student to demonstrate his or her skills in an occupational setting. The internship is considered a capstone course of the A.A.S. degree program. Completion of the internship indicates to the college that the student has achieved a satisfactory level of skills to be successful in their degree field.

Prerequisite(s): CART 212 - Baking Skills & Development (4)

HOSP 210 - Hosp & Restaurant Management (2)

Students will be introduced to all aspects of restaurant and hospitality management. Students will complete a business plan including staffing, budgeting, and daily operations of a restaurant or hospitality related business.

Prerequisite(s): BUSN 101 - Introduction to Business (3) and CART 100 - Intro Culinary Food Service (2)

HOSP 220 - Controlling Food Costs (2)

Students will be introduced to all aspects of food costing. Students will be introduced to how to establish food cost parameters for restaurant menus and catering functions. Topics will also include how to evaluate the food cost of menu items to keep food costs in line as market prices fluctuate.

Prerequisite(s): BUSN 101 - Introduction to Business (3) and CART 100 - Intro Culinary Food Service (2)

HOSP 240 - Culinary Customer Service (2)

Culinary Customer Service will introduce students to all aspects of professional and consistent customer service skills. Students will also be exposed to different types of customer service interactions in the culinary industry.

Prerequisite(s): BUSN 101 - Introduction to Business (3) and CART 100 - Intro Culinary Food Service (2)

HOSP 258 - Hosp & Restaurant Marketing (3)

Students will be introduced to all aspects of hospitality and restaurant management. Students will also be exposed to marketing methods distinct to the restaurant and hospitality industry. Concepts of social media and digital marketing will also be introduced.

Prerequisite(s): BUSN 101 - Introduction to Business (3) and CART 100 - Intro Culinary Food Service (2)

HOSP 290 - Food Truck Lab (4)

Students will be introduced to all aspects of the operation of a mobile food unity. Students will gain hands-on experience with ordering, prep, serving, and sanitation for mobile food service.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2), CART 245L - Cooking Fundamentals I Lab (2), and CART 245 - Cooking Fundamentals I Lecture (1)

Corequisite(s): BUSN 160 - Organizational Behavior (3)

- Restricted Electives in CART, HOSP, or MATH 100 (3)

Subtotal Credit Hours Required 45

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Computer Network Engineering Technologies, A.A.S.

The Blue Ridge Community and Technical College Computer Network Engineering Technologies degree is a solid choice for students considering an advanced technology career. The program offers a flexible environment where students can develop the skills to enter a rapidly changing networking workforce. Designed for students with an in-depth knowledge of Cisco networking, the Blue Ridge Community and Technical College program develops network fluency and troubleshooting skills. The emphasis on networking technology complements a variety of certification training choices.

Program Overview

The Computer Network Engineering Technologies program offers an associate of applied science degree, incorporating vendor certification training for students preparing for entry-level employment or advancement in a variety of occupations, courses, and professional certificate programs within the networking field. The program will offer students a solid background in networking technology complemented by an array of certification training choices. All courses leading toward certification are taught by certified instructors.

The program offers a flexible environment where students can develop the background necessary to enter a rapidly changing and growing networking workforce and/or transfer to a four-year institution for further undergraduate education. Students in the Computer Network Engineering Technologies Program are subject to the Blue Ridge Community and Technical College's requirements for admissions, basic skills testing, and appropriate course placement. Blue Ridge Community and Technical College Catalog requirements regarding academic standards, student conduct, and graduation procedures also apply.

Students in this program will complete hands-on activities that will help to develop network fluency and troubleshooting skills. They construct projects based on real-life environments that demonstrate the core protocols used in the industry.

An internship in a networking or information technology-related area is required for graduation. Students are expected to locate their internship site. Detailed information about the internship requirements and expectations is available from the student's advisor.

Program Outcomes

Students completing the Associate of Applied Science Degree in Computer Network Engineering will:

- Comprehend and apply computer-networking principles to provide a solution-focused skill set to address real-world business needs and scenarios.
- Analyze various physical and software technologies that allow modern networks to share data, video and voice communications over a single network.
- Understand technical focused aspects of security to varying degrees, depending on their desired path of study.
- Design a capstone that encompasses the knowledge and hands-on skills central to core networking concepts, such as a router, switch, wireless configuration and operations, network traffic path selection, networking best practice, troubleshooting techniques, and developing rationally designed networks and supportive reasoning.
- Develop the necessary communication skills to coordinate working on a team project, how to troubleshoot logical and design errors along with technical errors, and be able to provide clear and precise documentation of a project to aid future work such as maintenance and upgrades.
- Demonstrate the necessary knowledge and experience to sit for varying industry-recognized certifications.

Career Opportunities

Blue Ridge Community and Technical College will equip graduates with the skills to design, administer, and maintain network systems in a variety of settings. With completed degree and certifications, graduates may earn \$40,000–\$50,000 annually in entry-level network support positions with a future potential of earning more than \$80,000.

Note: All salary estimations are based on the current position and educational trends. Blue Ridge Community and Technical College cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Curriculum for an Associate of Applied Science in Computer Network Engineering Technologies

General Education Core	15
Technical Core	45
Total Credit Hours Required	60

General Education Core

CAS 111 - Information Literacy (3)

This course covers a variety of introductory computing knowledge including how personal computers work, software essentials, hardware components, operating systems and the most popular productivity applications including word processing, spreadsheet, database and presentation software. Students will also be introduced to the Internet and e-mail essentials, file management and digital electronics. This course aligns with the Internet and Computing Core Certification (IC3), which demonstrates that a student has a clear understanding of the knowledge and application of computers and technology in the modern world.

COMM 202 - ~Fundamentals of Speech (3)

This course equips the student with the necessary tools to construct, deliver, and analyze public communication messages.

ENGL 110 - ~Technical Writing & Communication (3)

This course is designed to prepare students to write technical reports and other technical documents. Emphasis is on audience, clarity, conciseness, and accuracy of expression. It covers research techniques, information design, writing style, and effective use of graphics.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

IT 105 - Computer Ethics (3)

This course is designed to educate existing and future Information Technology professionals on the tremendous impact ethical issues have on the use of information technology in the modern business world. The topics covered include an overview of ethics, ethics for IT professionals and IT users, computer internet and crime, privacy, freedom of expression, intellectual property, software development, and employer/employee Issues. Individual case examinations will be presented to more closely represent real-life examples of each of these topics.

MATH 105 - ^Algebra (3)

Topics explored in this course include properties of the real numbers, operations on polynomials, rational and radical expressions, solutions of linear, quadratic, polynomial, radical and absolute value equations and

inequalities. Coordinate geometry including distance, midpoint, lines, and circles will also be explored. Additional topics include systems of linear equations and their applications, analysis of functions, operations on functions, transformations of functions, and properties of linear, piecewise, quadratic, polynomial, rational, exponential and logarithmic functions.

Prerequisite(s): MATH 100A - Algebra Essentials (3) or proper placement on test scores

Subtotal Credit Hours Required 15

Technical Core

CGEN 292 - Field Experience (1-6)

This is a capstone course in experiential learning. The student participates in an internship, externship, or cooperative with an appropriate agency, company, or organization. Students will develop professional and career readiness competencies.

Prerequisite(s): Must have completed over half of the requirements for degree completion and have above a 2.0 Overall GPA. CAS 192 - Computer Apps Practicum (1), CYBR 192 - Practicum (3), IT 191 - Practicum (2), OR MDIA 192 - Media Practicum (1)

CNET 111 - Networking Fundamentals (3)

This course is designed to provide a detailed overview of the foundational concepts involved in networking and telecommunications. The OSI model will be examined in detail. Specific protocols and their operations will be examined. Methods of providing telecommunications and the technologies involved will be covered, as well as networking hardware, cabling, documentation, troubleshooting, implementations, planning, and an introduction of subnetting of networks and telecommunications systems.

CNET 121 - Network+ (3)

The goal of this course is to provide an introduction to networking technologies and prepare students to take the CompTIA's broad-based, vendor independent Network+ certification exam. This course covers a wide range of materials from careers in networking, local area networks, wide area networks, network protocols and topologies, transmissions media and network security. In addition to introducing these concepts, it discusses significant aspects of networking such as TCP/IP and subnetting in depth. The course uses "real world" networking scenarios to provide students with the practical preparation required to step into the professional world.

Corerequisite(s): CNET 111 - Networking Fundamentals (3)

CYBR 160 - Information Security Fundament (3)

This course offers in-depth coverage of the current risks and threats to an organization's data, combined with a structured way of addressing the safeguarding of these critical electronic assets. The course provides a foundation for those new to Information Security as well as those responsible for protecting network services, devices, traffic, and data. Additionally, the course provides the broad-based knowledge necessary to prepare students for further study in other specialized security fields.

Prerequisite(s): CYBR 101 - Intro to CyberSecurity (3) and CNET 111 - Networking Fundamentals (3)

CNET 131 - Introduction to Networks (4)

This is the first course in a sequence that leads to the Cisco Certified Network Associate (CCNA) certification. The course covers network design based on the OSI Model as well as cable management, the functionality of networks, and the standards of network architecture. Through the duration of this course, students will engage in lab activities that emphasize the use of network tools and be exposed to applications needed for programming a network. Students will develop a base understanding of networking concepts preparing them for future courses. Course sequence mapped to CCNA certification: CNET 131, CNET 211, CNET 221.

Prerequisite(s): CNET 111 - Networking Fundamentals (3)

CNET 211 - Switch, Route & Wireless Essen (5)

This is the second course in a sequence leading to the Cisco Certified Network Associate (CCNA) Certification. This course covers local area network design and implementation. Specific topics include basic routing, switching, and wireless protocols. Students will engage in hands-on labs which will teach them the skills and troubleshooting techniques needed in the field. Upon learning these skills and protocols, students will complete a capstone project illustrating a Small Business network. Course sequence mapped to CCNA certification: CNET 131, CNET 211, CNET 221.

Prerequisite(s): CNET 131 - Introduction to Networks (4)

CNET 221 - Enterprise, Networking, Securi (6)

This is the third and final course in a sequence leading to the Cisco Certified Network Associate (CCNA) certification. This course covers enterprise tools and techniques. Specific topics include basic security and automation. Students will also get exposed to more advanced networking tools used in the field. Throughout this course, students will begin to prepare and study for the CCNA exam. Upon completion of the required material, students will take the CCNA 200-301 exam. Course sequence mapped to CCNA certification: CNET 131, CNET 211, CNET 221.

Prerequisite(s): CNET 211 - Switch, Route & Wireless Essen (5)

CNET 270 - Intro to Virtualization (4)

This course will focus on the virtualization tools and software used in the field. Students will develop an entry-level understanding of VMware, HyperV, as well as future virtualization software. Through the duration of this course, students will develop an understanding of how virtual networks and virtual machines are created on this software to meet the needs of a small business. Upon completion of this course, students will be able to learn from network administrators the rest of the requirements needed to meet the needs of their employers.

Prerequisite(s): CNET 131 - Introduction to Networks (4)

CYBR 101 - Intro to CyberSecurity (3)

This course provides an overview of the field of cybersecurity. It covers core cybersecurity topics including computer system architectures, critical infrastructures, cyber threats and vulnerabilities, cryptography, information assurance, network security, digital forensics, and risk assessment and management. Topics such as industrial espionage, hacking, and cyber terrorism and information warfare will be discussed.

IT 189 - Operating Sys Fundamentals (3)

This course is an introduction to the basics of computer operating systems. Topics include operating system principles, CPU, file systems, input and output devices, disk management, virtualization, sharing resources, and system maintenance.

Prerequisite(s): CAS 111 - Information Literacy (3)

IT 244 - Cloud/Virtualization (4)

This course serves as a basis for understanding the standard cloud terminologies and methodologies needed to implement, maintain, and support cloud technologies and infrastructure. Also discussed will be the relevant aspects of IT Security and the use of industry best practices related to the application of virtualization. Topics include cloud service and delivery models, virtualization components, and current virtualization options.

Prerequisite(s): CNET 111 - Networking Fundamentals (3), CNET 121 - Network+ (3), IT 102 - IT Fundamentals (3), or IT 180 - A+ Core 1 (3)

SDE 188 - Intro to Programming Logic (3)

This course introduces the basic concepts of programming logic. Students will examine the basic constructs of selection, sequence, and repetition, abstract data structures of records, arrays, and linked lists, and file access methods.

Corequisite(s): MATH 100 - Math Essentials (3) or appropriate test scores

SDE 195 - Programming in Python (3)

This course provides an introduction to the Python language. Students will explore its most important libraries and practice recommended programming styles and idioms, using a hands-on approach to how the various language features can be used together to best achieve efficient, secure programs. Topics covered include variables, expressions, statements, data structures, lists, dictionaries, tuples, functions, arguments, conditionals, recursion, strings, regular expressions, object-oriented development, classes, inheritance, iterators, generators, and decorators. This course is not intended for absolute beginners in programming but includes a self-contained review of elementary features.

Prerequisite(s): SDE 188 - Intro to Programming Logic (3)

Corequisite(s): MATH 100A - Algebra Essentials (3) or higher, or appropriate test scores

Subtotal Credit Hours Required 45

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Criminal Justice, A.A.S.

The Criminal Justice AAS degree introduces students to various topics related to criminal justice and the law, such as corrections, criminal investigation, American court systems, and police organization and management. Students will

also be introduced to fields of study that impact the criminal justice field, such as abnormal psychology and crisis intervention.

Upon successful completion of all Associate of Applied Science in Criminal Justice requirements, graduates will be able to:

- Demonstrate an understanding of the historic origins, structure, and operation of our American Criminal Justice system.
- Demonstrate an understanding of the laws, Constitutional requirements, and legally defined procedures that criminal justice professionals have to adhere to when working within the field of criminal justice.
- Articulate ethical implications of decision-making in a professional capacity.
- Develop and demonstrate sufficient critical self-awareness to understand the influence of personal biases and values when interacting with diverse groups.
- Communicate effectively, both orally and in writing, and demonstrate basic knowledge of information technology as applied to criminal justice research and practice.
- Identify and reflect upon the need for positive interaction between the Criminal Justice System and the community it serves.
- Identify issues of diversity and human rights in relation to the workings of the criminal justice system.

Curriculum for an Associate of Applied Science in Criminal Justice

General Education Core	18
Criminal Justice Core	42
Total Credit Hours Required	60

General Education Core

ENGL 101 - ~English Composition I (3)

ENGL 101 is an introduction to college writing. This class emphasizes processes for drafting, revising, and editing. It develops a student's ability to read a passage, analyze its meaning, and write an intelligent response which shows not only an understanding of the passage but also a working knowledge of the writing and rhetorical strategies. Students will learn how to make effective arguments and how to locate, synthesize, and evaluate relevant information.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 101L - English Composition I Lab (3), or placement test scores

ENGL 102 - ~English Composition II (3)

ENGL 102 is a continuation of English Composition I that provides experience in analyzing and writing arguments and persuasive prose. A central feature of the course is library research that is intended to develop familiarity with reference sources and skill in summarizing the diverse points of view of multiple sources. Requires students to locate, evaluate, integrate, and document sources effectively.

Prerequisite(s): ENGL 101 - ~English Composition I (3)

ENGL 110 - ~Technical Writing & Communication (3)

This course is designed to prepare students to write technical reports and other technical documents. Emphasis is on audience, clarity, conciseness, and accuracy of expression. It covers research techniques, information design, writing style, and effective use of graphics.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

MATH 101 - ~Introduction to Mathematics (3)

During this course topics to be covered are sets, mathematical logic, mathematical systems, the real number system, systematic counting, probability, measurement, and consumer mathematics. History of mathematics, critical thinking skills, problem solving, and use of technology will be incorporated throughout the course.

Prerequisite(s): MATH 100 - Math Essentials (3) or proper placement on test scores

PSCI 101 - ~American Federal Government (3)

This course involves the study of the functions and administration of government in the United States. The course is designed to provide an introduction to the structure, organization and functioning of the national government of the United States. It will examine the powers and relationships of the executive, legislative, and judicial branches of government with special emphasis given to the role that history, political parties, pressure groups, etc. play in influencing these relationships.

PSYC 203 - ~Introduction to Psychology (3)

This course will introduce the student to basic psychological principals and to enable the student to examine current thinking about development, personality, sensation and perception, cognition, learning, psychological disorders, and their treatment, and influence.

Corerequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement

SOCI 203 - ~General Sociology (3)

This course introduces students to the core concepts and perspectives of sociology, the study of human social environments and of human interactions within those environments. The course will explore a number of sociological topics to develop a sociological imagination, an ability to understand the effects of group membership on behavior, attitudes, beliefs, and life chances.

Corerequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement

Subtotal Credit Hours Required 18

Criminal Justice Core

BUSN 250 - Management and Leadership (3)

This course empowers students to assess their leadership potential by studying successful leaders of the past and present. With a focus on business, students consider the skills required to set goals for an organization and direct the actions of others to achieve them.

CJST 200 - Intro Crim Justice Sys (3)

This course provides the students with a survey of law enforcement as well as the role, history, development, and constitutional aspects of law enforcement and public safety, as well as a review of agencies involved in the process of administration of justice.

Corerequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement scores

CJST 205 - Interrogation & Rprt Writing (3)

The success or failure of any law enforcement agency hinges on the quality of its paperwork and strict adherence to laws and policies. A solid understanding of how to obtain and document gathered information will lead to better investigations and successful prosecutions. This class will provide students with a better understanding of the importance of proper documentation, how to obtain information from both suspects and the general citizenry through interviews and interrogations, as well as how to properly document the information received.

Prerequisite(s): ENGL 101 - ~English Composition I (3) or ENGL 110 - ~Technical Writing & Communication (3)

CJST 220 - Criminal Investigation (3)

This course examines the fundamental principles and theories of criminal investigation, with concentration on the following subjects: report writing; sources of information: witnesses, complainants, victims, observation, physical description, identification, interviews, interrogation, modus operandi, informants, surveillance, undercover techniques, crime scene search, collection, preservation, and processing of physical evidence; raids, arrest, search, seizure, and case preparation.

Corerequisite(s): CJST 200 - Intro Crim Justice Sys (3)

CJST 250 - Juvenile Justice System (3)

This course provides an overview of the juvenile justice system. Focus will be on the juvenile offender, the juvenile courts system, and the juvenile detention system.

Corerequisite(s): CJST 200 - Intro Crim Justice Sys (3)

CJST 260 - The Correctional System (3)

This course covers the court and jury system, probation and parole, and correctional institutions including jails and the non-institutional treatment of offenders. In addition, legal procedures, which affect the liberties of inmates, clients, and the correctional staff within the institutional and community settings will be covered.

Corerequisite(s): CJST 200 - Intro Crim Justice Sys (3)

CJST 265 - Community Corrections (3)

This class studies the dynamic world of corrections with specific regard to community-based alternatives and intermediate sanctions in lieu of traditional incarceration practices. Specific focus will be on the history of community-based corrections and intermediate sanction programming as well as the increasing use of treatment-based courts (e.g. drug court, mental health court, veterans court, etc.), pretrial diversion, probation, home confinement and other alternatives to traditional incarceration practices. The discussion will include the difficulties that offenders experience as the result of traditional incarceration, issues surrounding offenders upon their return to the community as well as the benefits of treatment versus punishment.

Corerequisite(s): CJST 200 - Intro Crim Justice Sys (3) or HSRV 101 - Intro to Social Work & HSRV (3)

CJST 292 - Field Experience (1–6)

With practical experience in local and regional correctional facilities, courts systems, security, and police facilities or other related organizations, students learn how to translate classroom theory and methods into professional skills and opportunities.

Prerequisite(s): CJST 200 - Intro Crim Justice Sys (3); must have completed over half of the requirements for certificate or degree completion; and have an overall GPA above 2.0.

COMM 202 - ~Fundamentals of Speech (3)

This course equips the student with the necessary tools to construct, deliver, and analyze public communication messages.

COMM 205 - ~Professional Communications (3)

This course examines the process of communication and the challenges to and effective practices of communicating in a professional environment. Topics include listening skills and verbal, nonverbal, and written communications. The dynamics of communicating in a group, in a global society, and in culturally diverse environments is also investigated. Students apply a systematic approach to plan and create effective letters, memos, reports, presentations, electronic and other forms of business and professional communication.

COMM 207 - Interpersonal Comm Workplace (3)

This course creates a thoughtful look at the key skills necessary for personal and managerial success today. The student will discover interpersonal communications using three frames understanding yourself, understanding and working with others, and understanding and working in teams. The course takes an experiential approach to exercises, cases, and other activities.

COMM 220 - Intro to Intercultural Comm (3)

This course examines the practical application of theory and research in the area of intercultural communications. The course activities and assignments are designed to develop skills and strategies needed to deal effectively with challenges in a broad variety of interactional contexts involving intercultural communication. The course will cover topics including perception, convergence, communication, linguistic differences, ecological influences, dimensions of cultural organization and power, stereotyping, and intercultural challenges, adaptation, and culture shock.

HSRV 250 - Crisis Intervention (3)

This course prepares students to give immediate help to people experiencing crises and introduces the basic theories and principles of crisis intervention. Emphasis is placed on identifying and demonstrating appropriate and differential

techniques for intervening in various crisis situations. Material is presented on initial intervention, defusing and assessment, and resolution and/or referral, with emphasis on safety.

Prerequisite(s): HSRV 101 - Intro to Social Work & HSRV (3) or CJST 200 - Intro Crim Justice Sys (3)

LGST 200 - Legal Ethics (3)

Legal Ethics provides an examination of contemporary ethical issues and conduct relevant to the legal profession. This course will discuss ethics from a variety of viewpoints including law enforcement, corrections, and courtroom personnel.

Corerequisite(s): LGST 100 - Intro to Law & Legal Systems (3) or CJST 200 - Intro Crim Justice Sys (3)

LGST 213 - American Court System (3)

This course provides an overview of the American court system. Students will be introduced to the actors in the system, including judges, prosecutors, and defense attorneys. Courtroom processes from pretrial through sentencing and appeals will be discussed. The course will review the history of the court system and the different types of courts within the state and federal levels.

Corerequisite(s): LGST 100 - Intro to Law & Legal Systems (3) or CJST 200 - Intro Crim Justice Sys (3)

LGST 230 - Criminal Law and Procedure (3)

This course provides an overview of criminal law beginning with the arrest and investigation through the trial process. Case studies and historical cases in criminal law will be reviewed and analyzed. Other topics covered include legal terminology, rights of criminal defendants, and courtroom activities.

Corerequisite(s): LGST 100 - Intro to Law & Legal Systems (3) or CJST 200 - Intro Crim Justice Sys (3)

PSYC 205 - Abnormal Psychology (3)

This course introduces students to both the science and the personal aspects of abnormal psychology through developing an understanding that abnormal psychology is about understanding the individual in society. This course will emphasize the use of case studies to present the most cutting edge information on abnormal psychology by covering methods and treatment in context. Material presented will integrate the biological, psychological, and social perspectives associated with abnormal psychological study.

Prerequisite(s): PSYC 203 - ~Introduction to Psychology (3)

PSYC 240 - Social Psych of Substance Use (3)

This course is designed to introduce students to the social reality of substance abuse. The course will address the social and personal dynamics involved in the phenomena of substance use. In addition, this course will look at the issues surrounding substance use and its relationship to crime, rehabilitation, medicalization in our society, and various movements aimed at drugs.

Prerequisite(s): PSYC 203 - ~Introduction to Psychology (3) and SOCI 203 - ~General Sociology (3)

SOCI 205 - ~Social Problems (3)

This course provides an in-depth study of current social problems. Emphasis is on causes, consequences, and possible solutions to problems associated with major social institutions.

Prerequisite(s): SOCI 203 - ~General Sociology (3)

Subtotal Credit Hours Required 42

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Culinary Arts, A.A.S.

To enter a career in the foodservice and hospitality industry, consider a degree in Culinary Arts. Students learn classical cooking and baking techniques within a wide variety of cuisines. This program provides foundations in nutrition, safety and sanitation, origins of food, and more.

Program Overview

Blue Ridge Community and Technical College Culinary Academy's Programs are designed to provide students with the practical knowledge and skills necessary to prepare for employment in an entry to a mid-level position within the foodservice, hospitality and tourism industry through a certificate or degree program.

Students will learn classical cooking and baking techniques, which include a wide variety of regional cuisines, along with courses that build on immersing the student into all aspects of culinary foundations such as nutrition, safety and sanitation, origins of food, food history, food costing, product efficiency, sense of urgency, attention to detail and culinary artistry. Practical lab experiences will help to complete the well-rounded student for entry into the workforce. Students will be able to experience the flow of their product from creation to service in this degree program through our Bruin Café lab and other service opportunities.

Program Outcomes

- Demonstrate an organized and sanitary workstation.
- Demonstrate accurate measuring and portioning.
- Identify and describe procedures and techniques for controlling food costs.
- Demonstrate accurately sized knife cuts.
- Demonstrate how to safely handle and operate knives and kitchen equipment.
- Practice team building and communication.
- Identify ingredients.
- Follow standardized recipes and production procedures.
- Identify and execute cooking methods.
- Demonstrate professionalism (clean and complete uniform, on time, good attitude, respectful).

Career Opportunities

If you choose a degree in Culinary Arts, you will be prepared for entry to mid-level positions within the industry. You can seek positions within foodservice, hospitality, and tourism.

Curriculum for an Associate of Applied Science in Culinary Arts

General Education Core	15
Culinary Arts Core	45
Total Credit Hours Required	60

General Education Core

BUSN 160 - Organizational Behavior (3)

This course examines the behavior of individuals and individuals in groups in organizations, and how the two affect the overall performance of an organization. Students consider the impact of individual attitude, motivation, job satisfaction, and communication on the organization. Group dynamics, leadership, organizational culture, and change are also addressed.

COMM 205 - ~Professional Communications (3)

This course examines the process of communication and the challenges to and effective practices of communicating in a professional environment. Topics include listening skills and verbal, nonverbal, and written communications. The dynamics of communicating in a group, in a global society, and in culturally diverse environments is also investigated. Students apply a systematic approach to plan and create effective letters, memos, reports, presentations, electronic and other forms of business and professional communication.

SOCI 215 - ~Human Relations (3)

Human Relations instructs students on the relationship between self-esteem and human relations and consequently between human relations skills and career success. Emphasis is on strategies for personal and professional growth based on advancing skills in individual, group, and organizational contexts. The topics looked at include self-esteem, attitudes, values, communications, leadership, emotional control, creativity, conflict and stress management, diversity, business ethics, and productivity.

CAS 111 - Information Literacy (3)

This course covers a variety of introductory computing knowledge including how personal computers work, software essentials, hardware components, operating systems and the most popular productivity applications including word processing, spreadsheet, database and presentation software. Students will also be introduced to the Internet and e-mail essentials, file management and digital electronics. This course aligns with the Internet and Computing Core Certification (IC3), which demonstrates that a student has a clear understanding of the knowledge and application of computers and technology in the modern world.

GSPE 210 - Fitness for Life (3)

This course is designed to assist participants in developing a healthier lifestyle through appropriate exercise programs, nutrition and behaviors that contribute to optimal health and wellness.

ENGL 110 - ~Technical Writing & Communication (3)

This course is designed to prepare students to write technical reports and other technical documents. Emphasis is on audience, clarity, conciseness, and accuracy of expression. It covers research techniques, information design, writing style, and effective use of graphics.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

MATH 101 - ~Introduction to Mathematics (3)

During this course topics to be covered are sets, mathematical logic, mathematical systems, the real number system, systematic counting, probability, measurement, and consumer mathematics. History of mathematics, critical thinking skills, problem solving, and use of technology will be incorporated throughout the course.

Prerequisite(s): MATH 100 - Math Essentials (3) or proper placement on test scores

Subtotal Credit Hours Required 15

Culinary Arts Core

CART 100 - Intro Culinary Food Service (2)

This course is a comprehensive overview of foodservice operational equipment, identification, and maintenance as well as an introduction to culinary terminology, theory and history and how food moves through an operation. This course will also familiarize the student with essential food handling, safety, and storage guidelines encountered within the industry. This course also provides an overview of the professionalism in the culinary industry and career opportunities leading to a career pathway to the Food Service Industry.

Prerequisite(s): Required major in Baking and Pastry Certificate, Baking and Pastry, A.A.S., Catering & Hospitality Management, A.A.S., Culinary Arts Certificate, Culinary Arts, A.A.S., Food Service Retail Management Certificate, or Food Service Retail Management, A.A.S. is required.

CART 115 - Safety/Sanitation in Food Serv (2)

The Safety and Sanitation in the Food Service Industry course follow the format of the National Restaurant Association Educational Foundation ServSafe® Program. The course is designed as an industry-based program that prepares students for careers in the restaurant and foodservice industry. The emphasis of this program is to educate the students about the responsibilities which a foodservice manager and food service worker have to the public in providing safe and sanitary food to the consumer.

Prerequisite(s): Required major in Baking and Pastry Certificate, Baking and Pastry, A.A.S., Catering & Hospitality Management, A.A.S., Culinary Arts Certificate, Culinary Arts, A.A.S., Food Service Retail Management Certificate, or Food Service Retail Management, A.A.S. is required.

CART 120 - Bruin Cafe Lecture (1)

This course teaches students the practice and implementation of management principles as they relate to retail food service.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2)

Corequisite(s): CART 120L - Bruin Cafe Lab (3)

CART 120L - Bruin Cafe Lab (3)

This course continues the development of retail skills in a supervised laboratory setting. Specific skills are correlated to lecture content in CART 120 - Bruin Cafe Lecture (1).

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2)

Corequisite(s): CART 120 - Bruin Cafe Lecture (1)

CART 200 - International Cuisines Lecture (1)

In this course, students will learn the impact of religions and cultures on cuisines throughout the world. This course introduces students to ingredients, cooking methods, and presentations specific to international cuisines.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2), CART 245 - Cooking Fundamentals I Lecture (1), CART 245L - Cooking Fundamentals I Lab (2), CART 246 - Cooking Fundamentals II (1), and CART 246L - Cooking Fundamentals II Lab (2)

Corequisite(s): CART 200L - International Cuisines Lab (2)

CART 200L - International Cuisines Lab (2)

This lab course allows students to practice to improve skills, knowledge, and abilities using basic cooking techniques specific to cultural and regional cuisines.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2), CART 245 - Cooking Fundamentals I Lecture (1), CART 245L - Cooking Fundamentals I Lab (2), CART 246 - Cooking Fundamentals II (1), and CART 246L - Cooking Fundamentals II Lab (2)

Corequisite(s): CART 200 - International Cuisines Lecture (1)

CART 201 - Stocks, Soups, and Sauces (1)

This course provides the lecture format to the principles and techniques of basic stocks, Mother (leading) sauces, and soups along with varied thickening agents. Special emphasis will be placed on preparation, sanitation, and the presentation.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2), CART 245 - Cooking Fundamentals I Lecture (1), and CART 245L - Cooking Fundamentals I Lab (2)

CART 201L - Stock, Soups & Sauces Lab (2)

This course provides a hands-on lab format to the principles and techniques of basic stocks, Mother (leading) sauces, and soups along with varied thickening agents. Special emphasis will be placed on preparation, sanitation, and the presentation.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2), CART 245L - Cooking Fundamentals I Lab (2), and CART 245 - Cooking Fundamentals I Lecture (1)

CART 203 - Culinary Nutrition (3)

This course is a study of functions, sources, and requirements of nutrients. Emphasis is placed on meeting the nutritional needs of individuals of all ages in a variety of situations. It teaches the principles of adapting recipes and menus to accommodate a variety of dietary and nutritional needs including but not limited to texture, nutrients, and

allergies.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2), CART 245 - Cooking Fundamentals I Lecture (1), and CART 245L - Cooking Fundamentals I Lab (2)

CART 212 - Baking Skills & Development (4)

This course provides students the fundamental skills for basic baking. Students will produce simple yeast doughs, quick breads, pies, cakes, cookies and other baked goods found in bakeries, restaurants and food markets. Instruction included classification of ingredients and their functions, baking terminology, culinary and bakery tool, and equipment use and recipe conversions.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2)

CART 231 - Garde Manger and Cold Presentations (4)

This course covers all aspects of the art of Garde Manger including butchering, garnishing, and charcuterie. Students will prepare marinades, cold sauces, forcemeats, mousses, hot and cold Hors d'oeuvres, sandwiches, and cold dishes. Techniques in buffet presentation are implemented in the form of the Grand Buffet as the students' semester capstone.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2), CART 245 - Cooking Fundamentals I Lecture (1), CART 245L - Cooking Fundamentals I Lab (2), CART 246 - Cooking Fundamentals II (1), and CART 246L - Cooking Fundamentals II Lab (2)

CART 245 - Cooking Fundamentals I Lecture (1)

This course is concurrent with CART 100 - Intro Culinary Food Service (2) by engaging the student in a practical application of learned terminology, methods, and techniques. Students will engage in ingredient production and recipe application. We will introduce knife handling skills, basic cooking skills, mise en place, plating, reinforcing food safety and sanitation practices, practical application of the chef's prep list, and industry terminology and standards.

Prerequisite(s): Required major in Baking and Pastry Certificate, Baking and Pastry, A.A.S., Catering & Hospitality Management, A.A.S., Culinary Arts Certificate, Culinary Arts, A.A.S., Food Service Retail Management Certificate, or Food Service Retail Management, A.A.S. is required.

Corequisite(s): CART 100 - Intro Culinary Food Service (2) and CART 245L - Cooking Fundamentals I Lab (2)

CART 245L - Cooking Fundamentals I Lab (2)

This course is the companion to CART 245 - Cooking Fundamentals I Lecture (1) and is concurrent with CART 100 - Intro Culinary Food Service (2) by engaging the student in a practical application of learned terminology, methods, and techniques. Students will engage in ingredient production and recipe application. We will introduce knife handling skills, basic cooking skills, mise en place, plating, reinforcing food safety and sanitation practices, practical application of the chef's prep list, and industry terminology and standards

Prerequisite(s): Required major in Baking and Pastry Certificate, Baking and Pastry, A.A.S., Catering & Hospitality Management, A.A.S., Culinary Arts Certificate, Culinary Arts, A.A.S., Food Service Retail Management Certificate, or Food Service Retail Management, A.A.S. is required.

Corequisite(s): CART 100 - Intro Culinary Food Service (2) and CART 245 - Cooking Fundamentals I Lecture (1)

CART 246 - Cooking Fundamentals II (1)

This course focuses on expanding the knowledge, skills, cooking techniques and principles learned in CART 245 - Cooking Fundamentals I Lecture (1) and CART 245L - Cooking Fundamentals I Lab (2). Special influences are put on knife skills, advanced cooking techniques, portioning and presentation, safety and sanitation. Students will learn to create balanced and eye appealing meals.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2), CART 245 - Cooking Fundamentals I Lecture (1), and CART 245L - Cooking Fundamentals I Lab (2)

Corerequisite(s): CART 246L - Cooking Fundamentals II Lab (2)

CART 246L - Cooking Fundamentals II Lab (2)

This course continues the development of Cooking Fundamentals II skills in a supervised laboratory setting. Specific skills are correlated to lecture content in CART 246 - Cooking Fundamentals II (1).

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2), CART 245 - Cooking Fundamentals I Lecture (1), and CART 245L - Cooking Fundamentals I Lab (2)

Corerequisite(s): CART 246 - Cooking Fundamentals II (1)

CART 292 - Culinary Arts Internship (1–6)

The purpose of the internship is to allow the student to demonstrate his or her skills in an occupational setting. The internship is considered a capstone course of the A.A.S. degree program. Completion of the internship indicates to the college that the student has achieved a satisfactory level of skills to be successful in their degree field.

Prerequisite(s): CART 212 - Baking Skills & Development (4)

CART 296 - Ala Carte (4)

This course provides practice in the art of ala carte food production and service as found in hospitality establishments. Menu design, planning, and execution will be part of this capstone class.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2), CART 200 - International Cuisines Lecture (1), CART 200L - International Cuisines Lab (2), CART 245 - Cooking Fundamentals I Lecture (1), CART 245L - Cooking Fundamentals I Lab (2), CART 246 - Cooking Fundamentals II (1), and CART 246L - Cooking Fundamentals II Lab (2)

MATH 100 - Math Essentials (3)

Students will learn how to perform operations on real numbers, the implications of exponents and the order of operations and how to evaluate algebraic expressions. The concepts of percents and their applications, introductory geometry, statistics, and problem-solving skills will all be incorporated. Students will solve equations in one variable, solve literal equations for a variable, and evaluate/graph inequalities. Students will translate and solve algebraic equations, and learn the skills required to solve application problems in one and two variables. Students will interpret and graph linear equations as well as solving and analyzing systems of equations. Students may also be introduced to operations on polynomials.

- Restricted Electives in CART (3)

Subtotal Credit Hours Required 45

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Cyber Security, A.A.S.

As cyber-crime evolves, the need to protect sensitive information is more critical than ever. The Blue Ridge Community and Technical College Cyber Security program addresses the needs of government agencies, organizations, and businesses throughout West Virginia and the D.C. metropolitan region. The curriculum explores risk, threat, and security assessments, and teaches students how to safeguard businesses, develop a security policy, and respond to incidents.

Program Overview

Modern technology has made business use of computer technology essential. As technology continues to evolve and progress, there is an emphasis placed on safeguarding an organization's or a company's information. The Cyber Security program has been created to address the needs of government agencies, organizations, and the private sector within the local West Virginia community and DC Metropolitan area. The Cyber Security program offers an Associate of Applied Science Degree, incorporating vendor certification training, for students preparing for entry-level employment or advancement in a variety of occupations and courses in Cyber Security.

Students will complete hands-on activities that will provide an introduction to basic principles and security concepts related to active mitigation of known common threats. The curriculum discusses risk, threat, and security assessments and utilizing them to develop a security policy, business continuity, disaster recovery, and incident response planning. The program also covers security methods, controls and procedures, ethics, laws, and computer forensics. In addition, the program describes the use of cryptography as a tool, software development processes, and protection. Students will develop an understanding of the information assurance progression and how they can apply this knowledge to support their organization.

Students in the Cyber Security Program are subject to the Blue Ridge Community and Technical College's requirements for admissions, basic skills testing, and appropriate course placement, including developmental education courses, which may not count toward completion of the program. Blue Ridge Community and Technical College Catalog requirements regarding academic standards, student conduct, and graduation procedures also apply.

Program Outcomes

- Explain the ethics, laws, and regulations as they apply to the Cybersecurity profession.
- Utilize security tools to identify and protect information security assets.
- Identify and demonstrate the understanding of Cybersecurity terminology, principles, concepts, and methodologies.
- Develop various policies, including; Acceptable Use, Business Continuity, Disaster Recovery, and Incident Response.
- Research current threats and attacks and identify how to mitigate those threats.

Career Opportunities

The need for cybersecurity analysts expands into industries from financial services, manufacturing, government agencies, utilities, healthcare, and retail. Student knowledge of security methods, controls and procedures, ethics, laws, and computer forensics makes Blue Ridge Community and Technical College graduates an asset to the workplace. With certifications, an estimated entry-level salary is between \$55,000–\$84,900.

Note: All salary estimations are based on the current position and educational trends. Blue Ridge Community and Technical College cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Curriculum for an Associate of Applied Science in Cyber Security

General Education Core	15
Technical Core	45
Total Credit Hours Required	60

General Education Core

CAS 111 - Information Literacy (3)

This course covers a variety of introductory computing knowledge including how personal computers work, software essentials, hardware components, operating systems and the most popular productivity applications including word processing, spreadsheet, database and presentation software. Students will also be introduced to the Internet and e-mail essentials, file management and digital electronics. This course aligns with the Internet and Computing Core Certification (IC3), which demonstrates that a student has a clear understanding of the knowledge and application of computers and technology in the modern world.

COMM 202 - ~Fundamentals of Speech (3)

This course equips the student with the necessary tools to construct, deliver, and analyze public communication messages.

ENGL 110 - ~Technical Writing & Communication (3)

This course is designed to prepare students to write technical reports and other technical documents. Emphasis is on audience, clarity, conciseness, and accuracy of expression. It covers research techniques, information design, writing style, and effective use of graphics.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

IT 105 - Computer Ethics (3)

This course is designed to educate existing and future Information Technology professionals on the tremendous impact ethical issues have on the use of information technology in the modern business world. The topics covered include an overview of ethics, ethics for IT professionals and IT users, computer internet and crime, privacy, freedom of expression, intellectual property, software development, and employer/employee Issues. Individual case examinations will be presented to more closely represent real-life examples of each of these topics.

MATH 105 - ^Algebra (3)

Topics explored in this course include properties of the real numbers, operations on polynomials, rational and radical expressions, solutions of linear, quadratic, polynomial, radical and absolute value equations and

inequalities. Coordinate geometry including distance, midpoint, lines, and circles will also be explored. Additional topics include systems of linear equations and their applications, analysis of functions, operations on functions, transformations of functions, and properties of linear, piecewise, quadratic, polynomial, rational, exponential and logarithmic functions.

Prerequisite(s): MATH 100A - Algebra Essentials (3) or proper placement on test scores

Subtotal Credit Hours Required 15

Technical Core

CNET 111 - Networking Fundamentals (3)

This course is designed to provide a detailed overview of the foundational concepts involved in networking and telecommunications. The OSI model will be examined in detail. Specific protocols and their operations will be examined. Methods of providing telecommunications and the technologies involved will be covered, as well as networking hardware, cabling, documentation, troubleshooting, implementations, planning, and an introduction of subnetting of networks and telecommunications systems.

CYBR 101 - Intro to CyberSecurity (3)

This course provides an overview of the field of cybersecurity. It covers core cybersecurity topics including computer system architectures, critical infrastructures, cyber threats and vulnerabilities, cryptography, information assurance, network security, digital forensics, and risk assessment and management. Topics such as industrial espionage, hacking, and cyber terrorism and information warfare will be discussed.

CYBR 160 - Information Security Fundament (3)

This course offers in-depth coverage of the current risks and threats to an organization's data, combined with a structured way of addressing the safeguarding of these critical electronic assets. The course provides a foundation for those new to Information Security as well as those responsible for protecting network services, devices, traffic, and data. Additionally, the course provides the broad-based knowledge necessary to prepare students for further study in other specialized security fields.

Prerequisite(s): CYBR 101 - Intro to CyberSecurity (3) and CNET 111 - Networking Fundamentals (3)

CYBR 192 - Practicum (3)

This course will cover testing methodologies and study techniques to assist in preparing students for the Security+ certification exam.

Prerequisite(s): CYBR 160 - Information Security Fundament (3)

CYBR 210 - Intrusion Detection (3)

This course provides an introduction to firewalls and other network security components that work together to create an in-depth defensive perimeter around a Local Area Network. This course examines firewalls in content with the other elements needed for effective perimeter security as well as security within a network. It incorporates an examination of technologies such as packet filtering, authentication, proxy servers, encryption, virtual private networks, log file

maintenance, and intrusion detection and prevention systems.

Prerequisite(s): CYBR 160 - Information Security Fundament (3)

CYBR 284 - Tactical Perimeter Defense (3)

This course provides students with hands-on introductory experience installing firewalls and intrusion detection systems. This course gives students a solid foundation in advanced network security fundamentals, incorporating an examination of intrusion detection, network address translation, advanced TCP/IP concepts, router security, packet filtering, proxy servers, firewall design and configuration, IPSec, and virtual private network design, and wireless design security.

Prerequisite(s): CYBR 160 - Information Security Fundament (3)

CGEN 292 - Field Experience (1-6)

This is a capstone course in experiential learning. The student participates in an internship, externship, or cooperative with an appropriate agency, company, or organization. Students will develop professional and career readiness competencies.

Prerequisite(s): Must have completed over half of the requirements for degree completion and have above a 2.0 Overall GPA. CAS 192 - Computer Apps Practicum (1), CYBR 192 - Practicum (3), IT 191 - Practicum (2), OR MDIA 192 - Media Practicum (1)

IT 185 - Introduction to Linux (3)

This course will prepare students to work with the Linux operating system and help them prepare for the Linux+ CompTIA certification exams. The course does not assume any prior knowledge of Linux and is geared toward those interested in systems administration as well as those who will use or develop programs for Linux systems. The course provides coverage of topics related to Linux certification, including Linux distributions, installation, administration, networking and security.

Prerequisite(s): CAS 111 - Information Literacy (3)

IT 244 - Cloud/Virtualization (4)

This course serves as a basis for understanding the standard cloud terminologies and methodologies needed to implement, maintain, and support cloud technologies and infrastructure. Also discussed will be the relevant aspects of IT Security and the use of industry best practices related to the application of virtualization. Topics include cloud service and delivery models, virtualization components, and current virtualization options.

Prerequisite(s): CNET 111 - Networking Fundamentals (3), CNET 121 - Network+ (3), IT 102 - IT Fundamentals (3), or IT 180 - A+ Core 1 (3)

IT 269 - Project Management (3)

This comprehensive course examines the various models used to develop and control the Work Breakdown Structure (WBS), Schedule, and Cost. Additionally, the class will perform an analysis on the time, cost models, and evaluate the outcome. There will be case problems and labs utilizing various processing tools.

Prerequisite(s): CAS 111 - Information Literacy (3), ENGL 110 - ~Technical Writing & Communication (3), and completion of a minimum of 45 credits

CYBR 290 - Applied Cybersecurity Concepts (3)

This course will cover securing computers, applications, networks, digital forensics, and the ethical and legal practices affecting all computer users. The course also covers the strategies, implementation, and management of a business information continuity plan; mitigation of cyber vulnerabilities, and incident response and analysis. This will be an advanced course that will be a pre-requisite to CYBR 291 - Applied Cybersecurity Implemen (3) and be built around lab scenarios that will prepare the student(s) to work independently and on teams with limited guidance and instruction.

Prerequisite(s): CYBR 210 - Intrusion Detection (3)

SDE 188 - Intro to Programming Logic (3)

This course introduces the basic concepts of programming logic. Students will examine the basic constructs of selection, sequence, and repetition, abstract data structures of records, arrays, and linked lists, and file access methods.

Corerequisite(s): MATH 100 - Math Essentials (3) or appropriate test scores

- Any CNET, CYBR, DBM, IT or SDE course not used above (11)

Subtotal Credit Hours Required 45

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Database Management, A.A.S.

The Database Management Program provides a successful graduate with the courseware to acquire a blend of the core competencies of a database professional. Students will learn database management by establishing database environments and designing databases using structured and unstructured data schemes. Students will utilize Data Definition Language and Data Manipulation Language to define, retrieve, and manipulate data. Participants will study scripting and programming of data structures, algorithms, and best practices in secure coding. Students will learn data analytics by examining the data visualization and analysis process and common statistical techniques for the analysis of data. Students will practice summarizing and visualizing the characteristics of data sets.

Key subjects will include IT fundamentals, network and security concepts, scripting and programming, data management, spreadsheets, data analytics, statistics, and technical writing.

Program Outcomes

- Communicate effectively with both verbal and written forms.
- Perform and share cooperatively in teams or groups.
- Research and present technical concepts using office productivity software.

- Evaluate best practices in data security concepts to maintain confidentiality, integrity, and availability of databases and database management systems.
- Develop computer programs incorporating input/output, control/repetition, data structures and manipulations with arrays and lists.
- Design mathematical algorithms that are structured using top-down design by way of user-defined functions with parameters and return values.
- Design, code and test object-oriented applications that incorporate concepts such as structures, classes, and inheritance.

Curriculum for an Associate of Applied Science in Database Management

General Education Core	15
Database Core	45
Total Credit Hours Required	60

General Education Core

CAS 111 - Information Literacy (3)

This course covers a variety of introductory computing knowledge including how personal computers work, software essentials, hardware components, operating systems and the most popular productivity applications including word processing, spreadsheet, database and presentation software. Students will also be introduced to the Internet and e-mail essentials, file management and digital electronics. This course aligns with the Internet and Computing Core Certification (IC3), which demonstrates that a student has a clear understanding of the knowledge and application of computers and technology in the modern world.

COMM 202 - ~Fundamentals of Speech (3)

This course equips the student with the necessary tools to construct, deliver, and analyze public communication messages.

ENGL 110 - ~Technical Writing & Communication (3)

This course is designed to prepare students to write technical reports and other technical documents. Emphasis is on audience, clarity, conciseness, and accuracy of expression. It covers research techniques, information design, writing style, and effective use of graphics.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

IT 105 - Computer Ethics (3)

This course is designed to educate existing and future Information Technology professionals on the tremendous impact ethical issues have on the use of information technology in the modern business world. The topics covered include an overview of ethics, ethics for IT professionals and IT users, computer internet and crime, privacy, freedom of

expression, intellectual property, software development, and employer/employee Issues. Individual case examinations will be presented to more closely represent real-life examples of each of these topics.

MATH 114 - ~Elem Probability & Statistics (3)

This course introduces the fundamental concepts of probability and statistics. Topics include descriptive statistics, random sampling methods, frequency distributions, measures of central tendency and variability, set theory, probability, permutations and combinations, random variables, probability and sampling distributions, expectation, central limit theorem, confidence intervals and hypothesis testing for means and proportions (one and two sample) and simple linear regression and correlation. Time permitting, one-way ANOVA and non-parametric techniques may be discussed. Appropriate application software will be utilized, and applications from a variety of disciplines will be presented.

Prerequisite(s): MATH 100A - Algebra Essentials (3) or proper placement on test scores

Subtotal Credit Hours Required 15

Database Core

CGEN 292 - Field Experience (1-6)

This is a capstone course in experiential learning. The student participates in an internship, externship, or cooperative with an appropriate agency, company, or organization. Students will develop professional and career readiness competencies.

Prerequisite(s): Must have completed over half of the requirements for degree completion and have above a 2.0 Overall GPA. CAS 192 - Computer Apps Practicum (1), CYBR 192 - Practicum (3), IT 191 - Practicum (2), OR MDIA 192 - Media Practicum (1)

DBM 101 - Database Concepts/SQL I (3)

Introduction to Database Concepts/SQL I provides a foundation in database design and implementation. The Relational model is analyzed along with SQL commands. Numerous database design methods are identified and applied. A discussion of the various levels of the normalization process is included. Additional topics include requirements gatherings, analysis, and trade-off discussions. SQL coverage includes hands-on problems with databases. Students are challenged with critical thinking questions utilizing problem-solving and analytical skills.

DBM 110 - Data Applications I (3)

The Data Applications I course examines many of the current applications including spreadsheets, database files, data tools, and programming codes to analyze business scenarios and develop solutions. Topics include data requirements, data collection, data processing, data cleaning, modeling, algorithms, data analysis, and communication. Various open resources and tools will be used.

DBM 120 - Data Analytics I (3)

The Data Analytics course examines the many processes of identifying useful information through a series of steps leading to supporting decision making. Topics include data requirements, data collection, data processing, data cleaning, modeling, algorithms, data analysis, and communication. A section on data mining will be included. Various

open source resources and tools will be used.

Corerequisite(s): MATH 100A - Algebra Essentials (3) or placement

DBM 201 - Database Concepts/SQL II (3)

This course continues to work from DBM 101 - Database Concepts/SQL I (3) with the study of database design and implementation and developing an understanding of the SQL language. Additional topics include DBMS functions and database administration. Special topics include discussion of various technologies. Numerous case problems reinforce key concepts that students put into real-world practice. A special section using scripting is included to provide additional experience with SQL.

Prerequisite(s): DBM 101 - Database Concepts/SQL I (3)

DBM 210 - Data Applications II (3)

The Data Applications II course examines the many current applications including spreadsheets, database files, data tools, and programming code used in current business environments. This course is a follow up to Data Applications I. Topics include data requirements, data collection, data processing, data learning, modeling, algorithms, data analysis, and communication. Various open-source resources and tools will be used. Includes discussion of the emerging family of data integrations. ETL (Expand, Transform, and Load) blends data from multiple sources.

Prerequisite(s): DBM 110 - Data Applications I (3)

DBM 220 - Data Analytics II (3)

The Data Analytics II course builds upon concepts presented in Data Analytics I. Data Analytics II examines methods for summarizing, visualizing, and understanding information from data. Topics include data mining, models for decision making, using spreadsheets for data visualization, big data concepts, and data cleansing. Various resources and tools will be used.

Prerequisite(s): DBM 120 - Data Analytics I (3)

Pre-requisite/Co-requisite(s): MATH 114 - ~Elem Probability & Statistics (3)

IT 185 - Introduction to Linux (3)

This course will prepare students to work with the Linux operating system and help them prepare for the Linux+ CompTIA certification exams. The course does not assume any prior knowledge of Linux and is geared toward those interested in systems administration as well as those who will use or develop programs for Linux systems. The course provides coverage of topics related to Linux certification, including Linux distributions, installation, administration, networking and security.

Prerequisite(s): CAS 111 - Information Literacy (3)

IT 189 - Operating Sys Fundamentals (3)

This course is an introduction to the basics of computer operating systems. Topics include operating system principles, CPU, file systems, input and output devices, disk management, virtualization, sharing resources, and system maintenance.

Prerequisite(s): CAS 111 - Information Literacy (3)

- Any CNET course (3)
- Any CYBR course (3)
- Restricted Electives in CNET, CYBR, DBM, IT, SDE (12)

Subtotal Credit Hours Required 45

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Digital Media Specialist, A.A.S.

As technology has changed, computer-based media has become a popular communication technology. The digital media specialist degree introduces students to essential web design software, basic troubleshooting, help desk technical skills, and business-centered office applications such as document processing, spreadsheets, databases, and presentation software. The digital media specialist degree also introduces students to computer graphic design software and computer programming, animation, and web design. The course focuses on informational, business, commercial, entertainment, and game-based applications. This degree incorporates vendor certification training, specifically in Adobe certifications, for students preparing for entry-level employment or career advancement in a variety of occupations within the digital media field.

Program Overview

A student pursuing an Associate of Applied Science degree in Digital Media Specialist must complete the requirements for the general education core and the technology core. With the exceptional growth being experienced in the Eastern Panhandle, well-trained digital media specialist support personnel are essential for business and industry. The Digital Media Specialist A.A.S. degree provides students with the training needed for employment upon graduation.

Students completing the Associate of Applied Science degree in Digital Media Specialist will understand and be able to demonstrate basic skills in writing, reading, math, and decision-making and communication, graphic design skills, web page design skills, presentation, and publication design skills, and business-centered office applications to be prepared for employment within the ever-changing information technology field.

Students in the Digital Media Specialist Degree Program will:

- Complete hands-on activities that help develop computer application fluency and fundamental technical skills.
- Employ business-centered and professional applications for document processing, spreadsheets, databases, and presentation design.
- Complete project-based activities, which incorporate publication and document creation, design skills, electronic presentation skills, and web design skills to prepare for the work environment.
- Utilize essential web design software, graphic design software, and animate software to create digital and/or print publications.
- Perform basic troubleshooting and help desk technical skills to aid in computer support training.

Career Opportunities

Students in the digital media specialist degree program complete hands-on activities that help develop computer application fluency, design theories, and fundamentals technical skills. They complete project-based activities, which incorporate publication and document creation and design skills, electronic presentation skills, and web design skills to prepare for the work environment. Upon earning a degree, digital media specialist graduates may pursue entry-level employment in a variety of business, government, and educational institutions. A Blue Ridge Community and Technical College training in graphic design, web design, and publication development and design applications will add value to the workplace.

Curriculum for an Associate of Applied Science in Digital Media Specialist

General Education Core	15
Technical Core (Track)	45
Total Credit Hours Required	60

General Education Core

CAS 111 - Information Literacy (3)

This course covers a variety of introductory computing knowledge including how personal computers work, software essentials, hardware components, operating systems and the most popular productivity applications including word processing, spreadsheet, database and presentation software. Students will also be introduced to the Internet and e-mail essentials, file management and digital electronics. This course aligns with the Internet and Computing Core Certification (IC3), which demonstrates that a student has a clear understanding of the knowledge and application of computers and technology in the modern world.

ENGL 101 - ~English Composition I (3)

ENGL 101 is an introduction to college writing. This class emphasizes processes for drafting, revising, and editing. It develops a student's ability to read a passage, analyze its meaning, and write an intelligent response which shows not only an understanding of the passage but also a working knowledge of the writing and rhetorical strategies. Students will learn how to make effective arguments and how to locate, synthesize, and evaluate relevant information.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 101L - English Composition I Lab (3), or placement test scores

ENGL 110 - ~Technical Writing & Communication (3)

This course is designed to prepare students to write technical reports and other technical documents. Emphasis is on audience, clarity, conciseness, and accuracy of expression. It covers research techniques, information design, writing style, and effective use of graphics.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

IT 105 - Computer Ethics (3)

This course is designed to educate existing and future Information Technology professionals on the tremendous impact ethical issues have on the use of information technology in the modern business world. The topics covered include an

overview of ethics, ethics for IT professionals and IT users, computer internet and crime, privacy, freedom of expression, intellectual property, software development, and employer/employee Issues. Individual case examinations will be presented to more closely represent real-life examples of each of these topics.

MATH 101 - ~Introduction to Mathematics (3)

During this course topics to be covered are sets, mathematical logic, mathematical systems, the real number system, systematic counting, probability, measurement, and consumer mathematics. History of mathematics, critical thinking skills, problem solving, and use of technology will be incorporated throughout the course.

Prerequisite(s): MATH 100 - Math Essentials (3) or proper placement on test scores

MDIA 101 - Introduction to Media Studies (3)

This course introduces students to the concepts and theories of media and society and surveys their systems and roles in society. Emphasis is placed on media in the United States, including historic development and technological innovation of conventional print and electronic media.

Subtotal Credit Hours Required 15

Specialty Tracks

You must select ONE of the following specialty tracks:

Computer Applications Track

CAS 192 - Computer Apps Practicum (1)

This course will cover testing methodologies and study techniques to assist in preparing students for the Internet and Computing Core (IC3) certification exam.

Prerequisite(s): CAS 111 - Information Literacy (3)

CAS 210 - Outlook Complete (3)

This course uses a case method, problem-solving approach to learning the full scope of the features of Microsoft Office Outlook. Skills covered include creating and managing messages, scheduling appointments and events, creating and managing contacts, sending and managing tasks, and logging personal notes.

Prerequisite(s): CAS 111 - Information Literacy (3)

CAS 211 - Word Complete (3)

This course provides comprehensive training in the use of Microsoft® Office Word®. It is directly aligned with the Microsoft® Office Specialist certification exam which serves to validate an individual's skills and knowledge of the Office software. Topics covered include: creating and designing documents; incorporating table, charts, graphics, pictures and other media to enhance a document; and sharing, securing and printing documents.

Prerequisite(s): CAS 111 - Information Literacy (3)

CAS 212 - PowerPoint Complete (3)

This course provides comprehensive training in the use of Microsoft® Office PowerPoint®. It is directly aligned with the Microsoft® Office Specialist certification exam which serves to validate an individual's skills and knowledge of the Office software. Topics covered include creating and designing presentations, using charts, graphics, sound, and other media to enhance a presentation and sharing and delivering presentations.

Prerequisite(s): CAS 111 - Information Literacy (3)

CAS 213 - Excel Complete (3)

This course provides comprehensive training in the use of Microsoft® Office Excel®. It is directly aligned with the Microsoft® Office Specialist certification exam which serves to validate an individual's skills and knowledge of the Office software. Topics covered include creating and designing spreadsheets, using charts, graphics, formulas, protecting, sharing, and delivering spreadsheet presentations.

Prerequisite(s): CAS 111 - Information Literacy (3)

CAS 214 - Access Complete (3)

This course provides comprehensive training in the use of Microsoft® Office Access®. It is directly aligned with the Microsoft® Office Specialist certification exam which serves to validate an individual's skills and knowledge of the Office software. Topics covered include designing relational databases by creating, modifying, and using tables, queries, forms, and reports.

Prerequisite(s): CAS 111 - Information Literacy (3)

CAS 217 - Data File Management (3)

In this course, students will use software tools to collaborate and share ideas and engage with people. They will discover incentive ways to work together using the Internet and other file transfer options. Topics covered include organizing and connecting information, people, and projects, and creating new experiences using Microsoft Share Point and other data file management applications.

Prerequisite(s): CAS 111 - Information Literacy (3)

IT 189 - Operating Sys Fundamentals (3)

This course is an introduction to the basics of computer operating systems. Topics include operating system principles, CPU, file systems, input and output devices, disk management, virtualization, sharing resources, and system maintenance.

Prerequisite(s): CAS 111 - Information Literacy (3)

IT 210 - Help Desk Technician (3)

This course prepares the student to help and support non-technical people with computer related problems in the workplace. Students will learn the fundamentals of help desk organization; the role of technology and computer support personnel in a business organization; software technologies to track and monitor the help desk infrastructure; integration of telephony and web-based support into the help desk environment; effective use of basic tools and technologies required for end user support; and positive, effective methods for meeting customer expectations and

needs.

Prerequisite(s): IT 180 - A+ Core 1 (3) or IT 181 - A+ Core 2 (3)

MDIA 104 - Web Page Design (3)

In this course, students learn how to code web pages from scratch using HTML, XHTML, and XML incorporating Java Scripting. Students will explore basic and advanced tags by creating web pages utilizing tables, frames, audio, video, and Java scripting.

SDE 188 - Intro to Programming Logic (3)

This course introduces the basic concepts of programming logic. Students will examine the basic constructs of selection, sequence, and repetition, abstract data structures of records, arrays, and linked lists, and file access methods.

Corerequisite(s): MATH 100 - Math Essentials (3) or appropriate test scores

- Any 292 Field Experience (3)
- Restricted Elective in ACCT 201, BUSN 101, BUSN 108, BUSN 125, COMM 202, COMM 205, CAS 100, CAS 101, CAS 230, IT 180, IT 181, IT 270, MDIA 109, SDE 193, SDE 194, or SDE 195 (11)

Subtotal Credit Hours Required 45

Media Track

CAS 217 - Data File Management (3)

In this course, students will use software tools to collaborate and share ideas and engage with people. They will discover incentive ways to work together using the Internet and other file transfer options. Topics covered include organizing and connecting information , people, and projects, and creating new experiences using Microsoft Share Point and other data file management applications.

Prerequisite(s): CAS 111 - Information Literacy (3)

MDIA 102 - Intro to Adobe Photoshop (3)

The course will introduce students to working with photographs and drawings focusing on website graphics. Basics of the digital image, photo collage, banner graphics, and simple animation for websites will also be covered. Topics to be covered include file formats, scanning, digital retouching, image selections and masking, layering, vector graphics, creating symbols, working with a timeline and creating an interactive file.

MDIA 104 - Web Page Design (3)

In this course, students learn how to code web pages from scratch using HTML, XHTML, and XML incorporating Java Scripting. Students will explore basic and advanced tags by creating web pages utilizing tables, frames, audio, video, and Java scripting.

MDIA 107 - Intro to Illustrator/InDesign (3)

This course covers introductory knowledge of Adobe Illustrator and Adobe InDesign. Students will focus on the basic techniques that they need to get started with Illustrator and InDesign. Students will focus on the workspace, tools, and techniques.

MDIA 108 - Multimedia Presentation Develo (3)

Using current graphics presentation software, including Microsoft PowerPoint and Prezi, students will create interactive, multimedia-based presentations for real world application. Basic processes such as preparing, formatting and customizing presentations will be studied.

Prerequisite(s): CAS 111 - Information Literacy (3)

MDIA 192 - Media Practicum (1)

The course will cover testing methodologies and study techniques to assist in preparing students for the ACA (Adobe Certified Associate) Exam for Adobe Photoshop.

Prerequisite(s): MDIA 102 - Intro to Adobe Photoshop (3) and MDIA 203 - Advanced Photoshop & Animate (3)

MDIA 201 - Digital Branding (3)

This course will introduce brand management techniques and technologies that allow consumers to establish and promote their online presence. Topics covered include branding, visual storytelling, social media presence, digital freelancing, and online entrepreneurship.

MDIA 202 - Video Production (3)

This course is an introduction to analog and digital video production and editing theories, effects, and techniques. Students will develop video products using analog and digital recording methods and computerized video editing systems and digital video effects programs and hardware and software issues relating to 3-dimensional graphics manipulation, video compression, and recording.

MDIA 203 - Advanced Photoshop & Animate (3)

This project-based course will begin with a review of Adobe Photoshop basics and quickly move into intermediate and advanced concepts of layering, masks, paths, and shapes. Students practice image surgery techniques using enhanced tools, transforming and warping types, annotating within the project file, and apply color correction across color spaces of RGB, CMYK, HSB, and LAB. Students will work with the animation and video components of Photoshop then on to create vector graphics and animation with Adobe Animate. Team and independent projects at both mid-term and finals will replace a traditional written exam.

Prerequisite(s): MDIA 102 - Intro to Adobe Photoshop (3)

MDIA 206 - Site Designer (3)

This course focuses on theory, design, and web construction along with information on architecture concepts, website management, scenario development, and performance evaluations. Students learn how to create and manage Web sites with GUI editor based software programs. Students will learn and implement the latest strategies to develop websites, evaluate design tools, discuss future technology standards, and explore the incompatibility issues surrounding current browsers.

Prerequisite(s): MDIA 104 - Web Page Design (3)

MDIA 220 - Publication Design (3)

Through a practical hands-on approach, students in this course will use current design software to publish their own digital and print publications, to include websites, book covers, pamphlets, newsletters, letterheads, flyers, business cards, announcements, and advertisements. Basic publishing processes, design, and layout will be studied. This course will serve as the capstone course for the AAS Digital Media Specialist degree.

Prerequisite(s): MDIA 107 - Into to Illustrator/InDesign (3) or MDIA 203 - Advanced Photoshop & Animate (3)

SDE 188 - Intro to Programming Logic (3)

This course introduces the basic concepts of programming logic. Students will examine the basic constructs of selection, sequence, and repetition, abstract data structures of records, arrays, and linked lists, and file access methods.

Corerequisite(s): MATH 100 - Math Essentials (3) or appropriate test scores

SDE 204 - Server Side Web Development (3)

This course covers aspects of server-side scripting application development for web purposes. It will focus on program statements and techniques to manipulate database information. Students will explore topics such as logins, dynamic pages, content management, search engine creation, secure on-line coding and working with form data. Emphasis will be placed on the use of programming that can be utilized without limitation to a particular database management system.

Prerequisite(s): MDIA 104 - Web Page Design (3) and SDE 193 - Programming in C# (3) or SDE 194 - Programming in Java (3) or SDE 195 - Programming in Python (3)

OR

MDIA 206 - Site Designer (3) and SDE 188 - Intro to Programming Logic (3)

- Any 292 Field Experience (3)
- Restricted Electives in ART 103, ART 115, ART 205, BUSN 101, BUSN 125, BUSN 231, BUSN 245, CAS 211, CAS 214, MDIA 109, MDIA 121, SDE 193, SDE 194, SDE 195 (5)

Subtotal Credit Hours Required 45

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Early Childhood Specialist, A.A.S.

The A.A.S. Early Childhood Specialist degree is a 60-credit program to prepare students for employment as pre-school child care center teachers, teachers aids in WV counties recognizing the curriculum and other child care centers serving children birth to age 6. Students combine theories with practical applications where possible. The program focuses on the cognitive, emotional and physical development of young children and appropriate curriculum and activities to enhance the development of young children. The program includes administrative and management skills for those individuals that will obtain supervision and management positions. Students learn communication and management skills. Students learn to maintain childcare center records in accordance with West Virginia and federal laws. Students are prepared for employment upon graduation from the program.

Program Outcomes

- Prepare students for employment in pre-school childcare centers, teacher's aids, and other childcare centers serving children birth to age 6.
- Apply theories of early childcare with practical applications.
- Implement age-appropriate curriculum and classroom activities.
- Prepare to assume supervision roles in an early childcare facility.
- Maintain childcare facility records in accordance with West Virginia and Federal Law requirements.
- Apply professional written and spoken communication skills with staff and parents.

Curriculum for an Associate of Applied Science Degree in Early Childhood Specialist

General Education Core	15
Early Childhood Specialist Core	33
Restricted Electives	12
Total Credit Hours Required	60

General Education Core

COMM 202 - ~Fundamentals of Speech (3)

This course equips the student with the necessary tools to construct, deliver, and analyze public communication messages.

COMM 205 - ~Professional Communications (3)

This course examines the process of communication and the challenges to and effective practices of communicating in a professional environment. Topics include listening skills and verbal, nonverbal, and written communications. The dynamics of communicating in a group, in a global society, and in culturally diverse environments is also investigated. Students apply a systematic approach to plan and create effective letters, memos, reports, presentations, electronic and other forms of business and professional communication.

SOCI 215 - ~Human Relations (3)

Human Relations instructs students on the relationship between self-esteem and human relations and consequently between human relations skills and career success. Emphasis is on strategies for personal and professional growth based on advancing skills in individual, group, and organizational contexts. The topics looked at include self-esteem,

attitudes, values, communications, leadership, emotional control, creativity, conflict and stress management, diversity, business ethics, and productivity.

ECED 105 - Child Development (3)

This course explores knowing and understanding young children's characteristics and needs; the multiple influences on development and learning, and how to use this developmental knowledge to create healthy, respectful, supportive and challenging learning environments. The principles of child development are emphasized including language acquisition, creative expression, physical, cognitive and social/emotional development.

ENGL 101 - ~English Composition I (3)

ENGL 101 is an introduction to college writing. This class emphasizes processes for drafting, revising, and editing. It develops a student's ability to read a passage, analyze its meaning, and write an intelligent response which shows not only an understanding of the passage but also a working knowledge of the writing and rhetorical strategies. Students will learn how to make effective arguments and how to locate, synthesize, and evaluate relevant information.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 101L - English Composition I Lab (3), or placement test scores

ENGL 110 - ~Technical Writing & Communication (3)

This course is designed to prepare students to write technical reports and other technical documents. Emphasis is on audience, clarity, conciseness, and accuracy of expression. It covers research techniques, information design, writing style, and effective use of graphics.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

MATH 101 - ~Introduction to Mathematics (3)

During this course topics to be covered are sets, mathematical logic, mathematical systems, the real number system, systematic counting, probability, measurement, and consumer mathematics. History of mathematics, critical thinking skills, problem solving, and use of technology will be incorporated throughout the course.

Prerequisite(s): MATH 100 - Math Essentials (3) or proper placement on test scores

PSYC 210 - Human Growth & Development (3)

This course explores the basic principles of human growth and development throughout the lifespan. Prenatal development, as well as physical, emotional, mental, and social changes in children, adolescents, and adults will be reviewed. The multiple factors that influence development and shape personality will be considered.

Subtotal Credit Hours Required 15

Early Childhood Core

Each student will work with their advisor and choose 33 credits of Early Childhood Courses for their individualized program. Choices can include:

APTR 101 - ACDS:Intr Child Developmnt I (5)

This course introduces students to the foundations of early childhood professions principles and practices including basic child and classroom observations. The course highlights health, safety, and nutrition relating to early childhood and WV licensing laws that pertain to these areas. Students can identify cognitive, emotional, and social appropriate development.

APTR 102 - ACDS:Planning for Whole Child (5)

This course emphasizes respecting cultural diversity among children and families. Students explore how to enhance cognitive development in young children and how to support emotional development. Students begin classroom management and learn the value of print-rich classrooms. Observation skill practice continues.

APTR 103 - ACDS:Facilitation of Learning (5)

This course emphasizes family and community engagement skills including verbal and non-verbal communication. Child development continues with a focus on language, literacy, mathematics, science, and arts inquiry. Students learn to prepare a lesson plan and can define the currently popular approaches to learning. Students learn challenging behavior management.

APTR 104 - ACDS:Becoming Independent (5)

This course prepares early childhood professionals to advocate for children and their families and the profession. Students learn the WV licensing law and WV afterschool program standards. Students learn to identify students with exceptionalities and disabilities.

ECED 101 - Found of Early Childhood Ed (3)

The course focuses on the history of early childhood education including the contributions of Frobel, Montessori Steiner, and Reggio Emilia. Coursework will concentrate on a diversity of programs and childcare settings: child care, Headstart, kindergarten, nursery, profit and non-profit. This course will include perspectives from the past, theories, and approaches to care, development and education of young children.

ECED 103 - Early Language and Literacy (3)

This course examines quality literature appropriate for children from infancy to age eight. Appropriate literacy experiences of reading, writing, and language are practiced in the student's communities. Students will also examine methods of presentation and the creation of literature based settings.

ECED 106 - Health, Nutrition and Safety (3)

This course provides a variety of health, nutrition and safety concepts that will enable the individual to implement preventive health and safety practices in the early childcare setting. Students will develop menus for meals and snacks which are nutritious, appealing, and age-appropriate for young children. Recognition and treatment of child abuse victims will be addressed.

ECED 165 - Assessment of Young Children (3)

This course will cover formal and informal assessment strategies appropriate for children birth through age eight. Assessment for children's cognitive, social, physical and motor development for curriculum planning will be addressed as well as identifying children with developmental needs.

ECED 206 - Family/Community Engagement (3)

This course addresses the role of the family and community in the physical, cognitive, social and emotional growth of the child in a diverse society. The areas of professionalism, program management, advocacy, family development and the structure of the family will be the main topics. Building partnerships with families of the children with special needs will also be included.

ECED 210 - Infant & Toddler Development (3)

Students focus on a comprehensive study of Infant and Toddler care ages 0 – 36 months. Topics covered are prenatal development and the physical, social, emotional, cognitive, and language development of the child from conception to age three. The course covers the effects of culture, families and quality programs on infant and toddler development.

Prerequisite(s): ECED 105 - Child Development (3)

ECED 220 - Early Childhood Inclusion (3)

This course prepares learners to understand their roles, including the history and legal implications, and the nature of students with special needs. Techniques for creating an educational environment where all students have equal opportunity to develop academically and socially are specifically addressed.

ECED 230 - Early Childhood Admin (3)

This course emphasizes the director's responsibility for administrative leadership roles in child development and education programs. The course covers business and interpersonal skills needed to successfully implement an effective program for young children and their families. Students will learn practical information for all aspects of directing a program, including funding and budgeting, selecting, training, and supervising staff, housing the program, purchasing equipment, and working with children and parents. Accrediting and licensing an early childhood center and carrying out program evaluation and quality improvement strategies will be addressed.

Prerequisite(s): ECED 107 - Early Childhood Curriculum (3)

ECED 235 - Current Topics ECED (3)

This course focuses on state, local and federal law updates that affect child care centers ages 0-6. The course focuses on required record keeping and documentation to meet legal requirements. The course focuses on recent research issues in early childcare development and center administration and safety. Safety updates and regulations are discussed.

Prerequisite(s): ECED 105 - Child Development (3)

ECED 292 - Early Childhood Internship (3)

Students obtain practical experience in a licensed child care center, as a teacher's aide assistant, or private nursery schools (home daycare does not qualify). The student engages in on-site activities of a practical nature. Students learn how to translate classroom theory and methods into professional skills and observe and record activities in a professional manner. Activities are under the supervision of trained personnel. Application for internship must be made to the Early Childhood advisor.

Prerequisite(s): ECED 105 - Child Development (3)

Restricted Electives

Each student must work with their advisor to choose 12 credits of restricted electives. Choices can include:

ASL 101 - Sign Language I (3)

In this course, students develop communicative capabilities utilizing American Sign Language (ASL). In addition to learning about deaf culture, students will acquire functional sign phonology, vocabulary, and grammatical skills adequate to receive and convey information and ideas in professional and social situations.

ASL 102 - Sign Language II (3)

This course will continue with sign vocabulary growth and an introduction to idiomatic phrases. Emphasis will be placed on the use of classifiers, expression, body postures, and the signing space.

Prerequisite(s): ASL 101 - Sign Language I (3)

BUSN 101 - Introduction to Business (3)

This course provides an overview of the complex building blocks of business including administration, management, finance, labor, marketing, law, and ethics. These aspects are considered in reference to local and global markets, e-commerce, and evolving technology and trends.

BUSN 201 - Principles of Management (3)

This course examines the basic functions of management – planning, organizing, coordinating, and controlling - in a business organization. Students study management theory and practice in order to identify their own management style and appreciate the complex nature of management. The impact of social responsibility, corporate culture, and technological advances on management are also considered.

CAS 111 - Information Literacy (3)

This course covers a variety of introductory computing knowledge including how personal computers work, software essentials, hardware components, operating systems and the most popular productivity applications including word processing, spreadsheet, database and presentation software. Students will also be introduced to the Internet and e-mail essentials, file management and digital electronics. This course aligns with the Internet and Computing Core Certification (IC3), which demonstrates that a student has a clear understanding of the knowledge and application of computers and technology in the modern world.

COMM 202 - ~Fundamentals of Speech (3)

This course equips the student with the necessary tools to construct, deliver, and analyze public communication messages.

COMM 205 - ~Professional Communications (3)

This course examines the process of communication and the challenges to and effective practices of communicating in a professional environment. Topics include listening skills and verbal, nonverbal, and written communications. The dynamics of communicating in a group, in a global society, and in culturally diverse environments is also investigated. Students apply a systematic approach to plan and create effective letters, memos, reports, presentations, electronic and other forms of business and professional communication.

ENGL 100 - English Essentials (3)

This course is designed to introduce students to essential English skills ranging from writing in the rhetorical modes of narration and argument to creating a rudimentary media-based presentation on a short expository essay (in the form of process, definition, or persuasion). Students will draw on accompanying readings. Briefly, instructors will introduce Internet Research, and MLA style will be taught in some depth. In addition to these written skills practiced, students will study and be quizzed on correct grammar, punctuation, and usage.

GSPE 210 - Fitness for Life (3)

This course is designed to assist participants in developing a healthier lifestyle through appropriate exercise programs, nutrition and behaviors that contribute to optimal health and wellness.

MATH 100 - Math Essentials (3)

Students will learn how to perform operations on real numbers, the implications of exponents and the order of operations and how to evaluate algebraic expressions. The concepts of percents and their applications, introductory geometry, statistics, and problem-solving skills will all be incorporated. Students will solve equations in one variable, solve literal equations for a variable, and evaluate/graph inequalities. Students will translate and solve algebraic equations, and learn the skills required to solve application problems in one and two variables. Students will interpret and graph linear equations as well as solving and analyzing systems of equations. Students may also be introduced to operations on polynomials.

PSYC 203 - ~Introduction to Psychology (3)

This course will introduce the student to basic psychological principals and to enable the student to examine current thinking about development, personality, sensation and perception, cognition, learning, psychological disorders, and their treatment, and influence.

Corerequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement

SOCI 203 - ~General Sociology (3)

This course introduces students to the core concepts and perspectives of sociology, the study of human social environments and of human interactions within those environments. The course will explore a number of sociological topics to develop a sociological imagination, an ability to understand the effects of group membership on behavior, attitudes, beliefs, and life chances.

Corerequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement

SOCI 215 - ~Human Relations (3)

Human Relations instructs students on the relationship between self-esteem and human relations and consequently between human relations skills and career success. Emphasis is on strategies for personal and professional growth based on advancing skills in individual, group, and organizational contexts. The topics looked at include self-esteem, attitudes, values, communications, leadership, emotional control, creativity, conflict and stress management, diversity, business ethics, and productivity.

SPAN 101 - Spanish I (3)

Spanish I is an introductory course designed to expose beginning students to basic language skills. In this course, students develop the fundamentals of communication, listening and comprehension, speaking, and reading. Spanish culture is introduced as well as composition writing.

SPAN 102 - Spanish II (3)

Spanish II builds upon the basic grammatical structures introduced in Spanish I and continues to develop skills such as pronunciation practice, listening comprehension, and "guided" composition. Correct speaking is emphasized. The study of Hispanic countries and cultures continues to be covered in the course.

Prerequisite(s): SPAN 101 - Spanish I (3)

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Electric Distribution Engineering Technology, A.A.S.

Climbing toward your future? Elevate your career options as a line worker! This experiential program will prepare you with the technical skills, knowledge, and safety techniques in this rapidly-growing profession.

Program Overview

The Electric Distribution Engineering Technology program was created through a partnership between Blue Ridge Community and Technical College and Allegheny Energy, providing educational opportunities for a field that has typically been limited to internal apprenticeship opportunities. Through this program, endorsed by the Utility Workers Union of America (UWUA) Local 102, students will learn the skills necessary to become a lineworker.

The Electric Lineworker program is designed to provide the technical skills required for new utility workers. Traditional academic instruction gives students an understanding of the technology fueling today's electrical utilities, while hands-on laboratories, such as pole training areas and equipment labs, ensure that students are prepared for the job on day one.

Students seeking a fast-track to employment may enroll in the Electric Lineworker Certificate Program, which provides the fundamental skills required for employment in the electric utility field. Those seeking specific technical knowledge with a broader understanding of the electrical utility environment can pursue an Associate of Applied Science Degree. Both programs are taught by highly trained and credentialed faculty and include technical modules, hands-on laboratories, equipment training, and paid internships.

Students in the Electric Distribution Engineering Technology program are subject to Blue Ridge Community and Technical College's requirements for admission, informed consent form, basic skills testing, and appropriate course

placement, including developmental education courses, which may not count toward completion of the program. Blue Ridge CTC requirements regarding academic standards, student conduct, and graduation procedures also apply.

Program Outcomes

- Demonstrate professionalism (clean and complete uniform, on time, positive attitude, respectful).
- Conduct thorough pre-job briefings including hazard recognition.
- Identify safety equipment.
- Practice teambuilding and effective communication.
- Identify and describe procedures for safely operating a bucket truck and digger derrick.
- Identify and demonstrate procedures for safely climbing poles.
- Identify electrical distribution materials, tools, equipment, and activities.
- Demonstrate how to safely auger a hole and erect a wooden utility pole.
- Understand basic electrical theory as it relates to power distribution (single phase and 3 phase AC circuits, transformers, and conductors).
- Demonstrate the ability to correctly read and interpret power systems layout drawings.

Career Opportunities

Upon graduation, you will be prepared to enter into a career as a line worker. Students graduating with this degree have a 99% hire rate and earn an average income of \$30,000 to \$50,000 per year.

Note: All salary estimations are based on the current position and educational trends. Blue Ridge Community and Technical College cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Curriculum for an Associate of Applied Science in Electric Distribution Engineering Technology

General Education Core	17
EDET Technical Core	43
Total Credit Hours Required	60

General Education Core

CAS 111 - Information Literacy (3)

This course covers a variety of introductory computing knowledge including how personal computers work, software essentials, hardware components, operating systems and the most popular productivity applications including word processing, spreadsheet, database and presentation software. Students will also be introduced to the Internet and e-mail essentials, file management and digital electronics. This course aligns with the Internet and Computing Core Certification (IC3), which demonstrates that a student has a clear understanding of the knowledge and application of computers and technology in the modern world.

COMM 205 - ~Professional Communications (3)

This course examines the process of communication and the challenges to and effective practices of communicating in a professional environment. Topics include listening skills and verbal, nonverbal, and written communications. The dynamics of communicating in a group, in a global society, and in culturally diverse environments is also investigated.

Students apply a systematic approach to plan and create effective letters, memos, reports, presentations, electronic and other forms of business and professional communication.

ENGL 111 - Applied Technical Writing (4)

Students explore techniques for improving the effectiveness of writing and communication common in the industries of Advanced Manufacturing and Energy. Students have the opportunity to improve their ability to write and communicate through critical thinking, writing, revising, and editing while exploring practical career scenarios.

Prerequisite(s): Must be enrolled in one of the following programs as a degree seeking student: Electric Distribution Engineering Technology Certificate, Electric Distribution Engineering Technology, A.A.S., Electric Utility Technology, A.A.S., Machine Operator/Mechatronics Assistant Certificate, and Mechatronics, A.A.S.

EDET 180 - Building Better Relationships (2)

This class prepares participants to create better work relationships by becoming a "conscious communicator". It includes taking a workplace personality identifier test. Participants will explore ways to enhance their self-knowledge, work effectively as a team and cope with the stresses and emotions that are often found in the work environment.

EDET 181 - Conflict Resolution (2)

Conflict resolution prepares participants to better deal with conflict in the workplace by helping them become a "conscious communicator". It includes taking a conflict assessment/evaluation. Participants will explore ways and develop tools to enhance their abilities to deal with conflict and reduces stresses and emotions that are often found in the work environment.

MATH 102 - Technical Mathematics (3)

This course focuses on computational fluency and applied problem solving with emphasis on the following topics: real numbers, ratios, percents, proportions, estimation, exponents, roots, scientific notation, applied algebra, measurement, applied geometry, electrical formulas and laws, basic statistics, basic trigonometry and vectors.

Prerequisite(s): MATH 100 - Math Essentials (3) or proper placement on test scores

Subtotal Credit Hours Required **17**

EDET Technical Core

EDET 101 - Intro to Line Worker (2)

Intro to Line Worker is the first class in both the AAS and Certificate Line Worker Programs. It is intended to provide students with a basic awareness and function as gatekeeper for those seeking entry into the program (and career.) Some major focus areas are career awareness, wood pole climbing evaluation, claustrophobia evaluation, and industry skills (Edison Cast) testing.

Prerequisite(s): Current major declared of Electric Distribution Engineering Technology, A.A.S. or Electric Distribution Engineering Technology Certificate

EDET 102 - Fundamentals of Electric Power Distribution (2)

Fundamentals of Electric Power Distribution provides students with an overview of how electric power is distributed from generation to industrial and residential customers. The class will also introduce students to industry terminology and materials.

Prerequisite(s): Current major declared of Electric Distribution Engineering Technology, A.A.S. or Electric Distribution Engineering Technology Certificate

Pre-requisite/Co-requisite(s): EDET 101 - Intro to Line Worker (2)

EDET 103 - Heavy Equipment Familiarization (2)

Heavy Equipment Familiarization is designed to introduce students to different types of heavy equipment vehicles used in utility work. Basic operation of the most commonly used equipment vehicles will be demonstrated and practiced by students.

Prerequisite(s): Current major declared of Electric Distribution Engineering Technology, A.A.S., Electric Distribution Engineering Technology Certificate, Heavy Equipment Technician, A.A.S., or Mechatronics, A.A.S.

Pre-requisite/Co-requisite(s): EDET 101 - Intro to Line Worker (2)

EDET 120 - Adv Pole Working Workshop (1)

Advanced Pole Working is designed to teach practical skills and techniques used in constructing electric distribution systems while emphasizing the safe use of tools and equipment.

Prerequisite(s): Current major declared of Electric Distribution Engineering Technology, A.A.S. or Electric Distribution Engineering Technology Certificate

Pre-requisite/Co-requisite(s): EDET 102 - Fundamentals of Electric Power Distribution (2)

EDET 121 - Safety for Electrical Line Workers (2)

Safety for Electrical Line Workers is designed to introduce students to the necessary skills to safely work on electric distribution systems. Some major areas of studies include applying safe grounding practices, correctly using personal protective equipment, safely setting up traffic control work zone, pole top rescue, aerial lift rescue, and confined space rescue. Upon successful completion of this course, a 10 hour OSHA card will be earned.

Prerequisite(s): EDET 102 - Fundamentals of Electric Power Distribution (2) and current major declared of Electric Distribution Engineering Technology, A.A.S. or Electric Distribution Engineering Technology Certificate

EDET 130 - Underground Line Maintenance (2)

Underground Line Maintenance teaches practical underground distribution maintenance techniques while emphasizing the safe use of tools and equipment. Focus areas include the use of live-line tools and installing and repairing underground cables and equipment.

Prerequisite(s): Current major declared of Electric Distribution Engineering Technology, A.A.S. or Electric Distribution Engineering Technology Certificate

Pre-requisite/Co-requisite(s): EDET 120 - Adv Pole Working Workshop (1) and EDET 121 - Safety for Electrical Line Workers (2)

EDET 131 - Substation Basics (2)

Substation Basics teaches the purpose and operations of a substation. Particular attention is spent on how to safely enter and perform various tasks at a substation.

Prerequisite(s): Current major declared of Electric Distribution Engineering Technology, A.A.S. or Electric Distribution Engineering Technology Certificate

Pre-requisite/Co-requisite(s): EDET 120 - Adv Pole Working Workshop (1) and EDET 121 - Safety for Electrical Line Workers (2)

EDET 140 - Overhead Line Maintenance (1)

Overhead Line Maintenance teaches practical distribution line maintenance techniques with an emphasis on the safe use of tools and equipment. Focus areas include the use of live-line tools, safe rigging practices, troubleshooting (including switching & testing voltages), and replacing/repairing electrical equipment.

Prerequisite(s): Current major declared of Electric Distribution Engineering Technology, A.A.S. or Electric Distribution Engineering Technology Certificate

Pre-requisite/Co-requisite(s): EDET 120 - Adv Pole Working Workshop (1) and EDET 121 - Safety for Electrical Line Workers (2)

EDET 150 - Fundamentals of Electricity (4)

Fundamentals of Electricity provides students with an overview of the ways in which power is distributed from generation to industrial and residential customers. Students will be introduced to essential industry terminology and materials. Following this course, students will understand and be able to analyze Ohm's Law, Magnetism, DC Series & Parallel Circuits, Basic AC Series & Parallel Circuits, Inductance, Reactance, Capacitance, Poly-phase and 3 Phase Circuits, and Basic "Y" single- phase transform bank connections.

Prerequisite(s): Current degree seeking student with a major of Electric Utility Technology, A.A.S. and preemployment screening by First Energy or a degree seeking student in Electric Distribution Engineering Technology Certificate or Electric Distribution Engineering Technology, A.A.S.

EDET 151 - Circuit Analysis (4)

This course is designed to develop a comprehensive understanding of the activities associated with electric utility line work, specifically sub-transmission circuits, distribution substations, primary feeders, distribution transformers, secondary power systems, and customer connections. Students will engage in classroom and laboratory activities to develop the basic technical skills necessary to obtain a working knowledge and understanding of power distribution and transmission systems. Safety is strongly emphasized and special attention is given to explaining relevant electrical formulas and calculations. Hands-on use of equipment occurs in a lab setting.

Prerequisite(s): Current degree seeking student with a major of Electric Utility Technology, A.A.S. and preemployment screening by First Energy.

EDET 150 - Fundamentals of Electricity (4)

EDET 295 - Practicum Skills Evaluations (1-4)

This course is designed to evaluate the skills learned each semester in all other EDET courses. A variety of topics will be covered depending on the student needs.

Prerequisite(s): Current major declared of Electric Distribution Engineering Technology, A.A.S. or Electric Distribution Engineering Technology Certificate

- Restricted Electives in MATH 100, ENGL 100, SOCI 215, CAD, EDET, HET, MECH, MET, or RENG (17)

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Electric Utility Technology, A.A.S.

Power Systems Institute in Partnership with FirstEnergy

Established by FirstEnergy in 2000, the **Power Systems Institute (PSI)** is a unique, two-year program that combines classroom learning with hands-on training. Students enrolled in the PSI program at Blue Ridge Community and Technical College have the opportunity to earn an **Associate of Applied Science in Electric Utility Technology**. This program, offered in partnership with FirstEnergy and Blue Ridge Community and Technical College, is a pre-employment program. Students are not guaranteed employment; however, students with the right grades, skills, and attitude will have the potential to be hired by FirstEnergy. Financial Aid may be available for qualified students.

Steps in the Selection Process

1. **Program Orientation**
This is your opportunity to learn more about the program and decide if a career as a lineworker is right for you.
2. **Technical Evaluation**
Prospective students are evaluated on a series of hands-on activities that are performed on the job.
3. **Placement Testing**
Transcript review and/or placement testing in reading, math, and writing is completed before prospective students register for classes.
4. **Background Screening**
Prospective students must successfully pass a background screen consisting of criminal and driving history.
5. **D.O.T. Physical**
Prospective students must provide a completed Medical Examiners Certificate.
6. **Climbing Course**
Prospective students learn the basics of climbing wood poles and are evaluated for enrollment in the PSI program.
7. **Interview**
Prospective students participate in an interview with FirstEnergy management.

Program Outcomes

- Demonstrate professionalism.
- Practice teambuilding and effective communication.
- Identify and describe safety procedures related to line work.
- Understand basic electrical theory as it relates to power distribution (single phase and 3 phase AC circuits, transformers, and conductors).
- Demonstrate skills necessary to gain employment with First Energy.

General Education Core	23
EUT Technical Core	37
Total Credit Hours Required	60

General Education Core

BUSN 160 - Organizational Behavior (3)

This course examines the behavior of individuals and individuals in groups in organizations, and how the two affect the overall performance of an organization. Students consider the impact of individual attitude, motivation, job satisfaction, and communication on the organization. Group dynamics, leadership, organizational culture, and change are also addressed.

CAS 111 - Information Literacy (3)

This course covers a variety of introductory computing knowledge including how personal computers work, software essentials, hardware components, operating systems and the most popular productivity applications including word processing, spreadsheet, database and presentation software. Students will also be introduced to the Internet and e-mail essentials, file management and digital electronics. This course aligns with the Internet and Computing Core Certification (IC3), which demonstrates that a student has a clear understanding of the knowledge and application of computers and technology in the modern world.

COMM 205 - ~Professional Communications (3)

This course examines the process of communication and the challenges to and effective practices of communicating in a professional environment. Topics include listening skills and verbal, nonverbal, and written communications. The dynamics of communicating in a group, in a global society, and in culturally diverse environments is also investigated. Students apply a systematic approach to plan and create effective letters, memos, reports, presentations, electronic and other forms of business and professional communication.

ECON 123 - ~Contemporary Economics (3)

This course introduces students to both macro and microeconomic concepts including the theory of the firm, consumer behavior, economic systems, and managerial economic principles that affect decisions in every venue of our lives.
Note: Not intended for students in majors that require ECON 205 - ~Principles of Macroeconomics (3) and ECON 206 - ~Principles of Microeconomics (3).

Note Not intended for A.S. Business Administration Students.

ENGL 111 - Applied Technical Writing (4)

Students explore techniques for improving the effectiveness of writing and communication common in the industries of Advanced Manufacturing and Energy. Students have the opportunity to improve their ability to write and communicate through critical thinking, writing, revising, and editing while exploring practical career scenarios.

Prerequisite(s): Must be enrolled in one of the following programs as a degree seeking student: Electric Distribution Engineering Technology Certificate, Electric Distribution Engineering Technology, A.A.S., Electric Utility Technology, A.A.S., Machine Operator/Mechatronics Assistant Certificate, and Mechatronics, A.A.S.

MATH 102 - Technical Mathematics (3)

This course focuses on computational fluency and applied problem solving with emphasis on the following topics: real numbers, ratios, percents, proportions, estimation, exponents, roots, scientific notation, applied algebra, measurement, applied geometry, electrical formulas and laws, basic statistics, basic trigonometry and vectors.

Prerequisite(s): MATH 100 - Math Essentials (3) or proper placement on test scores

MECH 102 - Technical Physics (2)

Technical Physics emphasizes physical concepts as applied to technical fields. The five major areas on concentration include mechanics, matter and heat, wave motion and sound, electricity and magnetism, and light. Lab activities will provide hands on discovery of the concepts covered in the course. MECH 102L - Technical Physics Lab (2) is the laboratory portion of the class.

Corerequisite(s): MECH 102L - Technical Physics Lab (2)

Pre-requisite/Co-requisite(s): MATH 102 - Technical Mathematics (3), MATH 105 - ^Algebra (3), MATH 106 - ^Trigonometry (3), MATH 108 - ^Pre-Calculus (4), or MATH 114 - ~Elem Probability & Statistics (3)

MECH 102L - Technical Physics Lab (2)

Technical Physics emphasizes physical concepts as applied to technical fields. The five major areas on concentration include mechanics, matter and heat, wave motion and sound, electricity and magnetism, and light. This laboratory portion will include activities that will provide hands on discovery of the concepts covered in the course.

Corerequisite(s): MECH 102 - Technical Physics (2)

Pre-requisite/Co-requisite(s): MATH 102 - Technical Mathematics (3), MATH 105 - ^Algebra (3), MATH 106 - ^Trigonometry (3), MATH 108 - ^Pre-Calculus (4), or MATH 114 - ~Elem Probability & Statistics (3)

Subtotal Credit Hours Required 23

EUT Technical Core

ACCT 180 - Personal Finance (3)

This course offers a study of personal financial management. Students are equipped with the tools to make informed decisions related to spending, saving, borrowing, and investing to achieve financial goals now and in the future.

Prerequisite(s): MATH 100 - Math Essentials (3) or placement

BUSN 108 - Business Etiquette & Image (3)

This course provides students a hands-on opportunity to develop the professional image needed to succeed in business. Activities range from the handshake and making introductions to telephone etiquette and table manners. Topics also include professional dress, conduct at work, managing technology, networking, interviewing, and resume development.

CGEN 101 - Career Transition (3)

This course will provide a foundation of career development skills and exploration of life planning issues. Components will include self-assessment, academic exploration, study of career fields, and information interviewing. Job search areas of the course would include networking, resume and correspondence, writing interview preparation, job search etiquette, decision-making, work transition, and using the Internet in your search.

EDET 150 - Fundamentals of Electricity (4)

Fundamentals of Electricity provides students with an overview of the ways in which power is distributed from generation to industrial and residential customers. Students will be introduced to essential industry terminology and materials. Following this course, students will understand and be able to analyze Ohm's Law, Magnetism, DC Series & Parallel Circuits, Basic AC Series & Parallel Circuits, Inductance, Reactance, Capacitance, Poly-phase and 3 Phase Circuits, and Basic "Y" single-phase transform bank connections.

Prerequisite(s): Current degree seeking student with a major of Electric Utility Technology, A.A.S. and preemployment screening by First Energy or a degree seeking student in Electric Distribution Engineering Technology Certificate or Electric Distribution Engineering Technology, A.A.S.

EDET 151 - Circuit Analysis (4)

This course is designed to develop a comprehensive understanding of the activities associated with electric utility line work, specifically sub-transmission circuits, distribution substations, primary feeders, distribution transformers, secondary power systems, and customer connections. Students will engage in classroom and laboratory activities to develop the basic technical skills necessary to obtain a working knowledge and understanding of power distribution and transmission systems. Safety is strongly emphasized and special attention is given to explaining relevant electrical formulas and calculations. Hands-on use of equipment occurs in a lab setting.

Prerequisite(s): Current degree seeking student with a major of Electric Utility Technology, A.A.S. and preemployment screening by First Energy.

EDET 150 - Fundamentals of Electricity (4)

EDET 155 - Positive Workplace Comm (5)

This class prepares students to create better work relationships by becoming a "conscious communicator." Students will explore ways to enhance their self-knowledge, work effectively in teams, and cope with common workplace stresses and emotions. Students will also explore ways and develop tools to enhance their abilities to deal with conflict in the workplace.

Prerequisite(s): Current degree seeking student with a major of Electric Utility Technology, A.A.S. and preemployment screening by First Energy.

EUT 101 - Overhead Lines Technology I (3)

This course is a supervised practical application of electrical overhead lineworker job duties in a setting under the direct supervision of First Energy personnel. There is an emphasis on skills to safely climb wood poles, the operation of a line truck, setting poles, framing poles on the ground, and operation of a digger derrick. Upon completion of training, the students will successfully pass the Class "A" Commercial Driver's License skills test. Rigging, wire identification, and use of rubber goods will also be learned. Safety topics include rigging safety awareness, fall protection, flame retardant personal protective equipment, medic first-aid; bloodborne pathogens; and good housekeeping.

Prerequisite(s): Current degree seeking student with a major of Electric Utility Technology, A.A.S. and preemployment screening by First Energy.

EUT 102 - Overhead Lines Technology II (3)

This course provides practical applications of electrical overhead line technology under the direct supervision of First Energy personnel. Emphasis will be placed on skills required to perform work on secondary voltage circuits, bucket truck familiarization, and bucket rescue. Students will receive an overview of distribution electrical systems and the Occupational Safety and Health Administration (OSHA). Safety topics include work zone traffic control, minimum approach distances, rubber protective equipment, and knowledge of UD excavation/trenching/shoring.

Prerequisite(s): Current degree seeking student with a major of Electric Utility Technology, A.A.S. and preemployment screening by First Energy.

EUT 101 - Overhead Lines Technology I (3)

EUT 201 - Overhead Lines Technology III (3)

This course provides practical applications of electrical overhead line technology under the direct supervision of First Energy personnel. Emphasis is placed on skills required to identify, install, and maintain primary underground residential distribution (URD) equipment, including various methods of troubleshooting URD primary and secondary units. Students learn grounding distribution circuits and will develop the knowledge and skills to safely perform rubber gloving assignments utilizing the insulate and isolate techniques. Students perform tasks while working on an energized three-phase circuit under controlled conditions. Safety topics include fire extinguisher safety, temporary protective grounds, stored energy devices, and protective service.

Prerequisite(s): Current degree seeking student with a major of Electric Utility Technology, A.A.S. and preemployment screening by First Energy.

EUT 101 - Overhead Lines Technology I (3) and EUT 102 - Overhead Lines Technology II (3)

EUT 202 - Overhead Lines Technology IV (3)

This course provides practical applications of electrical overhead line technology under the direct supervision of First Energy personnel. Emphasis will be on line equipment, hot line tools, power industrial trucks, and transmission (including wood pole, steel pole, ladder, and tower climbing). Bucket, pole top, and self-rescue will also be reviewed. Safety topics include spill response, live line tools, hazardous communications, and accident prevention handbook review.

Prerequisite(s): Current degree seeking student with a major of Electric Utility Technology, A.A.S. and preemployment screening by First Energy.

EUT 101 - Overhead Lines Technology I (3), EUT 102 - Overhead Lines Technology II (3), and EUT 201 - Overhead Lines Technology III (3)

MATH 100 - Math Essentials (3)

Students will learn how to perform operations on real numbers, the implications of exponents and the order of operations and how to evaluate algebraic expressions. The concepts of percents and their applications, introductory geometry, statistics, and problem-solving skills will all be incorporated. Students will solve equations in one variable, solve literal equations for a variable, and evaluate/graph inequalities. Students will translate and solve algebraic equations, and learn the skills required to solve application problems in one and two variables. Students will interpret and graph linear equations as well as solving and analyzing systems of equations. Students may also be introduced to operations on polynomials.

Subtotal Credit Hours Required

37

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Engineering Technology, A.A.S.

The Engineering Technology program is an interdisciplinary hands-on engineering technology program that incorporates elements of electrical engineering technology and mechanical engineering technology. This program was designed for the student who wants the skills to work in the design and automation industries. The program also provides students the option to pursue a bachelor's degree in mechanical engineering technology, electrical engineering technology, or engineering management.

Program Overview

Graduates of the Engineering Technology Degree may begin their careers as electrical engineering technicians, mechanical engineering technicians, controls technicians, manufacturing engineering technicians, maintenance management, designers, and machinists. Students who pursue this degree should gain the knowledge needed to sit for certifications in CAD and machining.

Students will gain an understanding of the technology utilized in modern manufacturing and engineering firms. Hands-on innovative laboratories, in areas such as electricity and electronics, the strength of materials, fluid power, industrial controls, CNC machining, and CAD will prepare students for the job. Internships may be available.

Program Outcomes

- Demonstrate professionalism (on time, positive attitude, respectful).
- Identify safety equipment.
- Practice team building and effective communication.
- Understand technology utilized in modern distribution and processing industries.
- Identify tools and equipment.
- Write industrial PLCs (Programmable Logic Controls).
- Understand the fundamentals of Quality Control.
- Demonstrate how to properly set up, program, operate, maintain and troubleshoot a scaled manufacturing system.
- Understand advanced concepts and applications of fluid power technology including hydraulics and pneumatics.
- Demonstrate proper application and connection of electrical motors, transformers, and solenoids.

Career Opportunities

Engineering technicians can specialize in the design, control systems, materials, process control, instrumentation, automotive systems, robotics, machining, and processes used in the refrigeration and air conditioning fields. The average annual salary for graduates in this field is \$54,480 to \$62,330 with the top ten percent earning over \$84,000.

Curriculum for an Associate of Applied Science in Engineering Technology

Technical Core	44
Total Credit Hours Required	60

General Education Core

ENGL 110 - ~Technical Writing & Communication (3)

This course is designed to prepare students to write technical reports and other technical documents. Emphasis is on audience, clarity, conciseness, and accuracy of expression. It covers research techniques, information design, writing style, and effective use of graphics.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

MATH 105 - ^Algebra (3)

Topics explored in this course include properties of the real numbers, operations on polynomials, rational and radical expressions, solutions of linear, quadratic, polynomial, radical and absolute value equations and inequalities. Coordinate geometry including distance, midpoint, lines, and circles will also be explored. Additional topics include systems of linear equations and their applications, analysis of functions, operations on functions, transformations of functions, and properties of linear, piecewise, quadratic, polynomial, rational, exponential and logarithmic functions.

Prerequisite(s): MATH 100A - Algebra Essentials (3) or proper placement on test scores

MATH 106 - ^Trigonometry (3)

Topics explored in this course include the study of angles in radians and degrees and evaluating trigonometric functions using the right triangle and a unit circle approaches. Other topics to be explored include verifying trigonometric identities, solving trigonometric equations, solving applied problems using right triangles and oblique triangles, analyzing the graphs and characteristics of trigonometric and inverse trigonometric functions, performing composition and transformations on trigonometric functions, and evaluating inverse trigonometric functions. Time permitting topics include polar coordinates, complex numbers, deMoivre's Theorem, and vectors.

Prerequisite(s): MATH 105 - ^Algebra (3) or proper placement on test scores

MATH 108 - ^Pre-Calculus (4)

This course is a one-semester preparation for calculus, which includes various algebra and trigonometry topics. Algebra topics include the analysis of linear, quadratic, polynomial, radical, rational, absolute value, piecewise, exponential and logarithmic functions and their graphs along with applications. Trigonometry topics include the study of angles using both the unit circle and right triangle approaches, verifying trigonometric identities, solving trigonometric equations, solving right and oblique triangles with applications, and analyzing the characteristics of trigonometric and inverse trigonometric functions. Additional topics include complex numbers, systems of equations, partial fractions, conic sections, sequences, and series. As time permits, vectors, polar coordinates, mathematical induction, and limits may also be explored.

Prerequisite(s): MATH 105 - ^Algebra (3) or proper placement on test scores

MECH 102 - Technical Physics (2)

Technical Physics emphasizes physical concepts as applied to technical fields. The five major areas of concentration include mechanics, matter and heat, wave motion and sound, electricity and magnetism, and light. Lab activities will provide hands on discovery of the concepts covered in the course. MECH 102L - Technical Physics Lab (2) is the laboratory portion of the class.

Corequisite(s): MECH 102L - Technical Physics Lab (2)

Pre-requisite/Co-requisite(s): MATH 102 - Technical Mathematics (3), MATH 105 - ^Algebra (3), MATH 106 - ^Trigonometry (3), MATH 108 - ^Pre-Calculus (4), or MATH 114 - ~Elem Probability & Statistics (3)

MECH 102L - Technical Physics Lab (2)

Technical Physics emphasizes physical concepts as applied to technical fields. The five major areas of concentration include mechanics, matter and heat, wave motion and sound, electricity and magnetism, and light. This laboratory portion will include activities that will provide hands on discovery of the concepts covered in the course.

Corequisite(s): MECH 102 - Technical Physics (2)

Pre-requisite/Co-requisite(s): MATH 102 - Technical Mathematics (3), MATH 105 - ^Algebra (3), MATH 106 - ^Trigonometry (3), MATH 108 - ^Pre-Calculus (4), or MATH 114 - ~Elem Probability & Statistics (3)

PSYC 203 - ~Introduction to Psychology (3)

This course will introduce the student to basic psychological principals and to enable the student to examine current thinking about development, personality, sensation and perception, cognition, learning, psychological disorders, and their treatment, and influence.

Corequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement

SOCI 203 - ~General Sociology (3)

This course introduces students to the core concepts and perspectives of sociology, the study of human social environments and of human interactions within those environments. The course will explore a number of sociological topics to develop a sociological imagination, an ability to understand the effects of group membership on behavior, attitudes, beliefs, and life chances.

Corequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement

Subtotal Credit Hours Required 16

Technical Core

CAD 102 - CAD Applications (2)

CAD Applications will be a continuation of CAD 101 - Intro to Engineering Graphics (2). This course will be a software based class that will prepare the student to produce accurate 2D and 3D drawings following ANSI standards.

The class will focus on tools, editing, layers, dimensions and tolerances, and plotting to produce orthographic, section, auxiliary, isometric and oblique drawings. CAD 102L - CAD Applications Lab (2) is the laboratory portion of this class.

Corerequisite(s): CAD 201L - 3D Modeling Lab (2)

CAD 102L - CAD Applications Lab (2)

This is the laboratory portion of CAD Applications and it will be a continuation of CAD 101- Introduction to Engineering Graphics. This course will be a software-based class that will prepare the student to produce accurate 2D and 3D drawings following ANSI standards. The class will focus on tools, editing, layers, dimensions and tolerances, and plotting to produce orthographic, section, auxiliary, isometric and oblique drawings.

Corerequisite(s): CAD 102 - CAD Applications (2)

CAD 201 - 3D Modeling (1)

In this course students will learn to use 3D modeling software to develop parametric design solutions for various engineering problems. Students will develop designs, learn and apply ANSI (American National Standards Institute) standards, explore finite element analysis, and develop working, assembly and presentation drawings.

Corerequisite(s): CAD 201L - 3D Modeling Lab (2)

CAD 201L - 3D Modeling Lab (2)

In this course, students will learn to use 3D modeling software to develop parametric design solutions for various engineering problems. During the lab component, students will develop designs, learn and apply ANSI (American National Standards Institute) standards, explore finite element analysis, and develop working, assembly and presentation drawings.

Corerequisite(s): CAD 201 - 3D Modeling (1)

MECH 106 - Electricity & Electronics (2)

Electricity & Electronics is an introduction to AC electrical applications and commercial wiring practices. This course is paired with MECH 105 - Electricity & Commercial Wiring (1) to form a complete electricity/electronic experience for the mechatronics technician. This course introduces the fundamental concepts of and computations related to AC electricity. Emphasis is placed on AC circuits, components, operation of test equipment; and other related topics. Devices such as transformers, AC motors, and solenoids are covered. Commercial wiring tools and practices are introduced to prepare the student for the NEC exam. MECH 106L - Electricity & Electronics Lab (2) is the laboratory portion of this course.

Corerequisite(s): MECH 106L - Electricity & Electronics Lab (2)

Pre-requisite/Co-requisite(s): MATH 102 - Technical Mathematics (3), MATH 105 - Algebra (3), MATH 106 - Trigonometry (3), or MATH 108 - Pre-Calculus (4)

MECH 106L - Electricity & Electronics Lab (2)

Electricity & Electronics is an introduction to AC electrical applications and commercial wiring practices. This course is paired with MECH 105 - Electricity & Commercial Wiring (1) to form a complete electricity/electronic experience

for the mechatronics technician. This course introduces the fundamental concepts of and computations related to AC electricity. Emphasis is placed on AC circuits, components, operation of test equipment; and other related topics. Devices such as transformers, AC motors, and solenoids are covered. Commercial wiring tools and practices are introduced to prepare the student for the NEC exam. This laboratory component provides hands-on experiences necessary for complete concept attainment.

Corerequisite(s): MECH 106 - Electricity & Electronics (2)

Pre-requisite/Co-requisite(s): MATH 102 - Technical Mathematics (3), MATH 105 - ^Algebra (3), MATH 106 - ^Trigonometry (3), or MATH 108 - ^Pre-Calculus (4)

MECH 120 - Fluid Power (3)

The Fluid Power course is designed to provide students with a basic understanding of the concepts and applications of fluid power technology including hydraulics and pneumatics. The course is an overview of fluid power technology applications; the general concept of fluid power systems; an introduction to energy input, energy output, energy control, and systems auxiliary components; as well as the design and function of components.

MECH 230 - Industrial Controls (2)

Industrial Controls introduces the students to the basics of AC motor applications and control. This course teaches electric relay control of AC electric motors found in industrial, commercial, and residential applications. Students learn industry-relevant skills including how to operate, install, design, and troubleshoot AC electric motor control circuits for various applications.

Prerequisite(s): MECH 105 - Electricity & Commercial Wiring (1) or MECH 106 - Electricity & Electronics (2)

MECH 250 - Intro to PLC (3)

The PLC course will prepare students to install, maintain and program Programmable Logic Controllers. Students will learn about both Allen-Bradley and Seimens PLC systems.

Prerequisite(s): MECH 105 - Electricity & Commercial Wiring (1) or MECH 106 - Electricity & Electronics (2)

MECH 255 - Adv PLC & Int Automation (2)

This course focuses on working with analog modules in PLC systems. The course begins with connecting analog sensors to analog modules and writing programs to control these devices. Program functions such as comparison, memory, arithmetic, conversion, and jump will be introduced. The basis of bus systems, bus cables, and network connectivity will be included.

Prerequisite(s): MECH 250 - Intro to PLC (3)

MECH 260 - Process Control & Instrumentation (3)

Process Controls cover a wide range of topics such as measurement methods, pressure measurement devices, temperature measurement devices, flow measurement devices, level measurement devices, pilot valves, pneumatic controls, electronic controls, and process controls. Students will learn to install, maintain, monitor and troubleshoot process control equipment.

Prerequisite(s): MECH 105 - Electricity & Commercial Wiring (1) or MECH 106 - Electricity & Electronics (2)

MECH 270 - Manufac Proc & Quality Control (3)

Manufacturing Process and Quality Control has two components. For the process management component, a factory simulation is conducted. Concepts presented include: Cycle Time, Production Time, First Pass Yield, and Barrier Identification. In the QC component, students will learn how to process map, analyze costs, and develop team organization and optimization. The QC component emphasizes fundamentals of total quality assurance for product and process control. Students will make extensive use of electronic spreadsheets.

MET 120 - Statics (3)

This is a Vector mechanics course covering concepts of forces, moments, couples, resultants; equilibrium of particles and rigid bodies in two and three dimensions; forces in trusses, frames and machines; centroids and centers of mass for lines, areas and volumes; distributed loads, internal shear-force and bending-moment calculations for beams; dry friction; area moments of inertia and the parallel-axis theorem.

Prerequisite(s): MATH 100A - Algebra Essentials (3), MATH 102 - Technical Mathematics (3), MATH 105 - Algebra (3), or placement

MET 200 - Introduction to CAM (2)

This course is a study of the basic concepts of automation. These concepts include machine language computer programming, computer process monitoring, process-computer interfaces, and automation problem-solving. The laboratory will consist of team problem-solving in automation and operation of computer-aided manufacturing systems.

Pre-requisite/Co-requisite(s): MATH 100A - Algebra Essentials (3), MATH 102 - Technical Mathematics (3), or placement

MET 201 - Intro to CNC Programming (2)

In this course, students will create basic programs for CNC mills and lathes. Students will generate industry standard G and M code programs. Programs are run on verification software to ensure accuracy. Additionally, students will study speed and feed calculations, operator notes and start-up lines, mill and lathe tooling types and procedures, rectangular coordinates, canned (drill) cycles, and file management.

Pre-requisite/Co-requisite(s): MATH 102 - Technical Mathematics (3), MATH 106 - Trigonometry (3) or placement

MET 220 - Strength of Materials (4)

This course is a mechanics of materials course covering concepts of normal and shear stress and strain, deformation, factors of safety and stress, axially-loaded members, torsionally-loaded members, shearing and bending of beams, internal shear-force and bending-moment diagrams, stresses resulting from combined loading, statically-indeterminate loading, thin-walled pressure vessels, stress transformation via equation and Mohr's circle, beam deflection, column buckling, and thin-walled pressure vessels.

Prerequisite(s): MET 120 - Statics (3)

ROB 210 - Robotics I (2)

This course is designed to introduce the student to industrial robotics applications typical environments. Topics include: robot history and fundamentals, robot classification, power sources, robot applications in the workplace, robot

control techniques, path control, end of arm tooling, robot operation, and robot controllers, controller architecture in a system, robotic language programming, and human interface issues.

- Restricted Electives in CAD 205, CAD 292, CAS 111, CHEM 125, COMM 202, MATH @, MECH 292 (4)

Subtotal Credit Hours Required 44

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Environmental Science Technician, A.A.S.

The Environmental Science Technician A.A.S. program is a workforce education program with two concentrations. Students can prepare to become an Environmental Science Technician with a concentration in Environmental Studies. Students in the Environmental Studies concentration will be prepared to obtain employment as environmental sampling and testing technicians, environmental monitoring technicians, water and wastewater technicians, provide environmental mitigation services and other environmentally related jobs.

Upon completion of the Environmental Studies concentration, the student should be able to:

- Recognize and evaluate the effects of exposures in the workplace.
- Monitor and evaluate compliance with NPDES and air permits in field applications.
- Evaluate the interaction between human activities and the condition of a watershed.
- Apply GIS to analyze environmental data in a real-world application.

Students can prepare to become an Environmental Science Technician with a concentration in Occupational Safety. Students in the Occupational Safety concentration will be prepared to become Occupational Health and Safety Technicians in manufacturing settings or environmental settings. Occupational Health and Safety Technicians inspect workplaces for adherence to regulations on safety, health and the environment. Technicians work with specialists to test and measure potential hazards to help prevent harm to workers, property, the environment, and the general public.

Upon completion of the Occupational Safety concentration, the student should be able to:

- Apply safe work practices in fire safety and confined space rescue.
- Respond with the appropriate techniques to uncover all pertinent facts of a safety incident.
- Incorporate good record keeping, hazard identification, product safety, and behavioral-based safety practices into a coherent safety management program.

Curriculum for an Associate of Applied Science in Environmental Science Technology

General Education Core	15
Environmental Science Technician Core	18
Concentration	27

General Education Core

CAS 111 - Information Literacy (3)

This course covers a variety of introductory computing knowledge including how personal computers work, software essentials, hardware components, operating systems and the most popular productivity applications including word processing, spreadsheet, database and presentation software. Students will also be introduced to the Internet and e-mail essentials, file management and digital electronics. This course aligns with the Internet and Computing Core Certification (IC3), which demonstrates that a student has a clear understanding of the knowledge and application of computers and technology in the modern world.

PSYC 203 - ~Introduction to Psychology (3)

This course will introduce the student to basic psychological principals and to enable the student to examine current thinking about development, personality, sensation and perception, cognition, learning, psychological disorders, and their treatment, and influence.

Corequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement

COMM 205 - ~Professional Communications (3)

This course examines the process of communication and the challenges to and effective practices of communicating in a professional environment. Topics include listening skills and verbal, nonverbal, and written communications. The dynamics of communicating in a group, in a global society, and in culturally diverse environments is also investigated. Students apply a systematic approach to plan and create effective letters, memos, reports, presentations, electronic and other forms of business and professional communication.

ENGL 101 - ~English Composition I (3)

ENGL 101 is an introduction to college writing. This class emphasizes processes for drafting, revising, and editing. It develops a student's ability to read a passage, analyze its meaning, and write an intelligent response which shows not only an understanding of the passage but also a working knowledge of the writing and rhetorical strategies. Students will learn how to make effective arguments and how to locate, synthesize, and evaluate relevant information.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 101L - English Composition I Lab (3), or placement test scores

ENGL 110 - ~Technical Writing & Communication (3)

This course is designed to prepare students to write technical reports and other technical documents. Emphasis is on audience, clarity, conciseness, and accuracy of expression. It covers research techniques, information design, writing style, and effective use of graphics.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

MATH 101 - ~Introduction to Mathematics (3)

During this course topics to be covered are sets, mathematical logic, mathematical systems, the real number system, systematic counting, probability, measurement, and consumer mathematics. History of mathematics, critical thinking skills, problem solving, and use of technology will be incorporated throughout the course.

Prerequisite(s): MATH 100 - Math Essentials (3) or proper placement on test scores

MATH 102 - Technical Mathematics (3)

This course focuses on computational fluency and applied problem solving with emphasis on the following topics: real numbers, ratios, percents, proportions, estimation, exponents, roots, scientific notation, applied algebra, measurement, applied geometry, electrical formulas and laws, basic statistics, basic trigonometry and vectors.

Prerequisite(s): MATH 100 - Math Essentials (3) or proper placement on test scores

SOCI 215 - ~Human Relations (3)

Human Relations instructs students on the relationship between self-esteem and human relations and consequently between human relations skills and career success. Emphasis is on strategies for personal and professional growth based on advancing skills in individual, group, and organizational contexts. The topics looked at include self-esteem, attitudes, values, communications, leadership, emotional control, creativity, conflict and stress management, diversity, business ethics, and productivity.

Subtotal Credit Hours Required 15

Environmental Science Technology Core

CAD 108 - Geographic Information Systems (2)

Geographic Information Systems are a growing part of every aspect of technology and engineering. In this course the student will explore the building blocks of this complex worldwide system including elements of GIS, analysis of spatial information, real-world applications, map creation and analysis. Primary objective is to investigate interactive GIS application rather than develop expert users.

Prerequisite(s): CAD 106 - Intro to Civil CAD & Surveying (2)

ENVT 101 - Environmental Science (3)

This is an introductory course in environmental science. Students will develop an understanding of the interrelationships between human activities and the environment. Emphasis is on the physical, chemical, and biological principles and processes as they relate to human-environment interactions, the role of energy in human and natural systems, environmental legislation and human behavior.

ENVT 105 - Intro to Safety (1)

This course includes training in CPR, first aid, bloodborne pathogens for first responders, as well as introductory training in basic decontamination. Completers will receive CPR and First Aid cards.

ENVT 140 - Industrial Hygiene (3)

This course covers the methods of anticipating, recognizing, evaluation and controlling exposures in the workplace while exploring the toxicological effects of contaminants on the workforce.

ENVT 150 - Air and Water Permits (3)

This course focuses on the laws and policies applicable to air and National Pollution Discharge Elimination System (NPDES) permits. Students will learn types of emission sources, the purpose of air permits, the purpose of NPDES permits, and permitting requirements and compliance.

LTEC 101 - Laboratory Technician I (4)

This course is the introductory course to chemistry concepts. This course will also introduce instrumentation, industrial processes and the science that is needed to be a successful Applied Laboratory Technician.

Corequisite(s): MATH 100 - Math Essentials (3) or placement

LTEC 111 - Laboratory Technician III (2)

This course presents a basic introduction to industrial safety health and environmental health concepts. Students will be able to discuss and recognize the various hazards that exist in a manufacturing environment. The students will discuss the remediation of spills and unsafe conditions. This course will provide OSHA 30 General Industry certification that will include OSHA's history.

Subtotal Credit Hours Required 18

Concentration

Choose one concentration for completion of the program:

Environmental Studies Concentration

ENVT 230 - Geoscience Studies (3)

This course is an introduction to the principles and practice of earth science as it relates to environmental problems, including water quality, soil management, and land use practice, landslides, subsidence, waste disposal, legal aspects, and geological aspects of land-use planning.

ENVT 235 - Pollution Studies (3)

This course provides an understanding of the types and sources of pollutants in the soil, water, and air, including their deposition and movement. An overview of current best management practices in prevention, mitigation, and restoration of soil-water-atmosphere is provided.

ENVT 240 - Watershed Studies (3)

This course is an introduction to water ecology, including watershed structural and functional characteristics, as well as the biotic and abiotic components of watersheds. The course emphasizes how human activities can degrade or improve the condition of a watershed, including water quality, fish and wildlife, forests, and other vegetation.

LTEC 160 - Water Operator I (3)

This course prepares students to take the West Virginia Water Operator I test. The test is administered by the State of West Virginia by Environmental Engineering Division District Office.

LTEC 161 - Waste Water Operator I (3)

This course prepares students to take the West Virginia Waste Water Operator I test. The test is administered by the State of West Virginia by Environmental Engineering Division District Office.

- Restricted Electives - Choose from List (12)

Subtotal Credit Hours Required 27

Occupational Safety Concentration

ENVT 108 - Intro to OSHA and EPA (3)

This course provides an introduction to OSHA and EPA regulations pertaining to 29 CFR 1910 and 29 CFR 1926 record keeping, OSHA/EPA inspection, fire, chemical exposure, most frequent violations, and other topics.

ENVT 200 - HAZWOPER (3)

This HAZWOPER (Hazardous Waste Operations and Emergency Response) course provides a basic knowledge of the storage, transportation, and use of hazardous materials in business. The course introduces hazardous materials, including definitions, categories, properties, regulations, and evaluation. Critical principles of emergency management, including both private and public sector elements, are included.

ENVT 250 - Industrial Fire Safety (3)

This introductory course in fire safety uses NFPA 1, NFPA 600, and other resources to introduce the many factors to be considered for fire safety. This includes engineering concerns as well as safe work practices. This course will also discuss confined space rescue and field applications.

ENVT 255 - Incident Investigation (3)

This course focuses on techniques for gathering complete, accurate, objective incident data, establishing root causes, reporting findings, and determining correction action. The student will learn how to uncover the who, what, why, when, and how of each incident. Students will also learn how to analyze data to prevent injuries, property damage and financial losses.

ENVT 260 - Environmental Safety Mgmt (3)

This course is an introductory examination of safety management principles and NIMS Incident Command Structure. This course emphasizes record keeping, hazard identification, product safety, and behavioral-based safety as it relates to preventing accidents through examination of historical incidents.

- Restricted Electives - Choose from List (12)

Subtotal Credit Hours Required **27**

Restrictive Electives

Students must choose Restricted Electives from this list:

AGRB 124 - Licensing and Food Safety (3)

Students will study the approved procedures for food safety to include handling of utensils and equipment, food protection, and hygiene. Study will also include discussions in state licensing guidelines.

AGRB 126 - Sustainable Agriculture (3)

Students will study techniques such as crop rotation, soil fertility, erosion prevention, and limiting pests. Larger and more productive harvests are the ultimate goal.

AGRB 181 - Intro to Landscape Plants (3)

Students will learn to identify landscape plants and expand knowledge to select the correct plant, site, and purpose. Students will understand that care and disease protection of plants are crucial in longevity designs.

ENVT 121 - OSHA 30 Construction (2)

This course covers federal construction regulations 29 CFR 1926 and the case law surrounding the construction industry.

ENVT 220 - Environmental Software (3)

This course is an introduction to common environmental software tools. Students will use selected software applications to process and analyze data efficiently.

ENVT 270 - Environmental Grant MGT (3)

This course introduces students to monitoring and reporting practices for grants management, technician management, and provides exposure to corporate finance. Regulatory compliance, roles and responsibilities, implementation, and documentation are discussed with respect to grant management. Providing direction, promoting teamwork, and expressing a broader perspective as a new manager are discussed. Finance topics will include the time value of money and risks.

ENVT 292 - Internship in Env. Studies (1-4)

Students earn practical experience in the workplace. The student engages in on-site activities relating to environmental studies. Students learn how to translate classroom theory and methods into professional skills. Activities are under the

supervision of trained personnel. Application for the internship must be made to the Environmental Science Technician Program Manager.

ENVT 299 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Food Service Retail Management, A.A.S.

This degree program provides you with the skills and confidence to be a manager in the foodservice industry with special emphasis on culinary foundations, business, and human relations.

Program Overview

Blue Ridge Community and Technical College Culinary Academy's Programs are designed to provide students with the practical knowledge and skills necessary for employment in an entry to a mid-level position within the foodservice and hospitality and tourism industry through a certificate or degree program.

Students will learn classical cooking and baking techniques, which include a wide variety of regional cuisines, along with courses that build on immersing the student into all aspects of culinary foundations such as nutrition, safety and sanitation, origins of food, food history, food costing, product efficiency, sense of urgency, attention to detail and culinary artistry. Practical lab experiences will help to complete the well-rounded student for entry into the workforce. Students will be able to experience the flow of their product from creation to service in this degree program through our Bruin Café lab.

Food Service Retail Management students will assist in the maintenance of a functional retail operation and become exposed to front and back of the house leadership activities, critical thinking, customer service, and human relations management through an in-house Bruin Cafe internship.

Program Outcomes

- Demonstrate an organized and sanitary workstation.
- Demonstrate accurate measuring and portioning.
- Follow standardized recipes and production procedures.
- Identify and describe procedures and techniques for controlling food costs.
- Demonstrate customer service skills.
- Practice team building and communication.
- Demonstrate professionalism (clean and complete uniform, on time, good attitude, respectful).
- Demonstrate leadership in both the front and back of the house operations.
- Construct a small business plan for a foodservice operation.
- Demonstrate critical thinking skills.

Career Opportunities

If you choose a degree in Food Service Retail Management, you will be prepared for entry to mid-level positions within the industry. You can seek positions within foodservice, hospitality, and tourism.

Curriculum for an Associate of Applied Science in Food Service Retail Management

General Education Core	15
Food Service Retail Management Core	45
Total Credit Hours Required	60

General Education Core

BUSN 160 - Organizational Behavior (3)

This course examines the behavior of individuals and individuals in groups in organizations, and how the two affect the overall performance of an organization. Students consider the impact of individual attitude, motivation, job satisfaction, and communication on the organization. Group dynamics, leadership, organizational culture, and change are also addressed.

COMM 205 - ~Professional Communications (3)

This course examines the process of communication and the challenges to and effective practices of communicating in a professional environment. Topics include listening skills and verbal, nonverbal, and written communications. The dynamics of communicating in a group, in a global society, and in culturally diverse environments is also investigated. Students apply a systematic approach to plan and create effective letters, memos, reports, presentations, electronic and other forms of business and professional communication.

SOCI 215 - ~Human Relations (3)

Human Relations instructs students on the relationship between self-esteem and human relations and consequently between human relations skills and career success. Emphasis is on strategies for personal and professional growth based on advancing skills in individual, group, and organizational contexts. The topics looked at include self-esteem, attitudes, values, communications, leadership, emotional control, creativity, conflict and stress management, diversity, business ethics, and productivity.

CAS 111 - Information Literacy (3)

This course covers a variety of introductory computing knowledge including how personal computers work, software essentials, hardware components, operating systems and the most popular productivity applications including word processing, spreadsheet, database and presentation software. Students will also be introduced to the Internet and e-mail essentials, file management and digital electronics. This course aligns with the Internet and Computing Core Certification (IC3), which demonstrates that a student has a clear understanding of the knowledge and application of computers and technology in the modern world.

ENGL 110 - ~Technical Writing & Communication (3)

This course is designed to prepare students to write technical reports and other technical documents. Emphasis is on audience, clarity, conciseness, and accuracy of expression. It covers research techniques, information design, writing

style, and effective use of graphics.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

MATH 101 - ~Introduction to Mathematics (3)

During this course topics to be covered are sets, mathematical logic, mathematical systems, the real number system, systematic counting, probability, measurement, and consumer mathematics. History of mathematics, critical thinking skills, problem solving, and use of technology will be incorporated throughout the course.

Prerequisite(s): MATH 100 - Math Essentials (3) or proper placement on test scores

Subtotal Credit Hours Required 15

Food Service Retail Management Core

BUSN 101 - Introduction to Business (3)

This course provides an overview of the complex building blocks of business including administration, management, finance, labor, marketing, law, and ethics. These aspects are considered in reference to local and global markets, e-commerce, and evolving technology and trends.

CART 100 - Intro Culinary Food Service (2)

This course is a comprehensive overview of foodservice operational equipment, identification, and maintenance as well as an introduction to culinary terminology, theory and history and how food moves through an operation. This course will also familiarize the student with essential food handling, safety, and storage guidelines encountered within the industry. This course also provides an overview of the professionalism in the culinary industry and career opportunities leading to a career pathway to the Food Service Industry.

Prerequisite(s): Required major in Baking and Pastry Certificate, Baking and Pastry, A.A.S., Catering & Hospitality Management, A.A.S., Culinary Arts Certificate, Culinary Arts, A.A.S., Food Service Retail Management Certificate, or Food Service Retail Management, A.A.S. is required.

CART 115 - Safety/Sanitation in Food Serv (2)

The Safety and Sanitation in the Food Service Industry course follow the format of the National Restaurant Association Educational Foundation ServSafe® Program. The course is designed as an industry-based program that prepares students for careers in the restaurant and foodservice industry. The emphasis of this program is to educate the students about the responsibilities which a foodservice manager and food service worker have to the public in providing safe and sanitary food to the consumer.

Prerequisite(s): Required major in Baking and Pastry Certificate, Baking and Pastry, A.A.S., Catering & Hospitality Management, A.A.S., Culinary Arts Certificate, Culinary Arts, A.A.S., Food Service Retail Management Certificate, or Food Service Retail Management, A.A.S. is required.

CART 120 - Bruin Cafe Lecture (1)

This course teaches students the practice and implementation of management principles as they relate to retail food service.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2)

Corerequisite(s): CART 120L - Bruin Cafe Lab (3)

CART 120L - Bruin Cafe Lab (3)

This course continues the development of retail skills in a supervised laboratory setting. Specific skills are correlated to lecture content in CART 120 - Bruin Cafe Lecture (1).

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2)

Corerequisite(s): CART 120 - Bruin Cafe Lecture (1)

CART 200 - International Cuisines Lecture (1)

In this course, students will learn the impact of religions and cultures on cuisines throughout the world. This course introduces students to ingredients, cooking methods, and presentations specific to international cuisines.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2), CART 245 - Cooking Fundamentals I Lecture (1), CART 245L - Cooking Fundamentals I Lab (2), CART 246 - Cooking Fundamentals II (1), and CART 246L - Cooking Fundamentals II Lab (2)

Corerequisite(s): CART 200L - International Cuisines Lab (2)

CART 200L - International Cuisines Lab (2)

This lab course allows students to practice to improve skills, knowledge, and abilities using basic cooking techniques specific to cultural and regional cuisines.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2), CART 245 - Cooking Fundamentals I Lecture (1), CART 245L - Cooking Fundamentals I Lab (2), CART 246 - Cooking Fundamentals II (1), and CART 246L - Cooking Fundamentals II Lab (2)

Corerequisite(s): CART 200 - International Cuisines Lecture (1)

CART 201 - Stocks, Soups, and Sauces (1)

This course provides the lecture format to the principles and techniques of basic stocks, Mother (leading) sauces, and soups along with varied thickening agents. Special emphasis will be placed on preparation, sanitation, and the presentation.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2), CART 245 - Cooking Fundamentals I Lecture (1), and CART 245L - Cooking Fundamentals I Lab (2)

CART 201L - Stock, Soups & Sauces Lab (2)

This course provides a hands-on lab format to the principles and techniques of basic stocks, Mother (leading) sauces, and soups along with varied thickening agents. Special emphasis will be placed on preparation, sanitation, and the presentation.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2), CART 245L - Cooking Fundamentals I Lab (2), and CART 245 - Cooking Fundamentals I Lecture (1)

CART 203 - Culinary Nutrition (3)

This course is a study of functions, sources, and requirements of nutrients. Emphasis is placed on meeting the nutritional needs of individuals of all ages in a variety of situations. It teaches the principles of adapting recipes and menus to accommodate a variety of dietary and nutritional needs including but not limited to texture, nutrients, and allergies.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2), CART 245 - Cooking Fundamentals I Lecture (1), and CART 245L - Cooking Fundamentals I Lab (2)

CART 204 - Inventory and Purchasing (3)

This course introduces students to inventory and purchasing, the purchasing function, quality standards in purchasing, the procurement process, supplier selection, and inventory control.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2)

CART 212 - Baking Skills & Development (4)

This course provides students the fundamental skills for basic baking. Students will produce simple yeast doughs, quick breads, pies, cakes, cookies and other baked goods found in bakeries, restaurants and food markets. Instruction included classification of ingredients and their functions, baking terminology, culinary and bakery tool, and equipment use and recipe conversions.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2)

CART 231 - Garde Manger and Cold Presentations (4)

This course covers all aspects of the art of Garde Manger including butchering, garnishing, and charcuterie. Students will prepare marinades, cold sauces, forcemeats, mousses, hot and cold Hors d'oeuvres, sandwiches, and cold dishes. Techniques in buffet presentation are implemented in the form of the Grand Buffet as the students' semester capstone.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2), CART 245 - Cooking Fundamentals I Lecture (1), CART 245L - Cooking Fundamentals I Lab (2), CART 246 - Cooking Fundamentals II (1), and CART 246L - Cooking Fundamentals II Lab (2)

CART 245 - Cooking Fundamentals I Lecture (1)

This course is concurrent with CART 100 - Intro Culinary Food Service (2) by engaging the student in a practical application of learned terminology, methods, and techniques. Students will engage in ingredient production and recipe application. We will introduce knife handling skills, basic cooking skills, mise en place, plating, reinforcing food safety and sanitation practices, practical application of the chef's prep list, and industry terminology and standards.

Prerequisite(s): Required major in Baking and Pastry Certificate, Baking and Pastry, A.A.S., Catering & Hospitality Management, A.A.S., Culinary Arts Certificate, Culinary Arts, A.A.S., Food Service Retail Management Certificate, or Food Service Retail Management, A.A.S. is required.

Corerequisite(s): CART 100 - Intro Culinary Food Service (2) and CART 245L - Cooking Fundamentals I Lab (2)

CART 245L - Cooking Fundamentals I Lab (2)

This course is the companion to CART 245 - Cooking Fundamentals I Lecture (1) and is concurrent with CART 100 - Intro Culinary Food Service (2) by engaging the student in a practical application of learned terminology, methods, and techniques. Students will engage in ingredient production and recipe application. We will introduce knife handling skills, basic cooking skills, mise en place, plating, reinforcing food safety and sanitation practices, practical application of the chef's prep list, and industry terminology and standards

Prerequisite(s): Required major in Baking and Pastry Certificate, Baking and Pastry, A.A.S., Catering & Hospitality Management, A.A.S., Culinary Arts Certificate, Culinary Arts, A.A.S., Food Service Retail Management Certificate, or Food Service Retail Management, A.A.S. is required.

Corequisite(s): CART 100 - Intro Culinary Food Service (2) and CART 245 - Cooking Fundamentals I Lecture (1)

CART 246 - Cooking Fundamentals II (1)

This course focuses on expanding the knowledge, skills, cooking techniques and principles learned in CART 245 - Cooking Fundamentals I Lecture (1) and CART 245L - Cooking Fundamentals I Lab (2). Special influences are put on knife skills, advanced cooking techniques, portioning and presentation, safety and sanitation. Students will learn to create balanced and eye appealing meals.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2), CART 245 - Cooking Fundamentals I Lecture (1), and CART 245L - Cooking Fundamentals I Lab (2)

Corequisite(s): CART 246L - Cooking Fundamentals II Lab (2)

CART 246L - Cooking Fundamentals II Lab (2)

This course continues the development of Cooking Fundamentals II skills in a supervised laboratory setting. Specific skills are correlated to lecture content in CART 246 - Cooking Fundamentals II (1).

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2), CART 245 - Cooking Fundamentals I Lecture (1), and CART 245L - Cooking Fundamentals I Lab (2)

Corequisite(s): CART 246 - Cooking Fundamentals II (1)

CART 292 - Culinary Arts Internship (1–6)

The purpose of the internship is to allow the student to demonstrate his or her skills in an occupational setting. The internship is considered a capstone course of the A.A.S. degree program. Completion of the internship indicates to the college that the student has achieved a satisfactory level of skills to be successful in their degree field.

Prerequisite(s): CART 212 - Baking Skills & Development (4)

CART 296 - Ala Carte (4)

This course provides practice in the art of ala carte food production and service as found in hospitality establishments. Menu design, planning, and execution will be part of this capstone class.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2), CART 200 - International Cuisines Lecture (1), CART 200L - International Cuisines Lab (2), CART 245 - Cooking Fundamentals I Lecture (1), CART 245L - Cooking Fundamentals I Lab (2), CART 246 - Cooking Fundamentals II (1), and CART 246L - Cooking Fundamentals II Lab (2)

MATH 100 - Math Essentials (3)

Students will learn how to perform operations on real numbers, the implications of exponents and the order of operations and how to evaluate algebraic expressions. The concepts of percents and their applications, introductory geometry, statistics, and problem-solving skills will all be incorporated. Students will solve equations in one variable, solve literal equations for a variable, and evaluate/graph inequalities. Students will translate and solve algebraic equations, and learn the skills required to solve application problems in one and two variables. Students will interpret and graph linear equations as well as solving and analyzing systems of equations. Students may also be introduced to operations on polynomials.

Subtotal Credit Hours Required 45

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Health Information Management, A.A.S.

This program provides students with a diverse blend of course work in administrative technology and information management. Students interested in medical coding, health information regulations, and computer applications in the healthcare setting will find this career track rewarding.

Students can sit for various credentialing exams, such as the CCS or CPC. Students are eligible to sit for the RHIT. This does not imply a guarantee.

Accreditation Statement:

The Health Information Management accreditor of Blue Ridge Community and Technical College is the Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM). The College's accreditation for the associate degree in Health Information Management has been reaffirmed through 2029-2030.

Mission

The mission of the Health Information Management (HIM) program is to educate and prepare professionals for a successful career in the HIM field. The knowledge provided will allow graduates to enhance health care delivery in the area improving not only the quality of life for our service area but the economic development as well.

Program Outcomes

- **Summarize** medical terminology, systems of classification, and methods of reimbursement commonly used in the health Information Management field.
- **Explain** legal and ethical concerns related to confidentiality, security, and privacy issues in Health Information Management.
- **Compute** best practice quantitative solutions related to health information statistics, financial management, and accounting standards.
- **Examine** compliance issues related to government regulations, licensure, and certification requirements.
- **Compare and contrast** essentials of leadership across business functions.

Curriculum for an Associate of Applied Science in Health Information Management

General Education Core	19
HIM Core	41
Total Credit Hours Required	60

General Education Core

BIOL 120 - ^Human Anatomy & Physiology I (3)

This is course one in a two-course sequence that provides a detailed review of the human organism. It will provide a brief overview of the human body and the chemical basis for activities occurring within the body, a detailed review of the cell, tissues, the integumentary, skeletal, muscular, and nervous systems as well as an overview of the human senses.

Corerequisite(s): BIOL 121 - ^Human Anatomy & Phys I Lab (1)

BIOL 121 - ^Human Anatomy & Phys I Lab (1)

This is a laboratory course in human anatomy and physiology to be taken concurrently with BIOL 120.

Corerequisite(s): BIOL 120 - ^Human Anatomy & Physiology I (3)

BIOL 122 - ^Human Anatomy & Physiology II (3)

This is the second course in a two-course sequence that provides a detailed review of the human organism. This course provides a detailed review of cardiovascular, lymphatic, immune, respiratory, digestive, urinary, and reproductive systems.

Prerequisite(s): BIOL 120 - ^Human Anatomy & Physiology I (3) and BIOL 121 - ^Human Anatomy & Phys I Lab (1)

Corerequisite(s): BIOL 123 - ^Human Anatomy & Phys II Lab (1)

BIOL 123 - ^Human Anatomy & Phys II Lab (1)

This is a laboratory course in human anatomy and physiology to be taken concurrently with BIOL 122.

Prerequisite(s): BIOL 120 - ^Human Anatomy & Physiology I (3) and BIOL 121 - ^Human Anatomy & Phys I Lab (1)

Corerequisite(s): BIOL 122 - ^Human Anatomy & Physiology II (3)

CAS 111 - Information Literacy (3)

This course covers a variety of introductory computing knowledge including how personal computers work, software essentials, hardware components, operating systems and the most popular productivity applications including word processing, spreadsheet, database and presentation software. Students will also be introduced to the Internet and e-mail essentials, file management and digital electronics. This course aligns with the Internet and Computing Core Certification (IC3), which demonstrates that a student has a clear understanding of the knowledge and application of computers and technology in the modern world.

ENGL 110 - ~Technical Writing & Communication (3)

This course is designed to prepare students to write technical reports and other technical documents. Emphasis is on audience, clarity, conciseness, and accuracy of expression. It covers research techniques, information design, writing style, and effective use of graphics.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

MATH 114 - ~Elem Probability & Statistics (3)

This course introduces the fundamental concepts of probability and statistics. Topics include descriptive statistics, random sampling methods, frequency distributions, measures of central tendency and variability, set theory, probability, permutations and combinations, random variables, probability and sampling distributions, expectation, central limit theorem, confidence intervals and hypothesis testing for means and proportions (one and two sample) and simple linear regression and correlation. Time permitting, one-way ANOVA and non-parametric techniques may be discussed. Appropriate application software will be utilized, and applications from a variety of disciplines will be presented.

Prerequisite(s): MATH 100A - Algebra Essentials (3) or proper placement on test scores

PSYC 203 - ~Introduction to Psychology (3)

This course will introduce the student to basic psychological principals and to enable the student to examine current thinking about development, personality, sensation and perception, cognition, learning, psychological disorders, and their treatment, and influence.

Corerequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement

Subtotal Credit Hours Required 19

HIM Core

CAHS 141 - Intro to Pharmacology (3)

This course provides information on a variety of medications that are commonly administered in the healthcare setting. Major drug categories associated with body systems will be reviewed. Students will learn about drug pharmacokinetics, dosage, preparation, administration and interactions.

Prerequisite(s): MATH 100 - Math Essentials (3) or placement

CAHS 142 - Pathophysiology of Disease (3)

Pathophysiology of diseases will build upon previously learned knowledge of normal anatomy and normal physiology. This course will discuss pathologies and abnormalities that are deviations from the norm. For all pathologies, we will discuss causes, signs and symptoms, diagnosis, diagnostic tests, treatments, and prognosis. The pathologies will be organized according to the body system, including cardiovascular, respiratory, immune, gastrointestinal, urinary, reproductive, endocrine, nervous, musculoskeletal, and integumentary. Other topics will include infectious diseases, neoplasms, hereditary diseases, diseases of the blood, and mental/cognitive disorders.

CAHS 206 - HC Law & Ethics (3)

This course introduces the complex legal, moral, and ethical issues involved in providing healthcare services. Emphasis is placed on the legal requirements of healthcare professionals; HIPPA regulations; the role of documentation and ethical completion. Upon completion, students should be able to demonstrate a working knowledge of current medical law and accepted ethical behavior.

HIM 101 - Fundamentals of HIM (2)

This course is an introduction to the Health Information Management (HIM) profession and the patient health record. The course will emphasize the importance of patient-centered care and the role health information plays in care. Topics introduced are functions of the health record, content and structure of the electronic health record (EHR), health information and standards, regulations and initiatives, payment and reimbursement systems, health providers, and disciplines. Upon completion, students should demonstrate an understanding of the HIM profession and healthcare organizations, professions, and the life cycle of EHR's.

HIM 200 - Coding I (3)

This course focuses on the current classification systems used in the healthcare industry for diagnostic and procedure coding purposes. This course will emphasize applying ethical coding standards while adhering to current regulations and established guidelines. Upon completion, students should be able to accurately assign and sequence diagnostic and procedural codes for patient outcomes, statistical, and reimbursement purposes.

Prerequisite(s): BIOL 120 - ^Human Anatomy & Physiology I (3), BIOL 122 - ^Human Anatomy & Physiology II (3), BIOL 123 - ^Human Anatomy & Phys II Lab (1), CAHS 141 - Intro to Pharmacology (3), CAHS 142 - Pathophysiology of Disease (3), and HIM 101 - Fundamentals of HIM (2) with a grade of C or better

HIM 201 - Coding II (3)

The course focuses on the current CPT/HCPCS coding classification system used for outpatient/professional fees and ambulatory billing of medical services provided to the patient. This course will emphasize applying ethical coding standards while adhering to current regulations and established guidelines. Upon completion, students should be able to apply coding principles to correctly assign CPT/HCPCS codes. The focus will be on the CPT/HCPCS coding classification system used for outpatient/professional fees and ambulatory billing of medical service provided to the patient.

Prerequisite(s): HIM 200 - Coding I (3)

HIM 202 - Healthcare Information Systems (3)

This course explores how healthcare information systems are designed and implemented. Topics include system selection and implementation, information integrity, data governance, data quality, databases, and security. Upon completion, students should be able to facilitate the use of different health information systems.

Prerequisite(s): HIM 101 - Fundamentals of HIM (2)

HIM 205 - HC Stats & Perf Improvement (4)

This course focuses on quality assessment, performance improvement, resource management, and risk management in healthcare settings. Students will learn statistical computation at the introductory level to inform performance improvement programs. Upon completion, students should be able to abstract, analyze, and report clinical data for

facility-wide quality management/ performance improvement programs and monitor compliance measures.

Prerequisite(s): MATH 114 - ~Elem Probability & Statistics (3) or placement

HIM 206 - Supervision & Leadership (3)

This course focuses on supervision and management concepts, skills, and theory. This course will emphasize the application of these principles in the health information management setting. Upon completion, students should be able to apply management, leadership, and supervisory concepts to various healthcare settings.

Prerequisite(s): HIM 200 - Coding I (3)

HIM 207 - Advanced Coding (3)

This course focuses on the application of ICD, CPT/HCPS coding through practical exercises using actual medical records. Emphasis will be placed on applying ethical coding standards. Upon completion, students will be able to validate coding accuracy while adhering to current regulations and established guidelines.

Prerequisite(s): HIM 201 - Coding II (3)

HIM 208 - Externship (2)

The HIM Externship is designed to give the student an opportunity to observe and perform hands-on tasks related to Health Information Management. Emphasis is placed on practical application of curriculum concepts to the healthcare setting. The student will be placed in a community healthcare setting coordinated by the school. Upon completion, students should be able to apply health information theory to healthcare facility practices. The HIM Internship is designed to give the student an opportunity to observe and perform hands-on tasks related to Health Information Management. The student may be placed in a community healthcare setting coordinated by the school.

Prerequisite(s): HIM 200 - Coding I (3)

Corerequisite(s): HIM 207 - Advanced Coding (3) and HIM 209 - Capstone (3)

HIM 209 - Capstone (3)

This course focuses on integrating the theoretical and practical knowledge gained throughout the HIM Program. The student will complete an approved academic project or paper that demonstrates mastery of their program of study in a meaningful culmination of their learning, as well as assess their level of mastery of the stated outcomes of their degree requirements. This course will include review and prep for a mock certification exam.

Prerequisite(s): HIM 201 - Coding II (3)

Corerequisite(s): HIM 207 - Advanced Coding (3) and HIM 208 - Externship (2)

HIM 220 - HIM Reimbursement Methods (3)

This course covers reimbursement methodologies and revenue cycle used in all healthcare settings as they relate to national billing, compliance, and reporting requirements. Topics include prospective payment systems, billing process and procedures, charge master maintenance, regulatory guidelines, reimbursement monitoring, and compliance strategies and reporting. Upon completion, students should be able to perform data quality reviews to validate code assignment and comply with reimbursement and reporting requirements.

Prerequisite(s): HIM 200 - Coding I (3)

MAST 102 - Medical Terminology (3)

This course is an integral component in understanding the language of medicine. It is designed to give the student a foundation in the basic structure of medical terms, word building and definitions as well as the applications of medical terminology. A human body systems approach is utilized and topics covered in each system include anatomy and physiology overview, medical terms, symptoms and signs, diseases and disorders, treatments, procedures and devices.

Subtotal Credit Hours Required **41**

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Healthcare Professions, A.A.S.

In the face of an aging population with new treatments and technologies, allied health careers are on the rise. Our healthcare professions' degree program positions you for success in a variety of medical fields. Our program acquaints you with medical knowledge and terminology and refines your communications and life skills, social awareness, and critical and analytical thinking abilities. Within the program, you may select a concentration in Hospital, Paramedicine, or Physical Therapy. The curriculum within each concentration emphasizes practical skills and hands-on learning.

Program Overview

This program prepares individuals to work in a variety of health care settings. Individuals may work in hospitals, clinics, home health agencies, and physicians' offices.

Program Outcomes

- Demonstrate appropriate verbal, non-verbal, therapeutic, professional, and technological communication skills in their practice.
- Facilitate collaboration among all health care team members and the patients in their care.
- Demonstrate proficiency in using sound clinical decision making to plan safe and effective client care.
- Perform an informed discussion about the moral, ethical, and legal aspects of the healthcare profession.

Career Opportunities

Upon achieving a degree, you may seek employment in hospitals, clinics, home health agencies, or physicians' offices. If you seek a more specific career path in fields such as nursing, medical assisting, paramedicine, or physical therapist assisting, explore other health science degree programs here.

Curriculum for an Associate of Applied Science in Healthcare Professions

General Education Core	15-20
Concentration	40-45
Total Credit Hours Required	60

General Education Core

BIOL 100 - The Human Body (3)

This is a survey course of basic Human Anatomy & Physiology. It is designed for students who need a rudimentary understanding of the human body and its organ systems but not in the detail that would be expected of a selective admissions healthcare program. This course will not substitute for BIOL 120 - ^Human Anatomy & Physiology I (3), BIOL 121 - ^Human Anatomy & Phys I Lab (1), BIOL 122 - ^Human Anatomy & Physiology II (3), or BIOL 123 - ^Human Anatomy & Phys II Lab (1).

BIOL 120 - ^Human Anatomy & Physiology I (3)

This is course one in a two-course sequence that provides a detailed review of the human organism. It will provide a brief overview of the human body and the chemical basis for activities occurring within the body, a detailed review of the cell, tissues, the integumentary, skeletal, muscular, and nervous systems as well as an overview of the human senses.

Corerequisite(s): BIOL 121 - ^Human Anatomy & Phys I Lab (1)

BIOL 121 - ^Human Anatomy & Phys I Lab (1)

This is a laboratory course in human anatomy and physiology to be taken concurrently with BIOL 120.

Corerequisite(s): BIOL 120 - ^Human Anatomy & Physiology I (3)

BIOL 122 - ^Human Anatomy & Physiology II (3)

This is the second course in a two-course sequence that provides a detailed review of the human organism. This course provides a detailed review of cardiovascular, lymphatic, immune, respiratory, digestive, urinary, and reproductive systems.

Prerequisite(s): BIOL 120 - ^Human Anatomy & Physiology I (3) and BIOL 121 - ^Human Anatomy & Phys I Lab (1)

Corerequisite(s): BIOL 123 - ^Human Anatomy & Phys II Lab (1)

BIOL 123 - ^Human Anatomy & Phys II Lab (1)

This is a laboratory course in human anatomy and physiology to be taken concurrently with BIOL 122.

Prerequisite(s): BIOL 120 - ^Human Anatomy & Physiology I (3) and BIOL 121 - ^Human Anatomy & Phys I Lab (1)

Corerequisite(s): BIOL 122 - ^Human Anatomy & Physiology II (3)

COMM 202 - ~Fundamentals of Speech (3)

This course equips the student with the necessary tools to construct, deliver, and analyze public communication messages.

ENGL 101 - ~English Composition I (3)

ENGL 101 is an introduction to college writing. This class emphasizes processes for drafting, revising, and editing. It develops a student's ability to read a passage, analyze its meaning, and write an intelligent response which shows not only an understanding of the passage but also a working knowledge of the writing and rhetorical strategies. Students will learn how to make effective arguments and how to locate, synthesize, and evaluate relevant information.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 101L - English Composition I Lab (3), or placement test scores

ENGL 110 - ~Technical Writing & Communication (3)

This course is designed to prepare students to write technical reports and other technical documents. Emphasis is on audience, clarity, conciseness, and accuracy of expression. It covers research techniques, information design, writing style, and effective use of graphics.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

MATH 101 - ~Introduction to Mathematics (3)

During this course topics to be covered are sets, mathematical logic, mathematical systems, the real number system, systematic counting, probability, measurement, and consumer mathematics. History of mathematics, critical thinking skills, problem solving, and use of technology will be incorporated throughout the course.

Prerequisite(s): MATH 100 - Math Essentials (3) or proper placement on test scores

MATH 114 - ~Elem Probability & Statistics (3)

This course introduces the fundamental concepts of probability and statistics. Topics include descriptive statistics, random sampling methods, frequency distributions, measures of central tendency and variability, set theory, probability, permutations and combinations, random variables, probability and sampling distributions, expectation, central limit theorem, confidence intervals and hypothesis testing for means and proportions (one and two sample) and simple linear regression and correlation. Time permitting, one-way ANOVA and non-parametric techniques may be discussed. Appropriate application software will be utilized, and applications from a variety of disciplines will be presented.

Prerequisite(s): MATH 100A - Algebra Essentials (3) or proper placement on test scores

PSYC 203 - ~Introduction to Psychology (3)

This course will introduce the student to basic psychological principals and to enable the student to examine current thinking about development, personality, sensation and perception, cognition, learning, psychological disorders, and their treatment, and influence.

Corerequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement

Subtotal Credit Hours Required 15-20

Choose a Concentration:

Choose a concentration in Hospital, Paramedic, or Physical Therapy Assisting.

Hospital Concentration

This concentration is for students who wish to apply to the nursing program or for students interested in general hospital knowledge.

BIOL 220 - Microbiology (3)

This is a course for students in the health and life science to be taken concurrently with the 1-credit laboratory. The course will emphasize the impact of microorganisms on human health and disease, including identification and control pathogens, the mechanisms of pathogenicity and disease transmission, host resistance, and immunity. Other aspects of microbiology will also be considered, including basic microbial metabolic activities and their role in nutrient cycling and as experimental subjects; biotechnology and recombinant DNA will be introduced.

Prerequisite(s): CHEM 125 - ~Introduction to College Chemistry (4) or CHEM 127 - ~General, Organic & Biochem I (4)

Corequisite(s): BIOL 221 - Microbiology Lab (1)

BIOL 221 - Microbiology Lab (1)

This is a laboratory course in microbiological identification and experimentation techniques to be taken concurrently with BIOL 220.

Prerequisite(s): CHEM 125 - ~Introduction to College Chemistry (4) or CHEM 127 - ~General, Organic & Biochem I (4)

Corequisite(s): BIOL 220 - Microbiology (3)

CHEM 127 - ~General, Organic & Biochem I (4)

This course is designed as the first in a one year sequence of courses intended for nursing or other allied health students who intend to transfer to a four year academic institution which requires a two semester sequence course in General, Organic and Biochemistry (GOB). This course will include an overview of the Metric System, Scientific Notation, Temperature Scales, Density, Atoms, Structure, Isotopes, Electrons, Periodic Table, Chemical Formulae, Types of Chemical Reactions, Quantification of Chemical Reactions, Mass, Moles, Energy, Kinetic, Potential, Law of Conservation of Energy, Thermochemistry, Matter, pH, Fission, Fusion, Functional Groups and Names, and General Organic Reactions to Form Functional Groups. This course sequence could also provide an eight credit General Education Science sequence. The course consists of a lecture portion and a laboratory portion.

Prerequisite(s): MATH 100 - Math Essentials (3) or placement

NURS 111 - Introduction to Nursing (3)

This hands-on course is designed as an introduction to the skills used to provide functional nursing care across the lifespan. This course has a lab component for teaching and demonstrating skill proficiency.

Prerequisite(s): Must be a degree-seeking student enrolled in Medical Assisting, A.A.S. - Nursing Foundation, Healthcare Professions, A.A.S., or Nursing A.S.N.

Pre-requisite/Co-requisite(s): BIOL 120 - ^Human Anatomy & Physiology I (3) and BIOL 121 - ^Human Anatomy & Phys I Lab (1)

CAHS 171 - Advanced Patient Care (4)

This hands-on course is designed to provide skills and performance for providers working in a healthcare setting. Students will demonstrate patient care skills maintaining safety, comfort, and caring behaviors while applying appropriate standards of care.

- Restricted Electives (29) - See List

Subtotal Credit Hours Required 40

Hospital Concentration Restricted Electives

Choose elective credits from this list (with advisor approval):

ART 103 - ~Introduction to Visual Arts (3)

This is an introductory course designed to survey prehistoric to contemporary visual art forms, giving insight into their nature and their relationships to the human condition. The course includes a study of the functions of various forms of art in which students are exposed to a variety of visual arts experiences to promote a deeper understanding of and appreciation for the role of the visual arts throughout human history and in contemporary society.

CAHS 105 - Science for Allied Health (3)

This a one-semester preparatory course designed for students who plan to enroll in Allied Health courses in the future. The course reviews basic principles of chemistry, cell biology, cell processes, and basic math skills with applications to biology and chemistry. Reading, writing, and study skills are emphasized throughout the course.

CAHS 140 - Intro to Healthcare (3)

This course is a foundation course for selected Allied Health programs. The course introduces students to a variety of health occupations and assists students in acquiring the basic knowledge skills, and professional behaviors needed to work and interact with clients in a healthcare setting.

CAHS 141 - Intro to Pharmacology (3)

This course provides information on a variety of medications that are commonly administered in the healthcare setting. Major drug categories associated with body systems will be reviewed. Students will learn about drug pharmacokinetics, dosage, preparation, administration and interactions.

Prerequisite(s): MATH 100 - Math Essentials (3) or placement

CAHS 142 - Pathophysiology of Disease (3)

Pathophysiology of diseases will build upon previously learned knowledge of normal anatomy and normal physiology. This course will discuss pathologies and abnormalities that are deviations from the norm. For all pathologies, we will discuss causes, signs and symptoms, diagnosis, diagnostic tests, treatments, and prognosis. The pathologies will be organized according to the body system, including cardiovascular, respiratory, immune, gastrointestinal, urinary, reproductive, endocrine, nervous, musculoskeletal, and integumentary. Other topics will include infectious diseases, neoplasms, hereditary diseases, diseases of the blood, and mental/cognitive disorders.

CAHS 143 - Spanish for Healthcare (3)

Medical Spanish for HealthCare Providers has been designed for healthcare practitioners and all individuals who interact with Hispanic patients who have limited English communication skills. Emphasis will be placed on communication and phrases needed to complete a patient assessment, and explain medical procedures.

CGEN 101 - Career Transition (3)

This course will provide a foundation of career development skills and exploration of life planning issues. Components will include self-assessment, academic exploration, study of career fields, and information interviewing. Job search areas of the course would include networking, resume and correspondence, writing interview preparation, job search etiquette, decision-making, work transition, and using the Internet in your search.

CHEM 128 - ~General, Organic & Biochem II (4)

This course is designed as the second course in a one year sequence of courses intended for nursing or other allied health students who intend to transfer to a four year academic institution which requires a two semester sequence course in General, Organic and Biochemistry (GOB). This course will include an overview of Alcohols, Reactions, Aldehydes and Ketones, Organic Acids, Amines, Aromatic Compounds, Heterocyclic Compounds, DNA, Hyper-, Iso-, Hypotonic Solutions, Metabolic Disorders, Complex Carbohydrates, Proteins, Lipids, Nucleic Acids, Body Fluids, Blood, Clotting Chemistry, Respiratory Exchange, Metabolic and Respiratory Acidosis and Ketosis. This course sequence could also provide an eight credit General Education Science sequence. The course consists of a lecture portion and a laboratory portion.

Prerequisite(s): CHEM 127 - ~General, Organic & Biochem I (4)

ENGL 102 - ~English Composition II (3)

ENGL 102 is a continuation of English Composition I that provides experience in analyzing and writing arguments and persuasive prose. A central feature of the course is library research that is intended to develop familiarity with reference sources and skill in summarizing the diverse points of view of multiple sources. Requires students to locate, evaluate, integrate, and document sources effectively.

Prerequisite(s): ENGL 101 - ~English Composition I (3)

ENGL 204 - ~Sur of American Lit (3)

This course is designed to familiarize students with the rich variety of literature produced in America-- from the Colonial through the Modern periods. Students are exposed to a range of writers and traditions that constitute the diverse and multicultural American experience. In addition to tests and quizzes, students are required to write and revise at least two critical essays or equivalent writings (one of which is 1,000-word computer drafted minimum); however, instructors are encouraged to assign significant amounts of writing beyond the required minimum in order to facilitate students' continued acquisition of critical thinking, reading, and writing skills.

Prerequisite(s): ENGL 102 - ~English Composition II (3)

HIST 101 - ~World History to 1500: Early Man Through the Renaissance (3)

This course is a survey of World History covering the development of ancient civilizations and cultures to the year 1500, beginning with prehistoric humans and the rise of the first civilizations, including Ancient Mesopotamia, Egypt, the Indus River Valley, and Early China. Continuing with the Classical Era, the survey encompasses the Greek and

Roman, Indian, Japanese, and Saharan African Civilizations. The course then examines World Civilizations in the Middle Ages, including the Middle East, Europe, Asia, the Americas, and Africa, before concluding with the European Renaissance. The course compares the development and philosophical foundations of all the major world religions including Judaism, Hinduism, Buddhism, Christianity, and Islam, as well as the major political, economic, social, and cultural systems to the year 1500.

HIST 102 - ~World History Since 1500: The Renaissance Through the Present (3)

This course is a survey of World History from the European Renaissance to the present. At the beginning of the course, developments in the Western World between 1500 and 1800 receive special attention, including the Renaissance, Reformation, Scientific Revolutions, Age of Exploration, Enlightenment, colonization of America, and the transition from mercantilism to capitalism. Having identified the dramatic transition taking place in the West, the course then looks at the impact of those changes around the globe through the trans-Atlantic Slave Trade, political revolutions in the Americas and Europe, industrialization, 19th-century imperialism, World Wars I and II, communist revolutions, the rise of fascism, the Cold War, and the 19th and 20th-century decolonization efforts in India, Africa, Southeast Asia, and the Middle East. The course closes with a review of economic and political globalization since the 1970s. Thematically, the course explores the nature of political, economic, and technological power and the relationship of that power to issues of race, class, gender, religion, and environment.

MAST 102 - Medical Terminology (3)

This course is an integral component in understanding the language of medicine. It is designed to give the student a foundation in the basic structure of medical terms, word building and definitions as well as the applications of medical terminology. A human body systems approach is utilized and topics covered in each system include anatomy and physiology overview, medical terms, symptoms and signs, diseases and disorders, treatments, procedures and devices.

MUSC 111 - ~Introduction to Music (3)

This course provides training and experiences which will enable the student to acquire a historical-social-aesthetic perspective, to comprehend musical concepts, to discriminate quality levels, to select satisfying and stimulating musical experiences, and to empathize with the creators and performers of music.

PSCI 101 - ~American Federal Government (3)

This course involves the study of the functions and administration of government in the United States. The course is designed to provide an introduction to the structure, organization and functioning of the national government of the United States. It will examine the powers and relationships of the executive, legislative, and judicial branches of government with special emphasis given to the role that history, political parties, pressure groups, etc. play in influencing these relationships.

PSYC 210 - Human Growth & Development (3)

This course explores the basic principles of human growth and development throughout the lifespan. Prenatal development, as well as physical, emotional, mental, and social changes in children, adolescents, and adults will be reviewed. The multiple factors that influence development and shape personality will be considered.

SOCI 203 - ~General Sociology (3)

This course introduces students to the core concepts and perspectives of sociology, the study of human social environments and of human interactions within those environments. The course will explore a number of sociological topics to develop a sociological imagination, an ability to understand the effects of group membership on behavior,

attitudes, beliefs, and life chances.

Corerequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement

Paramedic Concentration

This concentration is for students who wish to complete the Paramedic program or increase general pre-hospital knowledge.

CAHS 140 - Intro to Healthcare (3)

This course is a foundation course for selected Allied Health programs. The course introduces students to a variety of health occupations and assists students in acquiring the basic knowledge skills, and professional behaviors needed to work and interact with clients in a healthcare setting.

CAHS 141 - Intro to Pharmacology (3)

This course provides information on a variety of medications that are commonly administered in the healthcare setting. Major drug categories associated with body systems will be reviewed. Students will learn about drug pharmacokinetics, dosage, preparation, administration and interactions.

Prerequisite(s): MATH 100 - Math Essentials (3) or placement

CAHS 142 - Pathophysiology of Disease (3)

Pathophysiology of diseases will build upon previously learned knowledge of normal anatomy and normal physiology. This course will discuss pathologies and abnormalities that are deviations from the norm. For all pathologies, we will discuss causes, signs and symptoms, diagnosis, diagnostic tests, treatments, and prognosis. The pathologies will be organized according to the body system, including cardiovascular, respiratory, immune, gastrointestinal, urinary, reproductive, endocrine, nervous, musculoskeletal, and integumentary. Other topics will include infectious diseases, neoplasms, hereditary diseases, diseases of the blood, and mental/cognitive disorders.

CAHS 171 - Advanced Patient Care (4)

This hands-on course is designed to provide skills and performance for providers working in a healthcare setting. Students will demonstrate patient care skills maintaining safety, comfort, and caring behaviors while applying appropriate standards of care.

CGEN 101 - Career Transition (3)

This course will provide a foundation of career development skills and exploration of life planning issues. Components will include self-assessment, academic exploration, study of career fields, and information interviewing. Job search areas of the course would include networking, resume and correspondence, writing interview preparation, job search etiquette, decision-making, work transition, and using the Internet in your search.

EMSP 101 - Introduction to EMS (3)

This course is a survey course designed to acquaint the student with emergency medical services roles & responsibilities, well being of the EMS provider, illness and injury prevention, medical-legal issues, ethics, therapeutic

communications, and life span development.

Pre-requisite/Co-requisite(s): Be a degree seeking student in Paramedic, A.A.S. or Paramedicine Certificate

EMSP 102 - Emergency Medical Technician (6)

The primary focus of the Emergency Medical Technician is to provide basic emergency medical care and transportation for critical and emergent patients who access the emergency medical system. This individual possesses the basic knowledge and skills necessary to provide patient care and transportation. Emergency Medical Technicians function as part of a comprehensive EMS response, under medical oversight. Emergency Medical Technicians perform interventions with the basic equipment typically found on an ambulance. The Emergency Medical Technician is a link from the scene to the emergency health care system. This course was previously known as EMT-Basic until the incorporation of the new curriculum and scope of practices. This course or the EMT-Basic is a required prerequisite for admission into the Paramedic Program.

Corerequisite(s): EMSP 102L - Emergency Medical Technician Lab (2)

Pre-requisite/Co-requisite(s): Be a degree seeking student in Paramedic, A.A.S. or Paramedicine Certificate

EMSP 102L - Emergency Medical Technician Lab (2)

This class is designed to follow the same chronological order as the Emergency Medical Technician (EMT) course. Items covered will be all of the hands-on experiences necessary to reinforce the didactic instruction as the student completes the classroom portion. This course will act as the second portion of the EMT course in order to meet both state and national standards and guidelines for an EMT.

Corerequisite(s): EMSP 102 - Emergency Medical Technician (6)

Pre-requisite/Co-requisite(s): Be a degree seeking student in Paramedic, A.A.S. or Paramedicine Certificate

EMSP 103 - EMS Operations (3)

This course will include in-depth review of such topics as emergency vehicle operations, medical incident command, rescue awareness and operations, hazardous materials recognition & identification and crime scene awareness.

Pre-requisite/Co-requisite(s): Be a degree seeking student in Paramedic, A.A.S. or Paramedicine Certificate

EMSP 104 - EMS Practicum (1)

This course provides the opportunity to observe and apply the skills learned in EMSP 102 in a supervised clinical setting including a local hospital emergency department, regional medical command center and on a field EMS unit. A minimum of fifty hours are required and will be scheduled by the student on an individual basis through the EMS Clinical Coordinator.

Pre-requisite/Co-requisite(s): Be a degree seeking student in Paramedic, A.A.S. or Paramedicine Certificate

MAST 102 - Medical Terminology (3)

This course is an integral component in understanding the language of medicine. It is designed to give the student a foundation in the basic structure of medical terms, word building and definitions as well as the applications of medical terminology. A human body systems approach is utilized and topics covered in each system include anatomy and physiology overview, medical terms, symptoms and signs, diseases and disorders, treatments, procedures and devices.

- Free Electives (6)

Subtotal Credit Hours Required **40**

Physical Therapy Assistant Concentration

This concentration is for students who wish to apply for the physical therapy assisting program.

CAHS 141 - Intro to Pharmacology (3)

This course provides information on a variety of medications that are commonly administered in the healthcare setting. Major drug categories associated with body systems will be reviewed. Students will learn about drug pharmacokinetics, dosage, preparation, administration and interactions.

Prerequisite(s): MATH 100 - Math Essentials (3) or placement

CAS 111 - Information Literacy (3)

This course covers a variety of introductory computing knowledge including how personal computers work, software essentials, hardware components, operating systems and the most popular productivity applications including word processing, spreadsheet, database and presentation software. Students will also be introduced to the Internet and e-mail essentials, file management and digital electronics. This course aligns with the Internet and Computing Core Certification (IC3), which demonstrates that a student has a clear understanding of the knowledge and application of computers and technology in the modern world.

MAST 102 - Medical Terminology (3)

This course is an integral component in understanding the language of medicine. It is designed to give the student a foundation in the basic structure of medical terms, word building and definitions as well as the applications of medical terminology. A human body systems approach is utilized and topics covered in each system include anatomy and physiology overview, medical terms, symptoms and signs, diseases and disorders, treatments, procedures and devices.

PTA 108 - Patho of Disease for PTA (3)

Pathophysiology of diseases for the PTA will build upon previously learned knowledge of normal anatomy and normal physiology. This course will discuss pathologies and abnormalities that are deviations from the norm. For all pathologies, we will discuss causes, signs and symptoms, diagnosis, diagnostic tests, treatments, and prognosis. The pathologies will be organized according to the body system, including cardiovascular, respiratory, immune, gastrointestinal, urinary, reproductive, endocrine, nervous, musculoskeletal, and integumentary with emphasis placed on how these are addressed by PTA's. Other topics will include infectious diseases, neoplasms, hereditary diseases, diseases of the blood, and mental/cognitive disorders.

Prerequisite(s): BIOL 100 - The Human Body (3), or BIOL 120 - ^Human Anatomy & Physiology I (3) and BIOL 121 - ^Human Anatomy & Phys I Lab (1)

Corequisite(s): PTA 111 - Anatomy & Physiology for PTA (4)

Pre-requisite/Co-requisite(s): Healthcare Professions, A.A.S., PTA Concentration Students Only

PTA 109 - Physics for PTA (1)

This is an introductory physics course for students wishing to enter the PTA program. Students will be introduced to the following concepts: Newton's Laws of Motion, Linear Motion, Circular Motion, Gravity, Work and Energy, Momentum, Vectors, Rotational Motion, Energy, Waves and Sound, Heat, and Heat Transfer.

PTA 111 - Anatomy & Physiology for PTA (4)

This course is specifically designed for the Physical Therapist Assistant (PTA) student, to build upon basic anatomy and physiology material from the pre-requisite, BIOL 100 The Human Body. More specifically, in-depth knowledge of the muscular, skeletal, and nervous systems are essential to the success of future PTAs and will therefore guide the overall course learning objectives and the specific unit learning objectives.

Prerequisite(s): BIOL 100 - The Human Body (3)

- Free Elective (28)

Subtotal Credit Hours Required 45

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Heavy Equipment Technician, A.A.S.

The Heavy Equipment Technician program provides hands-on technical skills for the heavy equipment industry.

Program Overview

Graduates of the Heavy Equipment Technician program will be able to diagnose, service, and repair electro-mechanical systems in the electrical utility, agricultural, construction, forestry, mobile recovery, and transportation industries. Students who pursue this degree should gain the knowledge to sit for certification in CAD and machining.

The Heavy Equipment Technician degree instruction involves classroom theory, live stop demonstrations, and repair of heavy equipment currently used in the industry. Making repairs on actual equipment is vital to skill development.

Program Outcomes

- Demonstrate professionalism (clean and complete uniform, on time, positive attitude, respectful).
- Identify safety equipment.
- Demonstrate the necessary skills to work safely in the industrial setting.
- Practice teambuilding and effective communication.
- Identify welding equipment, types of electrodes, types of welds, and welding positions.
- Understand the basics of metal fabrication.
- Identify and troubleshoot hydraulic motors and pumps.
- Understand basic electrical theory as it relates to power distribution.
- Understand advanced concepts and applications of fluid power technology including hydraulics and pneumatics.
- Create basic programs for CNC mills and lathes.

Career Opportunities

Heavy Equipment Technicians can see job opportunities as field service technicians, mobile heavy equipment technicians, construction equipment technicians, agricultural equipment technicians, and heavy equipment R&D technician. The average salary for students in this field is \$47,690.

Curriculum for an Associate of Applied Science in Heavy Equipment Technician

General Education Core	15
Technical Core	45
Total Credit Hours Required	60

General Education Core

CAS 111 - Information Literacy (3)

This course covers a variety of introductory computing knowledge including how personal computers work, software essentials, hardware components, operating systems and the most popular productivity applications including word processing, spreadsheet, database and presentation software. Students will also be introduced to the Internet and e-mail essentials, file management and digital electronics. This course aligns with the Internet and Computing Core Certification (IC3), which demonstrates that a student has a clear understanding of the knowledge and application of computers and technology in the modern world.

ENGL 110 - ~Technical Writing & Communication (3)

This course is designed to prepare students to write technical reports and other technical documents. Emphasis is on audience, clarity, conciseness, and accuracy of expression. It covers research techniques, information design, writing style, and effective use of graphics.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

MATH 102 - Technical Mathematics (3)

This course focuses on computational fluency and applied problem solving with emphasis on the following topics: real numbers, ratios, percents, proportions, estimation, exponents, roots, scientific notation, applied algebra, measurement, applied geometry, electrical formulas and laws, basic statistics, basic trigonometry and vectors.

Prerequisite(s): MATH 100 - Math Essentials (3) or proper placement on test scores

MECH 102 - Technical Physics (2)

Technical Physics emphasizes physical concepts as applied to technical fields. The five major areas of concentration include mechanics, matter and heat, wave motion and sound, electricity and magnetism, and light. Lab activities will provide hands on discovery of the concepts covered in the course. MECH 102L - Technical Physics Lab (2) is the laboratory portion of the class.

Corerequisite(s): MECH 102L - Technical Physics Lab (2)

Pre-requisite/Co-requisite(s): MATH 102 - Technical Mathematics (3), MATH 105 - ^Algebra (3), MATH 106 - ^Trigonometry (3), MATH 108 - ^Pre-Calculus (4), or MATH 114 - ~Elem Probability & Statistics (3)

MECH 102L - Technical Physics Lab (2)

Technical Physics emphasizes physical concepts as applied to technical fields. The five major areas on concentration include mechanics, matter and heat, wave motion and sound, electricity and magnetism, and light. This laboratory portion will include activities that will provide hands on discovery of the concepts covered in the course.

Corerequisite(s): MECH 102 - Technical Physics (2)

Pre-requisite/Co-requisite(s): MATH 102 - Technical Mathematics (3), MATH 105 - ^Algebra (3), MATH 106 - ^Trigonometry (3), MATH 108 - ^Pre-Calculus (4), or MATH 114 - ~Elem Probability & Statistics (3)

EDET 180 - Building Better Relationships (2)

This class prepares participants to create better work relationships by becoming a "conscious communicator". It includes taking a workplace personality identifier test. Participants will explore ways to enhance their self-knowledge, work effectively as a team and cope with the stresses and emotions that are often found in the work environment.

EDET 181 - Conflict Resolution (2)

Conflict resolution prepares participants to better deal with conflict in the workplace by helping them become a "conscious communicator". It includes taking a conflict assessment/evaluation. Participants will explore ways and develop tools to enhance their abilities to deal with conflict and reduces stresses and emotions that are often found in the work environment.

PSYC 203 - ~Introduction to Psychology (3)

This course will introduce the student to basic psychological principals and to enable the student to examine current thinking about development, personality, sensation and perception, cognition, learning, psychological disorders, and their treatment, and influence.

Corerequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement

SOCI 203 - ~General Sociology (3)

This course introduces students to the core concepts and perspectives of sociology, the study of human social environments and of human interactions within those environments. The course will explore a number of sociological topics to develop a sociological imagination, an ability to understand the effects of group membership on behavior, attitudes, beliefs, and life chances.

Corerequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement

Subtotal Credit Hours Required 15

Technical Core

CAD 201 - 3D Modeling (1)

In this course students will learn to use 3D modeling software to develop parametric design solutions for various engineering problems. Students will develop designs, learn and apply ANSI (American National Standards Institute) standards, explore finite element analysis, and develop working, assembly and presentation drawings.

Corerequisite(s): CAD 201L - 3D Modeling Lab (2)

CAD 201L - 3D Modeling Lab (2)

In this course, students will learn to use 3D modeling software to develop parametric design solutions for various engineering problems. During the lab component, students will develop designs, learn and apply ANSI (American National Standards Institute) standards, explore finite element analysis, and develop working, assembly and presentation drawings.

Corerequisite(s): CAD 201 - 3D Modeling (1)

EDET 103 - Heavy Equipment Familiarization (2)

Heavy Equipment Familiarization is designed to introduce students to different types of heavy equipment vehicles used in utility work. Basic operation of the most commonly used equipment vehicles will be demonstrated and practiced by students.

Prerequisite(s): Current major declared of Electric Distribution Engineering Technology, A.A.S., Electric Distribution Engineering Technology Certificate, Heavy Equipment Technician, A.A.S., or Mechatronics, A.A.S.

Pre-requisite/Co-requisite(s): EDET 101 - Intro to Line Worker (2)

HET 110 - Welding I (2)

This course introduces students to the basic processes in the welding field and emphasizes welding safety. Students receive an introduction to welding equipment, identification and selection of electrodes, types of welds, and welding positions. Students explore basic metallurgy (weldability), and welding defects and problems. GMAW (MIG), GTAW (TIG), and SMAW/MMA (Stick) welding will be introduced.

HET 120 - Fabrication (2)

Students will learn the basics of metal fabrication safety including production, measuring, hand tools, and layout. Students will demonstrate proficiency in fabrication through related projects.

Prerequisite(s): CAD 201 - 3D Modeling (1), CAD 201L - 3D Modeling Lab (2), and HET 110 - Welding I (2)

HET 206 - Heavy Equipment Electronics (3)

Students enrolled in this course will engage in theories, system testing, and troubleshooting of simulators and equipment. Additionally, students will receive an introduction to controls.

HET 210 - Welding II (2)

This course will focus on more advanced welding topics including the operation of AC and DC power sources, weld heat, polarities, and electrodes for use in joining various alloys. This course will also include weld analysis and an AWS welding certification simulation. Certification will not be granted upon this course.

Prerequisite(s): HET 110 - Welding I (2)

HET 220 - Mobile Hydraulics (3)

Advanced Hydraulics covers a range of topics such as hydraulic motor types; external mechanical pumps with external gear, orbiting gerotor, and roller vane pumps assembly and disassembly; the study of hydraulic formulas; theory of operations; troubleshooting techniques, cylinder repair, includes oil samples, photo tachometer, return line filter, and viscosity gauge.

Prerequisite(s): MECH 120 - Fluid Power (3)

MECH 101 - Introduction to Mechatronics (1)

Introduction to Mechatronics is an overview course that introduces students to the field of Mechatronics. Students will rotate through modules that will give them insight into the skills, concepts, equipment, and challenges they will encounter as a mechatronics technician. Modules will include design process, basic tool use, laboratory safety, precision measurement, fluid power, robotics, and programmable logic controllers. Included will be basic professional preparation topics such as resume writing, job readiness, interviewing and portfolio development. MECH 101L - Intro to Mechatronics Lab (2) is the laboratory component of this class.

Corequisite(s): MECH 101L - Intro to Mechatronics Lab (2)

MECH 101L - Intro to Mechatronics Lab (2)

This course is the lab component of MECH 101 - Introduction to Mechatronics (1). The course contains an overview course that introduces students to the field of Mechatronics. Students will rotate through modules that will give them insight into the skills, concepts, equipment, and challenges they will encounter as a mechatronics technician. Modules will include design process, basic tool use, laboratory safety, engineering journaling, precision measurement, fluid power, robotics, and programmable logic controllers. Included will be basic professional preparation topics such as resume writing, job readiness, interviewing and portfolio development.

Corequisite(s): MECH 101 - Introduction to Mechatronics (1)

MECH 106 - Electricity & Electronics (2)

Electricity & Electronics is an introduction to AC electrical applications and commercial wiring practices. This course is paired with MECH 105 - Electricity & Commercial Wiring (1) to form a complete electricity/electronic experience for the mechatronics technician. This course introduces the fundamental concepts of and computations related to AC electricity. Emphasis is placed on AC circuits, components, operation of test equipment; and other related topics. Devices such as transformers, AC motors, and solenoids are covered. Commercial wiring tools and practices are introduced to prepare the student for the NEC exam. MECH 106L - Electricity & Electronics Lab (2) is the laboratory portion of this course.

Corequisite(s): MECH 106L - Electricity & Electronics Lab (2)

Pre-requisite/Co-requisite(s): MATH 102 - Technical Mathematics (3), MATH 105 - ^Algebra (3), MATH 106 - ^Trigonometry (3), or MATH 108 - ^Pre-Calculus (4)

MECH 106L - Electricity & Electronics Lab (2)

Electricity & Electronics is an introduction to AC electrical applications and commercial wiring practices. This course is paired with MECH 105 - Electricity & Commercial Wiring (1) to form a complete electricity/electronic experience for the mechatronics technician. This course introduces the fundamental concepts of and computations related to AC electricity. Emphasis is placed on AC circuits, components, operation of test equipment; and other related topics. Devices such as transformers, AC motors, and solenoids are covered. Commercial wiring tools and practices are introduced to prepare the student for the NEC exam. This laboratory component provides hands-on experiences necessary for complete concept attainment.

Corequisite(s): MECH 106 - Electricity & Electronics (2)

Pre-requisite/Co-requisite(s): MATH 102 - Technical Mathematics (3), MATH 105 - ^Algebra (3), MATH 106 - ^Trigonometry (3), or MATH 108 - ^Pre-Calculus (4)

EDET 150 - Fundamentals of Electricity (4)

Fundamentals of Electricity provides students with an overview of the ways in which power is distributed from generation to industrial and residential customers. Students will be introduced to essential industry terminology and materials. Following this course, students will understand and be able to analyze Ohm's Law, Magnetism, DC Series & Parallel Circuits, Basic AC Series & Parallel Circuits, Inductance, Reactance, Capacitance, Poly-phase and 3 Phase Circuits, and Basic "Y" single- phase transform bank connections.

Prerequisite(s): Current degree seeking student with a major of Electric Utility Technology, A.A.S. and preemployment screening by First Energy or a degree seeking student in Electric Distribution Engineering Technology Certificate or Electric Distribution Engineering Technology, A.A.S.

MECH 110 - Mechanical Systems I (3)

Mechanics I is a comprehensive introduction to fundamentals of industrial mechanical concepts, principles, and equipment. The course covers safety, lubrication, bearing installation and removal, proper installation and adjustment of belt and chain drives, as well as coupling and shaft alignment.

Prerequisite(s): MECH 101 - Introduction to Mechatronics (1)

MECH 120 - Fluid Power (3)

The Fluid Power course is designed to provide students with a basic understanding of the concepts and applications of fluid power technology including hydraulics and pneumatics. The course is an overview of fluid power technology applications; the general concept of fluid power systems; an introduction to energy input, energy output, energy control, and systems auxiliary components; as well as the design and function of components.

MECH 121 - Safety Awareness & OSHA 10 (2)

Safety Awareness is designed to introduce students to the necessary skills to safely work in the industrial setting. Some major areas of studies include: Fall Protection, Fire Prevention and Protection, Electrical Safety, Personal Protective Equipment, Hazard Communication, and other elective topics. Upon successfully passing the OSHA exam the student will earn a 10 hour OSHA card.

EDET 121 - Safety for Electrical Line Workers (2)

Safety for Electrical Line Workers is designed to introduce students to the necessary skills to safely work on electric distribution systems. Some major areas of studies include applying safe grounding practices, correctly using personal protective equipment, safely setting up traffic control work zone, pole top rescue, aerial lift rescue, and confined space rescue. Upon successful completion of this course, a 10 hour OSHA card will be earned.

Prerequisite(s): EDET 102 - Fundamentals of Electric Power Distribution (2) and current major declared of Electric Distribution Engineering Technology, A.A.S. or Electric Distribution Engineering Technology Certificate

MECH 201 - Systematic Troubleshooting (3)

This course will provide the students with a systematic process, utilizing critical thinking skills to diagnose, analyze, and solve complex problems. Several problem solving models will be presented. Students will work through case studies to develop their problem solving skills. This course will also prepare students to take the Work-keys Applied Technology test which is required by several local employers. This is a good course for anyone who has to analyze and troubleshoot problems within their normal work routine.

Pre-requisite/Co-requisite(s): MECH 250 - Intro to PLC (3)

MECH 210 - Mechanical Systems II (3)

This course is a further investigation of industrial mechanical concepts, principles, and equipment. The course covers advanced topics including PLC's, laser alignment, and vibration analysis.

Prerequisite(s): MECH 110 - Mechanical Systems I (3)

MECH 230 - Industrial Controls (2)

Industrial Controls introduces the students to the basics of AC motor applications and control. This course teaches electric relay control of AC electric motors found in industrial, commercial, and residential applications. Students learn industry-relevant skills including how to operate, install, design, and troubleshoot AC electric motor control circuits for various applications.

Prerequisite(s): MECH 105 - Electricity & Commercial Wiring (1) or MECH 106 - Electricity & Electronics (2)

MET 201 - Intro to CNC Programming (2)

In this course, students will create basic programs for CNC mills and lathes. Students will generate industry standard G and M code programs. Programs are run on verification software to ensure accuracy. Additionally, students will study speed and feed calculations, operator notes and start-up lines, mill and lathe tooling types and procedures, rectangular coordinates, canned (drill) cycles, and file management.

Pre-requisite/Co-requisite(s): MATH 102 - Technical Mathematics (3), MATH 106 - ^Trigonometry (3) or placement

- Restricted Electives in EDET, HET, MECH (3)

Subtotal Credit Hours Required 45

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Human Services, A.A.S.

An associate's degree in Human Services offers graduates the opportunity to make a positive impact on the lives and people in their communities. Students will be able to promote awareness and obtain knowledge and specific skills needed to work in the human and social services fields. The program introduces students to services related to human development concepts and trains them to work with at-risk socioeconomic populations, including the elderly, children, persons with mental health or physical handicaps, and those experiencing problems with addiction disorders.

Upon successful completion of program requirements, graduates will be able to:

- Demonstrate knowledge of the historical development and scope of human services.
- Define the human service systems, which include individuals, families, groups, organizations, and communities within the society and their interaction.
- Develop awareness of one's own values, personalities, reaction patterns, interpersonal styles, limitations, and self-care practices.
- Demonstrate knowledge and skills in the administrative aspects of service delivery.
- Demonstrate effective written and oral communication skills that represent competence and professionalism in the human services field.
- Demonstrate sensitivity and show an understanding of respect for individuals and groups with ethnic, cultural, gender and racial differences.
- Apply critical thinking skills to problem solve in human service practices.
- Demonstrate the ability to identify and analyze service needs, plan appropriate services and intervention strategies for various populations, implement services, and evaluate outcomes of services.
- Exemplify the values, attitudes, and ethical standards of the human services profession and the ability to follow its ethical guidelines.
- Differentiate between the various addiction disorders as well as substances that can lead to addiction.

Curriculum for an Associate of Applied Science in Human Services

General Education Core	20
Human Services Core	18
Concentration	22
Total Credit Hours Required	60

General Education Core

BIOL 101 - ^General Biological Science I (4)

This is semester one of a two-semester general biology course which, with BIOL 102, satisfies the Liberal Arts science requirement. This is an integrated lecture and laboratory course dealing with both plants and animals, related to our environment from molecule to biosphere. This course focuses on molecular and cellular biology, patterns of inheritance and genetics, biotechnology, and mechanisms of evolution.

BIOL 102 - ~General Biological Science II (4)

This is semester two of a two-semester general biology course which, with BIOL 101, satisfies the Liberal Arts science requirement. This is an integrated lecture and laboratory course dealing with both plants and animals, related to our environment from molecule to biosphere. This course focuses on plant and animal structure and function, the dynamics of populations, communities and ecosystems, and human impact on the biosphere.

Prerequisite(s): BIOL 101 - ^General Biological Science I (4)

COMM 202 - ~Fundamentals of Speech (3)

This course equips the student with the necessary tools to construct, deliver, and analyze public communication messages.

ENGL 101 - ~English Composition I (3)

ENGL 101 is an introduction to college writing. This class emphasizes processes for drafting, revising, and editing. It develops a student's ability to read a passage, analyze its meaning, and write an intelligent response which shows not only an understanding of the passage but also a working knowledge of the writing and rhetorical strategies. Students will learn how to make effective arguments and how to locate, synthesize, and evaluate relevant information.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 101L - English Composition I Lab (3), or placement test scores

PSYC 203 - ~Introduction to Psychology (3)

This course will introduce the student to basic psychological principals and to enable the student to examine current thinking about development, personality, sensation and perception, cognition, learning, psychological disorders, and their treatment, and influence.

Corerequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement

SOCI 203 - ~General Sociology (3)

This course introduces students to the core concepts and perspectives of sociology, the study of human social environments and of human interactions within those environments. The course will explore a number of sociological topics to develop a sociological imagination, an ability to understand the effects of group membership on behavior, attitudes, beliefs, and life chances.

Corerequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement

Subtotal Credit Hours Required 20

Human Services Core

HSRV 101 - Intro to Social Work & HSRV (3)

Students will be introduced to human services and the major policies and practices used to understand human services as a profession. Students will study the evolution and history of human services and social welfare policy. Students will

begin the process of self-awareness and growth in relation to helping others. The course explores the skills, ethics, values, and knowledge needed to work effectively as a culturally competent human service professional in a multidisciplinary setting.

Pre-requisite/Co-requisite(s): PSYC 203 - ~Introduction to Psychology (3) and SOCI 203 - ~General Sociology (3)

HSRV 201 - Interview, Intake, Case Mgmt (3)

This course focuses on case management and the interviewing process. Students develop a basic understanding of the concepts and processes of case management. The course will focus on documentation, the interview, assessment, developing a service plan, managing information, problem solving, networking, monitoring services, referral and successful termination, and discharge. Students will study and apply various interviewing, intake, and assessment techniques specifically used in the human services field as well as topics relevant to interviewing, such as confidentiality, recording of interviews and nonverbal communication.

Prerequisite(s): HSRV 101 - Intro to Social Work & HSRV (3)

HSRV 210 - Ethics, Values, Cultural Compt (3)

This course provides a framework of human services practice intended to prepare students for their actual experience in a human services agency. Students will explore moral, cultural, and ethical issues in the human services and addiction counseling fields, as well the core concepts related to ethics. Students will learn the historical development of informed consent and the codes of conduct, examining legal obligations and ethical codes, exploring ethical dilemmas and decision making, and becoming a culturally competent worker.

Prerequisite(s): HSRV 101 - Intro to Social Work & HSRV (3)

HSRV 220 - Internship (3)

Students complete 100 internship hours in a community agency to develop an awareness of issues that arise in the human service field. Students will also participate in weekly classroom meetings for additional personal/professional support, supervision, feedback, and exploration of field-related experiences. This gives students the opportunity to enhance knowledge and skills related to specific client populations. Confidentiality, professionalism, ethical principles, self-awareness, and critical thinking skills will be emphasized. Supervision of skill development and an introduction to the network of community services will be introduced.

Prerequisite(s): HSRV 101 - Intro to Social Work & HSRV (3)

Corequisite(s): HSRV 201 - Interview, Intake, Case Mgmt (3) and HSRV 210 - Ethics, Values, Cultural Compt (3)

PSYC 205 - Abnormal Psychology (3)

This course introduces students to both the science and the personal aspects of abnormal psychology through developing an understanding that abnormal psychology is about understanding the individual in society. This course will emphasize the use of case studies to present the most cutting edge information on abnormal psychology by covering methods and treatment in context. Material presented will integrate the biological, psychological, and social perspectives associated with abnormal psychological study.

Prerequisite(s): PSYC 203 - ~Introduction to Psychology (3)

SOCI 205 - ~Social Problems (3)

This course provides an in-depth study of current social problems. Emphasis is on causes, consequences, and possible solutions to problems associated with major social institutions.

Prerequisite(s): SOCI 203 - ~General Sociology (3)

Subtotal Credit Hours Required 18

Concentrations

You must select ONE of the following concentrations:

Transfer to Social Work

ECON 123 - ~Contemporary Economics (3)

This course introduces students to both macro and microeconomic concepts including the theory of the firm, consumer behavior, economic systems, and managerial economic principles that affect decisions in every venue of our lives.

Note: Not intended for students in majors that require ECON 205 - ~Principles of Macroeconomics (3) and ECON 206 - ~Principles of Microeconomics (3).

Note Not intended for A.S. Business Administration Students.

ECON 205 - ~Principles of Macroeconomics (3)

This class serves as an introduction to fundamental economic concepts including production possibilities and economic growth, market supply and demand analysis, money, banking, government, and monetary policies. Emphasis is placed upon fluctuations in national income, employment, and price level. Overall, the impact of scarcity and human decision making will be imparted.

ENGL 102 - ~English Composition II (3)

ENGL 102 is a continuation of English Composition I that provides experience in analyzing and writing arguments and persuasive prose. A central feature of the course is library research that is intended to develop familiarity with reference sources and skill in summarizing the diverse points of view of multiple sources. Requires students to locate, evaluate, integrate, and document sources effectively.

Prerequisite(s): ENGL 101 - ~English Composition I (3)

ENGL 204 - ~Sur of American Lit (3)

This course is designed to familiarize students with the rich variety of literature produced in America-- from the Colonial through the Modern periods. Students are exposed to a range of writers and traditions that constitute the diverse and multicultural American experience. In addition to tests and quizzes, students are required to write and revise at least two critical essays or equivalent writings (one of which is 1,000-word computer drafted minimum); however, instructors are encouraged to assign significant amounts of writing beyond the required minimum in order to facilitate students' continued acquisition of critical thinking, reading, and writing skills.

Prerequisite(s): ENGL 102 - ~English Composition II (3)

ENGL 208 - ~Survey of World Literature I (3)

This course is designed to familiarize students with great works of world literature—both Western and Eastern traditions—representing Classical, Medieval, and Renaissance periods or non-Western chronological equivalents. Students are exposed to diverse literary traditions through discussion and through critical thinking and writing about significant literary works. In addition to essay tests and quizzes, students are required to write at least one formal, critical essay (1,000 –word computer drafted minimum); however, instructors are encouraged to assign significant amounts of writing beyond the required minimum in order to continue to develop students' critical thinking, reading, and writing skills.

Prerequisite(s): ENGL 102 - ~English Composition II (3)

HIST 101 - ~World History to 1500: Early Man Through the Renaissance (3)

This course is a survey of World History covering the development of ancient civilizations and cultures to the year 1500, beginning with prehistoric humans and the rise of the first civilizations, including Ancient Mesopotamia, Egypt, the Indus River Valley, and Early China. Continuing with the Classical Era, the survey encompasses the Greek and Roman, Indian, Japanese, and Saharan African Civilizations. The course then examines World Civilizations in the Middle Ages, including the Middle East, Europe, Asia, the Americas, and Africa, before concluding with the European Renaissance. The course compares the development and philosophical foundations of all the major world religions including Judaism, Hinduism, Buddhism, Christianity, and Islam, as well as the major political, economic, social, and cultural systems to the year 1500.

HIST 102 - ~World History Since 1500: The Renaissance Through the Present (3)

This course is a survey of World History from the European Renaissance to the present. At the beginning of the course, developments in the Western World between 1500 and 1800 receive special attention, including the Renaissance, Reformation, Scientific Revolutions, Age of Exploration, Enlightenment, colonization of America, and the transition from mercantilism to capitalism. Having identified the dramatic transition taking place in the West, the course then looks at the impact of those changes around the globe through the trans-Atlantic Slave Trade, political revolutions in the Americas and Europe, industrialization, 19th-century imperialism, World Wars I and II, communist revolutions, the rise of fascism, the Cold War, and the 19th and 20th-century decolonization efforts in India, Africa, Southeast Asia, and the Middle East. The course closes with a review of economic and political globalization since the 1970s. Thematically, the course explores the nature of political, economic, and technological power and the relationship of that power to issues of race, class, gender, religion, and environment.

MATH 105 - ^Algebra (3)

Topics explored in this course include properties of the real numbers, operations on polynomials, rational and radical expressions, solutions of linear, quadratic, polynomial, radical and absolute value equations and inequalities. Coordinate geometry including distance, midpoint, lines, and circles will also be explored. Additional topics include systems of linear equations and their applications, analysis of functions, operations on functions, transformations of functions, and properties of linear, piecewise, quadratic, polynomial, rational, exponential and logarithmic functions.

Prerequisite(s): MATH 100A - Algebra Essentials (3) or proper placement on test scores

PSCI 101 - ~American Federal Government (3)

This course involves the study of the functions and administration of government in the United States. The course is designed to provide an introduction to the structure, organization and functioning of the national government of the

United States. It will examine the powers and relationships of the executive, legislative, and judicial branches of government with special emphasis given to the role that history, political parties, pressure groups, etc. play in influencing these relationships.

PSYC 240 - Social Psych of Substance Use (3)

This course is designed to introduce students to the social reality of substance abuse. The course will address the social and personal dynamics involved in the phenomena of substance use. In addition, this course will look at the issues surrounding substance use and its relationship to crime, rehabilitation, medicalization in our society, and various movements aimed at drugs.

Prerequisite(s): PSYC 203 - ~Introduction to Psychology (3) and SOCI 203 - ~General Sociology (3)

- Restricted Electives in ART, MUSC or ENGL (1)

Subtotal Credit Hours Required 22

Addiction Studies

CJST 265 - Community Corrections (3)

This class studies the dynamic world of corrections with specific regard to community-based alternatives and intermediate sanctions in lieu of traditional incarceration practices. Specific focus will be on the history of community-based corrections and intermediate sanction programming as well as the increasing use of treatment-based courts (e.g. drug court, mental health court, veterans court, etc.), pretrial diversion, probation, home confinement and other alternatives to traditional incarceration practices. The discussion will include the difficulties that offenders experience as the result of traditional incarceration, issues surrounding offenders upon their return to the community as well as the benefits of treatment versus punishment.

Corerequisite(s): CJST 200 - Intro Crim Justice Sys (3) or HSRV 101 - Intro to Social Work & HSRV (3)

HSRV 230 - Community Org & Advocacy (3)

This course will develop an understanding of the history and values of community resources designed to meet the needs of at-risk populations. Students will learn key principles, strategies, and hands-on skills frequently used in human service advocacy. This course will explore ways through which groups advocate for themselves and help build organizations and develop communities. The course highlights strategies used in advocacy, and the challenges and dilemmas organizers face in the field. Emphasis will be on agency, legislative, legal and community advocacy. The course will connect students with local social service agencies/organizations and provide them with information about making appropriate referrals for services.

Prerequisite(s): HSRV 101 - Intro to Social Work & HSRV (3)

HSRV 250 - Crisis Intervention (3)

This course prepares students to give immediate help to people experiencing crises and introduces the basic theories and principles of crisis intervention. Emphasis is placed on identifying and demonstrating appropriate and differential techniques for intervening in various crisis situations. Material is presented on initial intervention, defusing and assessment, and resolution and/or referral, with emphasis on safety.

Prerequisite(s): HSRV 101 - Intro to Social Work & HSRV (3) or CJST 200 - Intro Crim Justice Sys (3)

HSRV 260 - Introduction to Addiction (3)

This course will present an overview of substance use disorders, addictive disorder, chemical dependency, and the addictive process. This course provides an introduction to the history, theories, current research and treatment practices, and the nature of successful recovery and prevention concepts. Students will also learn the influence of family history, culture, state and federal laws, ethical issues, and current treatment options.

Prerequisite(s): HSRV 101 - Intro to Social Work & HSRV (3)

HSRV 270 - Psychopharm of Addiction (3)

This course studies behavioral and cognitive effects of psychoactive drugs, including both illicit drugs and use of drugs in treating psychological disorders. Content includes psychology and physiology of addictions, information on drug use, misuse, abuse, and addiction, socially abused chemicals and historical background, pharmacology, psychological and physiological effects, medical uses, dependence patterns and toxicity.

Corequisite(s): HSRV 260 - Introduction to Addiction (3)

HSRV 280 - Addiction Counseling (3)

The course introduces students to the theories, concepts, and delivery of addiction counseling, including various therapies, motivational interviewing, harm reduction, addiction-specific assessments, 12-step programs, and group work. Additionally, the course will develop knowledge and skills in the relapse prevention of addiction.

Corequisite(s): HSRV 260 - Introduction to Addiction (3)

- MATH 101 Intro to Mathematics or Higher (3)
- Restricted Electives in LGST or PSCI (1)

Subtotal Credit Hours Required 22

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Information Technology, A.A.S.

The Blue Ridge Community and Technical College Information Technology degree program prepares the student for achievement in a high-demand field. The program's flexibility gives students a background in computer technology, an array of vendor certification training choices, and numerous internship opportunities. The IT degree will hone student skills in troubleshooting and repair, hardware, networking, web development, and basic programming.

Program Overview

The Information Technology program offers an associate of applied science degree, incorporating non-vendor specific certification training, for students preparing for entry-level employment or advancement in a variety of occupations, courses, and professional certificate programs in information technology. The program will offer students a solid

background in computer technology complemented by a full array of non-vendor specific certification training choices. All courses preparing for certification are taught by certified instructors.

The program offers a flexible environment where students can develop the background necessary to enter the rapidly changing information technology workforce and/or transfer to a four-year institution for further undergraduate education. Students in the Information Technology program are subject to the Blue Ridge Community and Technical College's requirements for admissions, basic skills testing, and appropriate course placement. Blue Ridge Community and Technical College Catalog requirements regarding academic standards, student conduct, and graduation procedures also apply.

Students in this program will complete hands-on activities that will help to develop computer fluency and transferable computer troubleshooting skills. They complete project-based activities that will incorporate Internet research skills and electronic presentation skills to prepare for the work environment. By completing these activities students will also develop a conceptual understanding of and obtain functional skills in computer hardware, networking, web development, and basic programming.

An internship in an office technology-related area is required for graduation. Students are expected to locate their internship site. Detailed information about the internship requirements and expectations is available from the student's advisor.

Program Outcomes

- Communicate effectively with both verbal and written forms.
- Perform and share cooperatively in teams or groups.
- Develop practical skills and knowledge for positions within the information technology profession.
- Research and present technical concepts using office productivity software.
- Review and practice computer and network etiquette and ethics found in working environments.
- Administer and troubleshoot a computer/network infrastructure.
- Evaluate best practices in security concepts to maintain confidentiality, integrity, and availability of computer network systems.

Career Opportunities

Classroom training, internships, and certification opportunities will enable graduates to pursue entry-level positions in computer repair, computer networking, consulting, help desk support, training, or programming. Upon earning an IT degree with certifications, graduates in entry-level network support positions can earn approximately \$40,000–\$50,000 annually with the potential of eventually earning \$60,000 or more.

For graduates seeking a four-year degree, Blue Ridge Community and Technical College has partnered with various four-year institutions to assist students in achieving this goal. These agreements provide students the opportunity to complete their degrees at Blue Ridge Community and Technical College while pursuing bachelor's degrees with other institutions. Students are able to fulfill their degree requirements at Blue Ridge Community and Technical College with the accessibility of online forums to connect them to their four-year institutions.

Note: All salary estimations are based on the current position and educational trends. Blue Ridge Community and Technical College cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Curriculum for an Associate of Applied Science in Information Technology

General Education Core	15
Technical Core	45

Total Credit Hours Required

60

General Education Core

CAS 111 - Information Literacy (3)

This course covers a variety of introductory computing knowledge including how personal computers work, software essentials, hardware components, operating systems and the most popular productivity applications including word processing, spreadsheet, database and presentation software. Students will also be introduced to the Internet and e-mail essentials, file management and digital electronics. This course aligns with the Internet and Computing Core Certification (IC3), which demonstrates that a student has a clear understanding of the knowledge and application of computers and technology in the modern world.

COMM 202 - ~Fundamentals of Speech (3)

This course equips the student with the necessary tools to construct, deliver, and analyze public communication messages.

ENGL 110 - ~Technical Writing & Communication (3)

This course is designed to prepare students to write technical reports and other technical documents. Emphasis is on audience, clarity, conciseness, and accuracy of expression. It covers research techniques, information design, writing style, and effective use of graphics.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

IT 105 - Computer Ethics (3)

This course is designed to educate existing and future Information Technology professionals on the tremendous impact ethical issues have on the use of information technology in the modern business world. The topics covered include an overview of ethics, ethics for IT professionals and IT users, computer internet and crime, privacy, freedom of expression, intellectual property, software development, and employer/employee Issues. Individual case examinations will be presented to more closely represent real-life examples of each of these topics.

MATH 105 - ^Algebra (3)

Topics explored in this course include properties of the real numbers, operations on polynomials, rational and radical expressions, solutions of linear, quadratic, polynomial, radical and absolute value equations and inequalities. Coordinate geometry including distance, midpoint, lines, and circles will also be explored. Additional topics include systems of linear equations and their applications, analysis of functions, operations on functions, transformations of functions, and properties of linear, piecewise, quadratic, polynomial, rational, exponential and logarithmic functions.

Prerequisite(s): MATH 100A - Algebra Essentials (3) or proper placement on test scores

Subtotal Credit Hours Required

15

Technical Core

CGEN 292 - Field Experience (1-6)

This is a capstone course in experiential learning. The student participates in an internship, externship, or cooperative with an appropriate agency, company, or organization. Students will develop professional and career readiness competencies.

Prerequisite(s): Must have completed over half of the requirements for degree completion and have above a 2.0 Overall GPA. CAS 192 - Computer Apps Practicum (1), CYBR 192 - Practicum (3), IT 191 - Practicum (2), OR MDIA 192 - Media Practicum (1)

CNET 111 - Networking Fundamentals (3)

This course is designed to provide a detailed overview of the foundational concepts involved in networking and telecommunications. The OSI model will be examined in detail. Specific protocols and their operations will be examined. Methods of providing telecommunications and the technologies involved will be covered, as well as networking hardware, cabling, documentation, troubleshooting, implementations, planning, and an introduction of subnetting of networks and telecommunications systems.

CYBR 101 - Intro to CyberSecurity (3)

This course provides an overview of the field of cybersecurity. It covers core cybersecurity topics including computer system architectures, critical infrastructures, cyber threats and vulnerabilities, cryptography, information assurance, network security, digital forensics, and risk assessment and management. Topics such as industrial espionage, hacking, and cyber terrorism and information warfare will be discussed.

DBM 101 - Database Concepts/SQL I (3)

Introduction to Database Concepts/SQL I provides a foundation in database design and implementation. The Relational model is analyzed along with SQL commands. Numerous database design methods are identified and applied. A discussion of the various levels of the normalization process is included. Additional topics include requirements gathering, analysis, and trade-off discussions. SQL coverage includes hands-on problems with databases. Students are challenged with critical thinking questions utilizing problem-solving and analytical skills.

SDE 188 - Intro to Programming Logic (3)

This course introduces the basic concepts of programming logic. Students will examine the basic constructs of selection, sequence, and repetition, abstract data structures of records, arrays, and linked lists, and file access methods.

Corerequisite(s): MATH 100 - Math Essentials (3) or appropriate test scores

IT 102 - IT Fundamentals (3)

The IT Fundamentals course covers foundational IT concepts including identifying and explaining computer components, installing software, establishing network connectivity and preventing security risks. The course focuses on the knowledge and skills required to identify and explain the basics of computing, IT infrastructure, software development, and database use. IT Fundamentals prepares the student for the CompTIA IT Fundamentals certification exam.

IT 180 - A+ Core 1 (3)

This course, along with IT 181 - A+ Core 2 (3), prepares students with skills needed to be a successful computer repair technician and also prepares students for CompTIA's A+ certification exams. In this course, the domains covered include mobile devices, networking, hardware, virtualization and cloud computing, and network and hardware troubleshooting. Topics include comparing and contrasting various type of mobile devices, TCP and UDP ports, protocols and their purpose, common networking hardware devices, wireless networking protocols, and internet connection types, network types and their features.

Corequisite(s): CAS 111 - Information Literacy (3)

IT 181 - A+ Core 2 (3)

This course, along with IT 180 - A+ Core 1 (3), prepares students with skills needed to be a computer support technician and also prepares students for CompTIA's A+ certification exams. In this course, domains covered include operating systems, security, software troubleshooting and operational procedures. Students will compare and contrast common operating system types, features, tools, and their purposes, security protocols and authentication methods, social engineering, threats and vulnerabilities, and best practices with change management and documentation. Topics covered include physical security measures, logical security concepts, data destruction, and disposal methods, malware removal and disaster recovery planning.

Corequisite(s): CAS 111 - Information Literacy (3)

IT 185 - Introduction to Linux (3)

This course will prepare students to work with the Linux operating system and help them prepare for the Linux+ CompTIA certification exams. The course does not assume any prior knowledge of Linux and is geared toward those interested in systems administration as well as those who will use or develop programs for Linux systems. The course provides coverage of topics related to Linux certification, including Linux distributions, installation, administration, networking and security.

Prerequisite(s): CAS 111 - Information Literacy (3)

IT 189 - Operating Sys Fundamentals (3)

This course is an introduction to the basics of computer operating systems. Topics include operating system principles, CPU, file systems, input and output devices, disk management, virtualization, sharing resources, and system maintenance.

Prerequisite(s): CAS 111 - Information Literacy (3)

IT 191 - Practicum (2)

This course will cover testing methodologies and study techniques to assist in preparing students for an IT industry certification exam.

Prerequisite(s): IT 102 - IT Fundamentals (3)

IT 244 - Cloud/Virtualization (4)

This course serves as a basis for understanding the standard cloud terminologies and methodologies needed to implement, maintain, and support cloud technologies and infrastructure. Also discussed will be the relevant aspects of IT Security and the use of industry best practices related to the application of virtualization. Topics include cloud service and delivery models, virtualization components, and current virtualization options.

Prerequisite(s): CNET 111 - Networking Fundamentals (3), CNET 121 - Network+ (3), IT 102 - IT Fundamentals (3), or IT 180 - A+ Core 1 (3)

IT 253 - TCP/IP (3)

TCP/IP (Transmission Control Protocol/Internet Protocol) defines the broad family of protocols and services that make the Internet possible. The course covers concepts, terminology, models, protocols, services, and standards that govern TCP/IP and that guide its behaviors on modern networks. Real world and interactive examples are offered in addition to hands-on projects to reinforce key concepts and to demonstrate the use of monitoring and managing TCP/IP in its native environment.

Prerequisite(s): CNET 111 - Networking Fundamentals (3), CNET 121 - Network+ (3), or IT 180 - A+ Core 1 (3)

IT 270 - Server I (3)

This course is a beginning course in server management. Domains include server architecture, server administration, storage, security, networking, disaster recovery, and troubleshooting. Topics include form factors and components, server roles, maintenance, virtualization, storage technologies, server hardening, protocols, IP addressing, disaster recovery principles and troubleshooting methodologies.

Prerequisite(s): IT 189 - Operating Sys Fundamentals (3)

- Restricted Electives in CNET, CYBR, DBM, IT, MDIA, SDE (6)

Subtotal Credit Hours Required 45

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Mechatronics, A.A.S.

Our degree program is geared toward students seeking a challenging and exciting career as a high-tech problem-solver. Over the course of the program, you will learn to apply concepts in mathematics, science, and engineering to install, program, control, and maintain automated equipment commonly used in manufacturing, distribution, and processing.

Program Overview

The Mechatronics program supplies local industries with maintenance technicians who can install, service, repair and maintain a variety of industrial automation equipment. The first year of the program prepares the student to be a certified machine operator. After completing the first year and taking the Siemens certification exam, the student will

be ready to enter the employment market and gain valuable on-the-job experience. This will give the student a chance to apply their new skill set and obtain greater insight into industry practices.

Students will gain an understanding of the technology utilized in modern distribution and processing industries. Hands-on laboratories, in areas such as electricity and electronics, mechanics, fluid power, motor controls, and quality controls will prepare students for the job on day one. Computer-Aided Design and Networking are included. Internships are available.

Program Outcomes

- Demonstrate professionalism (on time, positive attitude, respectful).
- Identify safety equipment.
- Practice teambuilding and effective communication.
- Understand the technology utilized in modern distribution and processing industries.
- Identify tools and equipment.
- Write industrial PLCs (Programmable Logic Controls).
- Understand the fundamentals of Quality Control.
- Demonstrate how to properly set up, program, operate, maintain and troubleshoot a scaled manufacturing system.
- Understand advanced concepts and applications of fluid power technology including hydraulics and pneumatics.
- Demonstrate proper application and connection of electrical motors, transformers, and solenoids.

Career Opportunities

Mechatronic specialists often find rewarding careers in the automotive, aerospace, medical device, and heavy equipment industries. Local employment opportunities abound within this field at companies such as: EcoLab, Essroc, Quad Graphics, Macy's Distribution, Fed-Ex, U.S. Silica, Ply Gem, Monoflo, O'Sullivan, Cenetic Landis, Automated Merchandising Systems, New World Pasta, and other firms in West Virginia, Maryland, Northern Virginia, and Southern Pennsylvania.

Curriculum for an Associate of Applied Science in Mechatronics

General Education Core	16
Technical Core	44
Total Credit Hours Required	60

General Education Core

CAS 111 - Information Literacy (3)

This course covers a variety of introductory computing knowledge including how personal computers work, software essentials, hardware components, operating systems and the most popular productivity applications including word processing, spreadsheet, database and presentation software. Students will also be introduced to the Internet and e-mail essentials, file management and digital electronics. This course aligns with the Internet and Computing Core Certification (IC3), which demonstrates that a student has a clear understanding of the knowledge and application of computers and technology in the modern world.

ENGL 110 - ~Technical Writing & Communication (3)

This course is designed to prepare students to write technical reports and other technical documents. Emphasis is on audience, clarity, conciseness, and accuracy of expression. It covers research techniques, information design, writing style, and effective use of graphics.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

MATH 102 - Technical Mathematics (3)

This course focuses on computational fluency and applied problem solving with emphasis on the following topics: real numbers, ratios, percents, proportions, estimation, exponents, roots, scientific notation, applied algebra, measurement, applied geometry, electrical formulas and laws, basic statistics, basic trigonometry and vectors.

Prerequisite(s): MATH 100 - Math Essentials (3) or proper placement on test scores

MECH 102 - Technical Physics (2)

Technical Physics emphasizes physical concepts as applied to technical fields. The five major areas on concentration include mechanics, matter and heat, wave motion and sound, electricity and magnetism, and light. Lab activities will provide hands on discovery of the concepts covered in the course. MECH 102L - Technical Physics Lab (2) is the laboratory portion of the class.

Corequisite(s): MECH 102L - Technical Physics Lab (2)

Pre-requisite/Co-requisite(s): MATH 102 - Technical Mathematics (3), MATH 105 - ^Algebra (3), MATH 106 - ^Trigonometry (3), MATH 108 - ^Pre-Calculus (4), or MATH 114 - ~Elem Probability & Statistics (3)

MECH 102L - Technical Physics Lab (2)

Technical Physics emphasizes physical concepts as applied to technical fields. The five major areas on concentration include mechanics, matter and heat, wave motion and sound, electricity and magnetism, and light. This laboratory portion will include activities that will provide hands on discovery of the concepts covered in the course.

Corequisite(s): MECH 102 - Technical Physics (2)

Pre-requisite/Co-requisite(s): MATH 102 - Technical Mathematics (3), MATH 105 - ^Algebra (3), MATH 106 - ^Trigonometry (3), MATH 108 - ^Pre-Calculus (4), or MATH 114 - ~Elem Probability & Statistics (3)

IT 105 - Computer Ethics (3)

This course is designed to educate existing and future Information Technology professionals on the tremendous impact ethical issues have on the use of information technology in the modern business world. The topics covered include an overview of ethics, ethics for IT professionals and IT users, computer internet and crime, privacy, freedom of expression, intellectual property, software development, and employer/employee Issues. Individual case examinations will be presented to more closely represent real-life examples of each of these topics.

IT 269 - Project Management (3)

This comprehensive course examines the various models used to develop and control the Work Breakdown Structure (WBS), Schedule, and Cost. Additionally, the class will perform an analysis on the time, cost models, and evaluate the outcome. There will be case problems and labs utilizing various processing tools.

Prerequisite(s): CAS 111 - Information Literacy (3), ENGL 110 - ~Technical Writing & Communication (3), and completion of a minimum of 45 credits

PSYC 203 - ~Introduction to Psychology (3)

This course will introduce the student to basic psychological principals and to enable the student to examine current thinking about development, personality, sensation and perception, cognition, learning, psychological disorders, and their treatment, and influence.

Corerequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement

SOCI 203 - ~General Sociology (3)

This course introduces students to the core concepts and perspectives of sociology, the study of human social environments and of human interactions within those environments. The course will explore a number of sociological topics to develop a sociological imagination, an ability to understand the effects of group membership on behavior, attitudes, beliefs, and life chances.

Corerequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement

Subtotal Credit Hours Required 16

Technical Core

CAD 201 - 3D Modeling (1)

In this course students will learn to use 3D modeling software to develop parametric design solutions for various engineering problems. Students will develop designs, learn and apply ANSI (American National Standards Institute) standards, explore finite element analysis, and develop working, assembly and presentation drawings.

Corerequisite(s): CAD 201L - 3D Modeling Lab (2)

CAD 201L - 3D Modeling Lab (2)

In this course, students will learn to use 3D modeling software to develop parametric design solutions for various engineering problems. During the lab component, students will develop designs, learn and apply ANSI (American National Standards Institute) standards, explore finite element analysis, and develop working, assembly and presentation drawings.

Corerequisite(s): CAD 201 - 3D Modeling (1)

MECH 101 - Introduction to Mechatronics (1)

Introduction to Mechatronics is an overview course that introduces students to the field of Mechatronics. Students will rotate through modules that will give them insight into the skills, concepts, equipment, and challenges they will encounter as a mechatronics technician. Modules will include design process, basic tool use, laboratory safety, precision measurement, fluid power, robotics, and programmable logic controllers. Included will be basic

professional preparation topics such as resume writing, job readiness, interviewing and portfolio development. MECH 101L - Intro to Mechatronics Lab (2) is the laboratory component of this class.

Corerequisite(s): MECH 101L - Intro to Mechatronics Lab (2)

MECH 101L - Intro to Mechatronics Lab (2)

This course is the lab component of MECH 101 - Introduction to Mechatronics (1). The course contains an overview course that introduces students to the field of Mechatronics. Students will rotate through modules that will give them insight into the skills, concepts, equipment, and challenges they will encounter as a mechatronics technician. Modules will include design process, basic tool use, laboratory safety, engineering journaling, precision measurement, fluid power, robotics, and programmable logic controllers. Included will be basic professional preparation topics such as resume writing, job readiness, interviewing and portfolio development.

Corerequisite(s): MECH 101 - Introduction to Mechatronics (1)

MECH 106 - Electricity & Electronics (2)

Electricity & Electronics is an introduction to AC electrical applications and commercial wiring practices. This course is paired with MECH 105 - Electricity & Commercial Wiring (1) to form a complete electricity/electronic experience for the mechatronics technician. This course introduces the fundamental concepts of and computations related to AC electricity. Emphasis is placed on AC circuits, components, operation of test equipment; and other related topics. Devices such as transformers, AC motors, and solenoids are covered. Commercial wiring tools and practices are introduced to prepare the student for the NEC exam. MECH 106L - Electricity & Electronics Lab (2) is the laboratory portion of this course.

Corerequisite(s): MECH 106L - Electricity & Electronics Lab (2)

Pre-requisite/Co-requisite(s): MATH 102 - Technical Mathematics (3), MATH 105 - ^Algebra (3), MATH 106 - ^Trigonometry (3), or MATH 108 - ^Pre-Calculus (4)

MECH 106L - Electricity & Electronics Lab (2)

Electricity & Electronics is an introduction to AC electrical applications and commercial wiring practices. This course is paired with MECH 105 - Electricity & Commercial Wiring (1) to form a complete electricity/electronic experience for the mechatronics technician. This course introduces the fundamental concepts of and computations related to AC electricity. Emphasis is placed on AC circuits, components, operation of test equipment; and other related topics. Devices such as transformers, AC motors, and solenoids are covered. Commercial wiring tools and practices are introduced to prepare the student for the NEC exam. This laboratory component provides hands-on experiences necessary for complete concept attainment.

Corerequisite(s): MECH 106 - Electricity & Electronics (2)

Pre-requisite/Co-requisite(s): MATH 102 - Technical Mathematics (3), MATH 105 - ^Algebra (3), MATH 106 - ^Trigonometry (3), or MATH 108 - ^Pre-Calculus (4)

MECH 110 - Mechanical Systems I (3)

Mechanics I is a comprehensive introduction to fundamentals of industrial mechanical concepts, principles, and equipment. The course covers safety, lubrication, bearing installation and removal, proper installation and adjustment of belt and chain drives, as well as coupling and shaft alignment.

Prerequisite(s): MECH 101 - Introduction to Mechatronics (1)

MECH 120 - Fluid Power (3)

The Fluid Power course is designed to provide students with a basic understanding of the concepts and applications of fluid power technology including hydraulics and pneumatics. The course is an overview of fluid power technology applications; the general concept of fluid power systems; an introduction to energy input, energy output, energy control, and systems auxiliary components; as well as the design and function of components.

MECH 121 - Safety Awareness & OSHA 10 (2)

Safety Awareness is designed to introduce students to the necessary skills to safely work in the industrial setting. Some major areas of studies include: Fall Protection, Fire Prevention and Protection, Electrical Safety, Personal Protective Equipment, Hazard Communication, and other elective topics. Upon successfully passing the OSHA exam the student will earn a 10 hour OSHA card.

MECH 201 - Systematic Troubleshooting (3)

This course will provide the students with a systematic process, utilizing critical thinking skills to diagnose, analyze, and solve complex problems. Several problem solving models will be presented. Students will work through case studies to develop their problem solving skills. This course will also prepare students to take the Work-keys Applied Technology test which is required by several local employers. This is a good course for anyone who has to analyze and troubleshoot problems within their normal work routine.

Pre-requisite/Co-requisite(s): MECH 250 - Intro to PLC (3)

MECH 210 - Mechanical Systems II (3)

This course is a further investigation of industrial mechanical concepts, principles, and equipment. The course covers advanced topics including PLC's, laser alignment, and vibration analysis.

Prerequisite(s): MECH 110 - Mechanical Systems I (3)

MECH 230 - Industrial Controls (2)

Industrial Controls introduces the students to the basics of AC motor applications and control. This course teaches electric relay control of AC electric motors found in industrial, commercial, and residential applications. Students learn industry-relevant skills including how to operate, install, design, and troubleshoot AC electric motor control circuits for various applications.

Prerequisite(s): MECH 105 - Electricity & Commercial Wiring (1) or MECH 106 - Electricity & Electronics (2)

MECH 250 - Intro to PLC (3)

The PLC course will prepare students to install, maintain and program Programmable Logic Controllers. Students will learn about both Allen-Bradley and Seimens PLC systems.

Prerequisite(s): MECH 105 - Electricity & Commercial Wiring (1) or MECH 106 - Electricity & Electronics (2)

MECH 255 - Adv PLC & Int Automation (2)

This course focuses on working with analog modules in PLC systems. The course begins with connecting analog sensors to analog modules and writing programs to control these devices. Program functions such as comparison, memory, arithmetic, conversion, and jump will be introduced. The basis of bus systems, bus cables, and network connectivity will be included.

Prerequisite(s): MECH 250 - Intro to PLC (3)

MECH 260 - Process Control & Instrumentation (3)

Process Controls cover a wide range of topics such as measurement methods, pressure measurement devices, temperature measurement devices, flow measurement devices, level measurement devices, pilot valves, pneumatic controls, electronic controls, and process controls. Students will learn to install, maintain, monitor and troubleshoot process control equipment.

Prerequisite(s): MECH 105 - Electricity & Commercial Wiring (1) or MECH 106 - Electricity & Electronics (2)

MECH 270 - Manufac Proc & Quality Control (3)

Manufacturing Process and Quality Control has two components. For the process management component, a factory simulation is conducted. Concepts presented include: Cycle Time, Production Time, First Pass Yield, and Barrier Identification. In the QC component, students will learn how to process map, analyze costs, and develop team organization and optimization. The QC component emphasizes fundamentals of total quality assurance for product and process control. Students will make extensive use of electronic spreadsheets.

MECH 280 - Integrated Manufacturing Systems (1)

Integrated Manufacturing Systems is a capstone course where students will apply the sum of their knowledge to set up, program, operate, maintain and troubleshoot a scaled manufacturing system. Students will be expected to learn all parts of the system as well as design systematic improvements. MECH 280L - Integrated Manuf Systems Lab (2) is the laboratory portion of the class.

Corerequisite(s): MECH 280L - Integrated Manuf Systems Lab (2)

Pre-requisite/Co-requisite(s): MECH 210 - Mechanical Systems II (3) and MECH 250 - Intro to PLC (3)

MECH 280L - Integrated Manuf Systems Lab (2)

Integrated Manufacturing Systems is a capstone course where students will apply the sum of their knowledge to set up, program, operate, maintain and troubleshoot a scaled manufacturing system. Students will be expected to learn all parts of the system as well as design systematic improvements. In this laboratory portion students will work in cooperative groups to apply their skills to solve assigned practical problems as well as troubleshoot systems.

Corerequisite(s): MECH 280 - Integrated Manufacturing Systems (1)

Pre-requisite/Co-requisite(s): MECH 210 - Mechanical Systems II (3) and MECH 250 - Intro to PLC (3)

MECH 292 - Internship (1-4)

This course corresponds to a paid internship that expands the students' career awareness and further develops their practical hands-on experience. The number of credits earned will be based on the numbers of hours of employment.

- Restricted Electives in any CAD, INST, MECH, RENG, ROB (2)

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Medical Assisting, A.A.S. - Medical Assisting Foundation

Medical assistants perform valuable administrative and clinical duties on the healthcare team. If you seek a meaningful career in patient care, you will welcome the possibilities for growth in this rising field. Our program prepares you for an entry-level job in healthcare and helps you contribute directly to the well-being of your community. Our program includes an externship experience—an added preparation for life in the working world.

Program Overview

The Medical Assisting program is a career-oriented program that prepares students to work primarily in ambulatory care settings under the direction of a physician. The program is comprised of clinical and non-clinical components, with the lecture as well as competency-based experiences in performing administrative and clinical procedures. General education and program requirements are designed for students interested in pursuing management positions within physician offices. There is also a non-compensated externship experience in which students work in an actual ambulatory care setting. Externship sites may have their own requirements that students must meet prior to their externship experience. Medical Assisting degree students must maintain a grade of "C" or better in all required courses. Students must provide appropriate health records that include a history and physical, required immunizations, and a negative TB test prior to externship. Students must also have a current American Heart Association's "Healthcare Provider" CPR certification as well as First Aid certification and meet the program's technical standards. Also, students will undergo a background check and drug screen prior to externship. Any negative findings may prohibit a student from participating in their externship, and thus not be able to complete the Medical Assisting degree program. Students who successfully complete the program are required to sit for the American Medical Technologists' national certification exam in medical assisting *.

** In order to sit for the American Medical Technologists' national certification exam in medical assisting, a graduate must have proof of High School diploma or G.E.D.*

Mission Statement

Blue Ridge Community and Technical College's Medical Assisting Program is committed to providing learner-centered career programs for a diverse student population to pursue professional administrative and clinical medical education within the college's service area. These programs are designed to provide graduates with the opportunity to obtain entry-level jobs in allied health careers, and in so doing, contribute to the growth and development of their communities.

Program Goals

The following goals are the primary purposes for the Medical Assisting Program:

1. Prepare competent, entry-level allied health professionals in the cognitive (knowledge), psychomotor (skills), and affective (behavior) learning domains.
2. Prepare students for nationally recognized certification exams.

3. Prepare graduates to obtain jobs in allied health fields.
4. Prepare graduates who can function in and contribute to the well-being of their communities.

Outcomes

Students will be able to:

- Demonstrate an understanding of the content areas of the curriculum in medical assisting. These content areas are anatomy and physiology, medical terminology, medical law and ethics, psychology, communication, medical assisting administrative procedures, medical assisting clinical procedures, and professional components.
- Apply knowledge from content areas to competencies in administrative, clinical, and general skills of medical assisting.
- Analyze the essential elements of core content areas and competencies.
- Critically evaluate patient care and administrative scenarios and use appropriate judgment within the scope of practice of medical assistants.
- Display a professional commitment to the ethical, legal, and compassionate practice of medicine in diverse communities.
- Demonstrate hands-on competency in administrative, clinical, and general skills of medical assisting.
- Communicate effectively with all members of healthcare teams, patients and others associated with the medical profession.
- Function as a competent, professional member of a healthcare team both administratively and clinically.
- Continue to learn and grow in healthcare professions and life.
- Contribute to the development and growth of their communities in creative ways.

Career Opportunities

As a medical assistant, your busy schedule may include greeting patients, answering telephone calls, scheduling appointments, and filing medical records. Your clinical work may include serving as a liaison between doctor and patient, preparing patients for exams, administering medications, and drawing blood.

Curriculum for an Associate of Applied Science in Medical Assisting - Medical Assisting Foundation Concentration

General Education Core	15
Medical Core	30
Medical Assisting Foundation Concentration	15
Total Credit Hours Required	60

General Education Core

CAS 111 - Information Literacy (3)

This course covers a variety of introductory computing knowledge including how personal computers work, software essentials, hardware components, operating systems and the most popular productivity applications including word processing, spreadsheet, database and presentation software. Students will also be introduced to the Internet and e-mail essentials, file management and digital electronics. This course aligns with the Internet and Computing Core Certification (IC3), which demonstrates that a student has a clear understanding of the knowledge and application of computers and technology in the modern world.

COMM 202 - ~Fundamentals of Speech (3)

This course equips the student with the necessary tools to construct, deliver, and analyze public communication messages.

ENGL 110 - ~Technical Writing & Communication (3)

This course is designed to prepare students to write technical reports and other technical documents. Emphasis is on audience, clarity, conciseness, and accuracy of expression. It covers research techniques, information design, writing style, and effective use of graphics.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

MATH 101 - ~Introduction to Mathematics (3)

During this course topics to be covered are sets, mathematical logic, mathematical systems, the real number system, systematic counting, probability, measurement, and consumer mathematics. History of mathematics, critical thinking skills, problem solving, and use of technology will be incorporated throughout the course.

Prerequisite(s): MATH 100 - Math Essentials (3) or proper placement on test scores

PSYC 203 - ~Introduction to Psychology (3)

This course will introduce the student to basic psychological principals and to enable the student to examine current thinking about development, personality, sensation and perception, cognition, learning, psychological disorders, and their treatment, and influence.

Corequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement

Subtotal Credit Hours Required 15

Medical Core

CAHS 141 - Intro to Pharmacology (3)

This course provides information on a variety of medications that are commonly administered in the healthcare setting. Major drug categories associated with body systems will be reviewed. Students will learn about drug pharmacokinetics, dosage, preparation, administration and interactions.

Prerequisite(s): MATH 100 - Math Essentials (3) or placement

CAHS 142 - Pathophysiology of Disease (3)

Pathophysiology of diseases will build upon previously learned knowledge of normal anatomy and normal physiology. This course will discuss pathologies and abnormalities that are deviations from the norm. For all pathologies, we will discuss causes, signs and symptoms, diagnosis, diagnostic tests, treatments, and prognosis. The pathologies will be organized according to the body system, including cardiovascular, respiratory, immune, gastrointestinal, urinary,

reproductive, endocrine, nervous, musculoskeletal, and integumentary. Other topics will include infectious diseases, neoplasms, hereditary diseases, diseases of the blood, and mental/cognitive disorders.

MAST 101 - Introduction to Medical Assisting (3)

This course is a foundation course for all medical assisting programs (clinical and/or administrative). Topics include medical assisting and other allied health disciplines as a profession, health care settings, communication skills, coping skills, topics in psychology, and medical law and ethics. Emphasis is also placed on professionalism topics including personal traits of the health care professional, work place dynamics, career planning and employment. In addition, basic keyboarding skills and 10 key skills are reviewed and competency is required.

MAST 102 - Medical Terminology (3)

This course is an integral component in understanding the language of medicine. It is designed to give the student a foundation in the basic structure of medical terms, word building and definitions as well as the applications of medical terminology. A human body systems approach is utilized and topics covered in each system include anatomy and physiology overview, medical terms, symptoms and signs, diseases and disorders, treatments, procedures and devices.

MAST 105 - Insurance Billing & Coding (3)

The focus of this course is on the process of using source documents to apply diagnostic and procedural codes to patient records for the purpose of filing insurance claims. Topics covered include introduction to health insurance, managed health care, life cycle of an insurance claim, legal and regulatory issues, ICD-9-CM coding, ICD-10 coding, CPT coding, HCPCS coding, CMS reimbursement methodologies, coding for medical necessity and the essentials of CMS-1500 claim instructions. Also, insurance carriers such as Blue Cross and Blue Shield, Medicare, Medicaid and others are covered.

Prerequisite(s): MAST 101 - Introduction to Medical Assisting (3), MAST 102 - Medical Terminology (3), MAST 106 - Medical Office Management (2), and MAST 106L - Medical Office Management Lab (1)

MAST 106 - Medical Office Management (2)

This course is a foundational course in administrative medical assisting. Topics include the facility environment, computers in the ambulatory care setting, electronic medical records (EMR), telecommunications, patient scheduling, medical records management, written communications, daily financial practices, introduction to medical coding, insurance, billing and collections, accounting practices, and facility and equipment management. In addition, more advanced topics are covered: management styles, risk management, the importance of teamwork, supervising personnel, procedure manual, HIPAA implications, marketing functions, records and financial management, liability coverage, human resource management such as recruiting and hiring office personnel, dismissing employees, and complying with personnel laws. Good record keeping principles are stressed in this course. Emphasis is placed on applications of electronic technology and fundamental writing skills as well as basic medical assisting clerical and operational functions.

Corequisite(s): MAST 101 - Introduction to Medical Assisting (3), MAST 102 - Medical Terminology (3), and MAST 106L - Medical Office Management Lab (1)

MAST 106L - Medical Office Management Lab (1)

This course is taken in conjunction with MAST 106 Medical Office Management. It emphasizes hands-on demographic data entry, billing and coding, insurance filing, reporting, as well as other electronic data functions of medical information management systems.

Corerequisite(s): MAST 106 - Medical Office Management (2)

MAST 206 - Clinical Medical Assistant II (2)

This course builds on topics covered in MAST 202 - Clinical Medical Assistant I (2) and introduces new information including an introduction to the medical laboratory, lab equipment, and safety, microbiology, collecting, processing, and testing of blood and urine specimens, nutrition and special diets, principles of pharmacology, and drug administration. The course also includes topics on the anatomy of the heart, cardiac cycle, 12-lead ECG, lead identification, ECG tracing troubleshooting, cardiac dysrhythmias, Holter monitors, and stress testing. Additional topics covered are anatomy of the respiratory system, symptoms of respiratory conditions/disorders, pulmonary function testing including Spirometry, peak flow meters, pulse oximetry and the medical assistant's role in diagnostic radiology.

Prerequisite(s): MAST 202 - Clinical Medical Assistant I (2) .

Corerequisite(s): MAST 206L - Clinical Medical Assistant II Lab (1)

MAST 206L - Clinical Medical Assistant II Lab (1)

This course is taken in conjunction with MAST 206 - Clinical Medical Assistant II (2). Emphasis is placed on hands-on learning of skills covered in MAST 206 lecture. These skills include performing hematology tests, urinalysis, basic microbiology testing, and CLIA waved tests such as blood glucose, Strep-A, and pregnancy testing. Additional hands-on skills covered in the course are the administration of oral and paternal (injections) patient medications, and performing ECG tests including electrode placement and lead connection. Pulmonary function testing is introduced using peak flow meters and respiratory treatment including the proper use of a nebulizer and pulse oximetry.

Prerequisite(s): MAST 202 - Clinical Medical Assistant I (2)

Corerequisite(s): MAST 206 - Clinical Medical Assistant II (2)

MAST 214 - MA Review and Certification Prep (2)

This course provides the student with a review of all of the major administrative, clinical and general competencies covered in the medical assistant program. Upon successful completion of this course and all other program requirements, the medical assistant certificate and degree students are required to sit for national certification as a Registered Medical Assistant (RMA) through American Medical Technologists.

Prerequisite(s): BIOL 100 - The Human Body (3) , CAHS 141 - Intro to Pharmacology (3), ENGL 101 - ~English Composition I (3), MAST 101 - Introduction to Medical Assisting (3), MAST 102 - Medical Terminology (3), MAST 105 - Insurance Billing & Coding (3), MAST 106 - Medical Office Management (2), MAST 106L - Medical Office Management Lab (1), MAST 202 - Clinical Medical Assistant I (2), MAST 202L - Clinical Medical Assistant I Lab (1), MAST 206 - Clinical Medical Assistant II (2), MAST 206L - Clinical Medical Assistant II Lab (1), MATH 101 - ~Introduction to Mathematics (3) or higher, and PLBT 101 - Phlebotomy (3)

Corerequisite(s): MAST 216 - Clinical & Administrative Externship (4)

MAST 216 - Clinical & Administrative Externship (4)

The course coordinates with local medical office sites to provide students with hands-on clinical and administrative experience in a medical office setting. The student will work for a total of one hundred sixty (160) uncompensated hours at the assigned site. Clinical and administrative competencies will be evaluated by a medical office preceptor(s) and under the direction of the Medical Assistant Externship Coordinator. The student is required to be in contact with the Medical Assistant Externship Coordinator prior to registering for this course. Early registration is encouraged to allow time to complete requirements and to make schedule arrangements with the assigned medical office site. Students

must have received a grade of "C" or better in ALL MAST and PLBT courses prior to registering for this course. In addition, students must provide proof of valid/current BLS for Healthcare Providers and have documentation of a recent (within past 6 months) physical and provide proof of required immunizations. Students are required to have their own stethoscope and required uniforms for the course.

Prerequisite(s): BIOL 100 - The Human Body (3) , CAHS 141 - Intro to Pharmacology (3), ENGL 101 - ~English Composition I (3), MAST 101 - Introduction to Medical Assisting (3), MAST 102 - Medical Terminology (3), MAST 105 - Insurance Billing & Coding (3), MAST 106 - Medical Office Management (2), MAST 106L - Medical Office Management Lab (1), MAST 202 - Clinical Medical Assistant I (2), MAST 202L - Clinical Medical Assistant I Lab (1), MAST 206 - Clinical Medical Assistant II (2), MAST 206L - Clinical Medical Assistant II Lab (1), MATH 101 - ~Introduction to Mathematics (3) or higher, and PLBT 101 - Phlebotomy (3)
Corequisite(s): MAST 214 - MA Review and Certification Prep (2)

PLBT 101 - Phlebotomy (3)

This course prepares students with the fundamentals of phlebotomy. Both theory and hands-on experience are provided. Course content includes the history of phlebotomy, basic anatomy and physiology, infection control, specimen collection, various venipuncture techniques, dermal punctures, venipuncture complications, point-of-care testing, legal issues, and special non-blood specimen collection techniques.

Prerequisite(s): MAST 102 - Medical Terminology (3)

Subtotal Credit Hours Required 30

Medical Assisting Foundation Concentration

BIOL 100 - The Human Body (3)

This is a survey course of basic Human Anatomy & Physiology. It is designed for students who need a rudimentary understanding of the human body and its organ systems but not in the detail that would be expected of a selective admissions healthcare program. This course will not substitute for BIOL 120 - ^Human Anatomy & Physiology I (3), BIOL 121 - ^Human Anatomy & Phys I Lab (1), BIOL 122 - ^Human Anatomy & Physiology II (3), or BIOL 123 - ^Human Anatomy & Phys II Lab (1).

MAST 202 - Clinical Medical Assistant I (2)

This course offers the medical assistant student the opportunity to learn basic clinical theory that is utilized within medical practices. Areas covered include principals of asepsis including sterilization, infection control, blood borne pathogens, emergency/first aid procedures, skills for interviewing patients, taking a medical history, patient charts and documentation, vital signs and measurements, physical examination, specialty examinations and assisting with minor surgeries including identification of surgical instruments.

Prerequisite(s): MAST 101 - Introduction to Medical Assisting (3), MAST 102 - Medical Terminology (3), MAST 106 - Medical Office Management (2), and MAST 106L - Medical Office Management Lab (1)

Corequisite(s): MAST 202L - Clinical Medical Assistant I Lab (1)

MAST 202L - Clinical Medical Assistant I Lab (1)

This course is taken in conjunction with MAST 202 - Clinical Medical Assistant I (2). Emphasis is placed on hands-on learning of skills related to the lecture portion including blood pressure, pulse, respiration, temperature, height, weight,

and pain level. Additional hands-on learning skills covered are observation skills, patient care, patient positioning for examinations, vision screening, patient education instructions, and pre-surgical patient preparation procedures. Students must be competent in all skills tested.

Prerequisite(s): MAST 102 - Medical Terminology (3)

Corequisite(s): MAST 202 - Clinical Medical Assistant I (2)

- Restricted Electives in CAHS, CGEN 100, NURS, MLT, PLBT (9)

Subtotal Credit Hours Required 15

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Medical Assisting, A.A.S. - Nursing Foundation

Medical assistants perform valuable administrative and clinical duties on the healthcare team. If you seek a meaningful career in patient care, you will welcome the possibilities for growth in this rising field. Our program prepares you for an entry-level job in healthcare and helps you contribute directly to the well-being of your community. Our program includes an externship experience—an added preparation for life in the working world.

Program Overview

The Medical Assisting program is a career-oriented program that prepares students to work primarily in ambulatory care settings under the direction of a physician. The program is comprised of clinical and non-clinical components, with the lecture as well as competency-based experiences in performing administrative and clinical procedures. General education and program requirements are designed for students interested in pursuing management positions within physician offices. There is also a non-compensated externship experience in which students work in an actual ambulatory care setting. Externship sites may have their own requirements that students must meet prior to their externship experience. Medical Assisting degree students must maintain a grade of "C" or better in all required courses. Students must provide appropriate health records that include a history and physical, required immunizations, and a negative TB test prior to externship. Students must also have a current American Heart Association's "Healthcare Provider" CPR certification as well as First Aid certification and meet the program's technical standards. Also, students will undergo a background check and drug screen prior to externship. Any negative findings may prohibit a student from participating in their externship, and thus not be able to complete the Medical Assisting degree program. Students who successfully complete the program are required to sit for the American Medical Technologists' national certification exam in medical assisting*.

* In order to sit for the American Medical Technologists' national certification exam in medical assisting, a graduate must have proof of High School diploma or G.E.D.

Students interested in pursuing an Associate of Science degree in Nursing

The Nursing degree is a selective entry program. Students will initially declare Medical Assisting as their major with a concentration in Nursing Foundations. During completion of the first semester of coursework, the student will:

1. Complete the pre-requisites for the Nursing program and apply for possible acceptance,
2. Continue in the Medical Assistant degree path, until accepted into the program, or

3. Graduate with an Associate of Applied Science degree in Medical Assisting.

For more information about the requirements for the Associate of Science degree in Nursing, visit the Nursing page on Blue Ridge CTC's website.

Mission Statement

Blue Ridge Community and Technical College's Medical Assisting Program is committed to providing learner-centered career programs for a diverse student population to pursue professional administrative and clinical medical education within the college's service area. These programs are designed to provide graduates with the opportunity to obtain entry-level jobs in allied health careers, and in so doing, contribute to the growth and development of their communities.

Program Goals

The following goals are the primary purposes for the Medical Assisting Program:

- Prepare competent, entry-level allied health professionals in the cognitive (knowledge), psychomotor (skills), and affective (behavior) learning domains.
- Prepare students for nationally recognized certification exams.
- Prepare graduates to obtain jobs in allied health fields.
- Prepare graduates who can function in and contribute to the well-being of their communities.

Outcomes

Students will be able to:

- Demonstrate an understanding of the content areas of the curriculum in medical assisting. These content areas are anatomy and physiology, medical terminology, medical law and ethics, psychology, communication, medical assisting administrative procedures, medical assisting clinical procedures, and professional components.
- Apply knowledge from content areas to competencies in administrative, clinical, and general skills of medical assisting.
- Analyze the essential elements of core content areas and competencies.
- Critically evaluate patient care and administrative scenarios and use appropriate judgment within the scope of practice of medical assistants.
- Display a professional commitment to the ethical, legal, and compassionate practice of medicine in diverse communities.
- Demonstrate hands-on competency in administrative, clinical, and general skills of medical assisting.
- Communicate effectively with all members of healthcare teams, patients, and others associated with the medical profession.
- Function as a competent, professional member of a healthcare team both administratively and clinically.
- Continue to learn and grow in healthcare professions and life.
- Contribute to the development and growth of their communities in creative ways.

Career Opportunities

As a medical assistant, your busy schedule may include greeting patients, answering telephone calls, scheduling appointments, and filing medical records. Your clinical work may include serving as a liaison between doctor and patient, preparing patients for exams, administering medications, and drawing blood.

Curriculum for an Associate of Applied Science in Medical Assisting - Nursing Foundation Concentration

General Education Core

CAS 111 - Information Literacy (3)

This course covers a variety of introductory computing knowledge including how personal computers work, software essentials, hardware components, operating systems and the most popular productivity applications including word processing, spreadsheet, database and presentation software. Students will also be introduced to the Internet and e-mail essentials, file management and digital electronics. This course aligns with the Internet and Computing Core Certification (IC3), which demonstrates that a student has a clear understanding of the knowledge and application of computers and technology in the modern world.

COMM 202 - ~Fundamentals of Speech (3)

This course equips the student with the necessary tools to construct, deliver, and analyze public communication messages.

ENGL 101 - ~English Composition I (3)

ENGL 101 is an introduction to college writing. This class emphasizes processes for drafting, revising, and editing. It develops a student's ability to read a passage, analyze its meaning, and write an intelligent response which shows not only an understanding of the passage but also a working knowledge of the writing and rhetorical strategies. Students will learn how to make effective arguments and how to locate, synthesize, and evaluate relevant information.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 101L - English Composition I Lab (3), or placement test scores

MATH 114 - ~Elem Probability & Statistics (3)

This course introduces the fundamental concepts of probability and statistics. Topics include descriptive statistics, random sampling methods, frequency distributions, measures of central tendency and variability, set theory, probability, permutations and combinations, random variables, probability and sampling distributions, expectation, central limit theorem, confidence intervals and hypothesis testing for means and proportions (one and two sample) and simple linear regression and correlation. Time permitting, one-way ANOVA and non-parametric techniques may be discussed. Appropriate application software will be utilized, and applications from a variety of disciplines will be presented.

Prerequisite(s): MATH 100A - Algebra Essentials (3) or proper placement on test scores

PSYC 203 - ~Introduction to Psychology (3)

This course will introduce the student to basic psychological principals and to enable the student to examine current thinking about development, personality, sensation and perception, cognition, learning, psychological disorders, and their treatment, and influence.

Corequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement

Subtotal Credit Hours Required 15

Medical Core

CAHS 141 - Intro to Pharmacology (3)

This course provides information on a variety of medications that are commonly administered in the healthcare setting. Major drug categories associated with body systems will be reviewed. Students will learn about drug pharmacokinetics, dosage, preparation, administration and interactions.

Prerequisite(s): MATH 100 - Math Essentials (3) or placement

CAHS 142 - Pathophysiology of Disease (3)

Pathophysiology of diseases will build upon previously learned knowledge of normal anatomy and normal physiology. This course will discuss pathologies and abnormalities that are deviations from the norm. For all pathologies, we will discuss causes, signs and symptoms, diagnosis, diagnostic tests, treatments, and prognosis. The pathologies will be organized according to the body system, including cardiovascular, respiratory, immune, gastrointestinal, urinary, reproductive, endocrine, nervous, musculoskeletal, and integumentary. Other topics will include infectious diseases, neoplasms, hereditary diseases, diseases of the blood, and mental/cognitive disorders.

MAST 101 - Introduction to Medical Assisting (3)

This course is a foundation course for all medical assisting programs (clinical and/or administrative). Topics include medical assisting and other allied health disciplines as a profession, health care settings, communication skills, coping skills, topics in psychology, and medical law and ethics. Emphasis is also placed on professionalism topics including personal traits of the health care professional, work place dynamics, career planning and employment. In addition, basic keyboarding skills and 10 key skills are reviewed and competency is required.

MAST 102 - Medical Terminology (3)

This course is an integral component in understanding the language of medicine. It is designed to give the student a foundation in the basic structure of medical terms, word building and definitions as well as the applications of medical terminology. A human body systems approach is utilized and topics covered in each system include anatomy and physiology overview, medical terms, symptoms and signs, diseases and disorders, treatments, procedures and devices.

MAST 105 - Insurance Billing & Coding (3)

The focus of this course is on the process of using source documents to apply diagnostic and procedural codes to patient records for the purpose of filing insurance claims. Topics covered include introduction to health insurance, managed health care, life cycle of an insurance claim, legal and regulatory issues, ICD-9-CM coding, ICD-10 coding, CPT coding, HCPCS coding, CMS reimbursement methodologies, coding for medical necessity and the essentials of CMS-1500 claim instructions. Also, insurance carriers such as Blue Cross and Blue Shield, Medicare, Medicaid and others are covered.

Prerequisite(s): MAST 101 - Introduction to Medical Assisting (3), MAST 102 - Medical Terminology (3), MAST 106 - Medical Office Management (2), and MAST 106L - Medical Office Management Lab (1)

MAST 106 - Medical Office Management (2)

This course is a foundational course in administrative medical assisting. Topics include the facility environment, computers in the ambulatory care setting, electronic medical records (EMR), telecommunications, patient scheduling, medical records management, written communications, daily financial practices, introduction to medical coding, insurance, billing and collections, accounting practices, and facility and equipment management. In addition, more advanced topics are covered: management styles, risk management, the importance of teamwork, supervising

personnel, procedure manual, HIPAA implications, marketing functions, records and financial management, liability coverage, human resource management such as recruiting and hiring office personnel, dismissing employees, and complying with personnel laws. Good record keeping principles are stressed in this course. Emphasis is placed on applications of electronic technology and fundamental writing skills as well as basic medical assisting clerical and operational functions.

Corerequisite(s): MAST 101 - Introduction to Medical Assisting (3), MAST 102 - Medical Terminology (3), and MAST 106L - Medical Office Management Lab (1)

MAST 106L - Medical Office Management Lab (1)

This course is taken in conjunction with MAST 106 Medical Office Management. It emphasizes hands-on demographic data entry, billing and coding, insurance filing, reporting, as well as other electronic data functions of medical information management systems.

Corerequisite(s): MAST 106 - Medical Office Management (2)

MAST 206 - Clinical Medical Assistant II (2)

This course builds on topics covered in MAST 202 - Clinical Medical Assistant I (2) and introduces new information including an introduction to the medical laboratory, lab equipment, and safety, microbiology, collecting, processing, and testing of blood and urine specimens, nutrition and special diets, principles of pharmacology, and drug administration. The course also includes topics on the anatomy of the heart, cardiac cycle, 12-lead ECG, lead identification, ECG tracing troubleshooting, cardiac dysrhythmias, Holter monitors, and stress testing. Additional topics covered are anatomy of the respiratory system, symptoms of respiratory conditions/disorders, pulmonary function testing including Spirometry, peak flow meters, pulse oximetry and the medical assistant's role in diagnostic radiology.

Prerequisite(s): MAST 202 - Clinical Medical Assistant I (2) .

Corerequisite(s): MAST 206L - Clinical Medical Assistant II Lab (1)

MAST 206L - Clinical Medical Assistant II Lab (1)

This course is taken in conjunction with MAST 206 - Clinical Medical Assistant II (2). Emphasis is placed on hands-on learning of skills covered in MAST 206 lecture. These skills include performing hematology tests, urinalysis, basic microbiology testing, and CLIA waved tests such as blood glucose, Strep-A, and pregnancy testing. Additional hands-on skills covered in the course are the administration of oral and paternal (injections) patient medications, and performing ECG tests including electrode placement and lead connection. Pulmonary function testing is introduced using peak flow meters and respiratory treatment including the proper use of a nebulizer and pulse oximetry.

Prerequisite(s): MAST 202 - Clinical Medical Assistant I (2)

Corerequisite(s): MAST 206 - Clinical Medical Assistant II (2)

MAST 214 - MA Review and Certification Prep (2)

This course provides the student with a review of all of the major administrative, clinical and general competencies covered in the medical assistant program. Upon successful completion of this course and all other program requirements, the medical assistant certificate and degree students are required to sit for national certification as a Registered Medical Assistant (RMA) through American Medical Technologists.

Prerequisite(s): BIOL 100 - The Human Body (3) , CAHS 141 - Intro to Pharmacology (3), ENGL 101 - ~English Composition I (3), MAST 101 - Introduction to Medical Assisting (3), MAST 102 - Medical Terminology (3), MAST

105 - Insurance Billing & Coding (3), MAST 106 - Medical Office Management (2), MAST 106L - Medical Office Management Lab (1), MAST 202 - Clinical Medical Assistant I (2), MAST 202L - Clinical Medical Assistant I Lab (1), MAST 206 - Clinical Medical Assistant II (2), MAST 206L - Clinical Medical Assistant II Lab (1), MATH 101 - ~Introduction to Mathematics (3) or higher, and PLBT 101 - Phlebotomy (3)
Corerequisite(s): MAST 216 - Clinical & Administrative Externship (4)

MAST 216 - Clinical & Administrative Externship (4)

The course coordinates with local medical office sites to provide students with hands-on clinical and administrative experience in a medical office setting. The student will work for a total of one hundred sixty (160) uncompensated hours at the assigned site. Clinical and administrative competencies will be evaluated by a medical office preceptor(s) and under the direction of the Medical Assistant Externship Coordinator. The student is required to be in contact with the Medical Assistant Externship Coordinator prior to registering for this course. Early registration is encouraged to allow time to complete requirements and to make schedule arrangements with the assigned medical office site. Students must have received a grade of "C" or better in ALL MAST and PLBT courses prior to registering for this course. In addition, students must provide proof of valid/current BLS for Healthcare Providers and have documentation of a recent (within past 6 months) physical and provide proof of required immunizations. Students are required to have their own stethoscope and required uniforms for the course.

Prerequisite(s): BIOL 100 - The Human Body (3) , CAHS 141 - Intro to Pharmacology (3), ENGL 101 - ~English Composition I (3), MAST 101 - Introduction to Medical Assisting (3), MAST 102 - Medical Terminology (3), MAST 105 - Insurance Billing & Coding (3), MAST 106 - Medical Office Management (2), MAST 106L - Medical Office Management Lab (1), MAST 202 - Clinical Medical Assistant I (2), MAST 202L - Clinical Medical Assistant I Lab (1), MAST 206 - Clinical Medical Assistant II (2), MAST 206L - Clinical Medical Assistant II Lab (1), MATH 101 - ~Introduction to Mathematics (3) or higher, and PLBT 101 - Phlebotomy (3)
Corerequisite(s): MAST 214 - MA Review and Certification Prep (2)

PLBT 101 - Phlebotomy (3)

This course prepares students with the fundamentals of phlebotomy. Both theory and hands-on experience are provided. Course content includes the history of phlebotomy, basic anatomy and physiology, infection control, specimen collection, various venipuncture techniques, dermal punctures, venipuncture complications, point-of-care testing, legal issues, and special non-blood specimen collection techniques.

Prerequisite(s): MAST 102 - Medical Terminology (3)

Subtotal Credit Hours Required 30

Nursing Foundation Concentration

BIOL 120 - ^Human Anatomy & Physiology I (3)

This is course one in a two-course sequence that provides a detailed review of the human organism. It will provide a brief overview of the human body and the chemical basis for activities occurring within the body, a detailed review of the cell, tissues, the integumentary, skeletal, muscular, and nervous systems as well as an overview of the human senses.

Corerequisite(s): BIOL 121 - ^Human Anatomy & Phys I Lab (1)

BIOL 121 - ^Human Anatomy & Phys I Lab (1)

This is a laboratory course in human anatomy and physiology to be taken concurrently with BIOL 120.

Corerequisite(s): BIOL 120 - ^Human Anatomy & Physiology I (3)

BIOL 122 - ^Human Anatomy & Physiology II (3)

This is the second course in a two-course sequence that provides a detailed review of the human organism. This course provides a detailed review of cardiovascular, lymphatic, immune, respiratory, digestive, urinary, and reproductive systems.

Prerequisite(s): BIOL 120 - ^Human Anatomy & Physiology I (3) and BIOL 121 - ^Human Anatomy & Phys I Lab (1)

Corerequisite(s): BIOL 123 - ^Human Anatomy & Phys II Lab (1)

BIOL 123 - ^Human Anatomy & Phys II Lab (1)

This is a laboratory course in human anatomy and physiology to be taken concurrently with BIOL 122.

Prerequisite(s): BIOL 120 - ^Human Anatomy & Physiology I (3) and BIOL 121 - ^Human Anatomy & Phys I Lab (1)

Corerequisite(s): BIOL 122 - ^Human Anatomy & Physiology II (3)

NURS 111 - Introduction to Nursing (3)

This hands-on course is designed as an introduction to the skills used to provide functional nursing care across the lifespan. This course has a lab component for teaching and demonstrating skill proficiency.

Prerequisite(s): Must be a degree-seeking student enrolled in Medical Assisting, A.A.S. - Nursing Foundation, Healthcare Professions, A.A.S., or Nursing A.S.N.

Pre-requisite/Co-requisite(s): BIOL 120 - ^Human Anatomy & Physiology I (3) and BIOL 121 - ^Human Anatomy & Phys I Lab (1)

- Restricted Electives in CAHS, CGEN 100, EMSP, NURS, MLT, PLBT (4)

Subtotal Credit Hours Required 15

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Occupational Development, A.A.S.

Program Overview

The Associate of Applied Science degree in Occupational Development-Child Care Specialist is designed to provide special career training for those individuals who have completed or are in the process of completing a Registered Apprenticeship Program (RAP) in Child Development through the U.S. Department of Labor's Office of Apprenticeship.

There is a growing need in the United States for childcare at daycare centers. Some employers are making a collaborative effort to provide dependent care for their employees by establishing centers or expanding existing ones. Job opportunities for this degree include employment in community childcare facilities and in individual homes.

Our program carries an apprenticeship requirement, which integrates into the formal higher education curriculum of academically sound "Registered Apprenticeship Programs" (RAPs), which are recommended by the United States Bureau of Apprenticeship and Training (BAT). For guidance completing the apprenticeship portion of the program, contact the local United States Bureau of Apprenticeship Coordinator and refer them to the Apprenticeship for Child Development Specialist website at www.wvaccs.org.

Students in the Occupational Development Program are subject to the Blue Ridge Community and Technical College's requirements for admissions. Apprenticeship credits are posted after completion of General Education courses and upon submission of the appropriate documentation from the Department of Labor.

Program Outcomes

- Prepare students for employment as child care center teachers, aids in schools, or other pre-school child care programs serving children birth to age 6.
- Apply theories of early childcare with practical applications.
- Implement age-appropriate curriculum and classroom activities.
- Prepare to assume supervision roles in an early childcare facility.
- Maintain childcare facility records in accordance with West Virginia and Federal Law requirements.
- Apply professional written and spoken communication skills with staff and parents.

Career Opportunities

Upon degree completion, students may enjoy increased wages and solid job security. You will be qualified to seek a fulfilling career in childcare facilities as a supervisor or as a classroom aide in an elementary school.

Curriculum for an Associate of Applied Science in Occupational Development

Component I - General Education	15
Component II - Classroom Instruction in the Occupation	15
Component III - On the Job Training (OJT) in the Occupation	30
Total Credit Hours Required	60

Component I - General Education

COMM 202 - ~Fundamentals of Speech (3)

This course equips the student with the necessary tools to construct, deliver, and analyze public communication messages.

COMM 205 - ~Professional Communications (3)

This course examines the process of communication and the challenges to and effective practices of communicating in a professional environment. Topics include listening skills and verbal, nonverbal, and written communications. The

dynamics of communicating in a group, in a global society, and in culturally diverse environments is also investigated. Students apply a systematic approach to plan and create effective letters, memos, reports, presentations, electronic and other forms of business and professional communication.

ENGL 101 - ~English Composition I (3)

ENGL 101 is an introduction to college writing. This class emphasizes processes for drafting, revising, and editing. It develops a student's ability to read a passage, analyze its meaning, and write an intelligent response which shows not only an understanding of the passage but also a working knowledge of the writing and rhetorical strategies. Students will learn how to make effective arguments and how to locate, synthesize, and evaluate relevant information.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 101L - English Composition I Lab (3), or placement test scores

ENGL 110 - ~Technical Writing & Communication (3)

This course is designed to prepare students to write technical reports and other technical documents. Emphasis is on audience, clarity, conciseness, and accuracy of expression. It covers research techniques, information design, writing style, and effective use of graphics.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

ECED 105 - Child Development (3)

This course explores knowing and understanding young children's characteristics and needs; the multiple influences on development and learning, and how to use this developmental knowledge to create healthy, respectful, supportive and challenging learning environments. The principles of child development are emphasized including language acquisition, creative expression, physical, cognitive and social/emotional development.

MATH 101 - ~Introduction to Mathematics (3)

During this course topics to be covered are sets, mathematical logic, mathematical systems, the real number system, systematic counting, probability, measurement, and consumer mathematics. History of mathematics, critical thinking skills, problem solving, and use of technology will be incorporated throughout the course.

Prerequisite(s): MATH 100 - Math Essentials (3) or proper placement on test scores

PSYC 210 - Human Growth & Development (3)

This course explores the basic principles of human growth and development throughout the lifespan. Prenatal development, as well as physical, emotional, mental, and social changes in children, adolescents, and adults will be reviewed. The multiple factors that influence development and shape personality will be considered.

Subtotal Credit Hours Required 15

Component II - Classroom Instruction in the Occupation

Students will choose 15 credits from the following list of Restricted Electives

ECED 101 - Found of Early Childhood Ed (3)

The course focuses on the history of early childhood education including the contributions of Froebel, Montessori Steiner, and Reggio Emilia. Coursework will concentrate on a diversity of programs and childcare settings: child care, Headstart, kindergarten, nursery, profit and non-profit. This course will include perspectives from the past, theories, and approaches to care, development and education of young children.

ECED 103 - Early Language and Literacy (3)

This course examines quality literature appropriate for children from infancy to age eight. Appropriate literacy experiences of reading, writing, and language are practiced in the student's communities. Students will also examine methods of presentation and the creation of literature based settings.

ECED 106 - Health, Nutrition and Safety (3)

This course provides a variety of health, nutrition and safety concepts that will enable the individual to implement preventive health and safety practices in the early childcare setting. Students will develop menus for meals and snacks which are nutritious, appealing, and age-appropriate for young children. Recognition and treatment of child abuse victims will be addressed.

ECED 107 - Early Childhood Curriculum (3)

This course provides the student with an introduction to methods and materials to assist young children in the learning process. Emphasis will be placed on arrangement of indoor/outdoor space, reading, music and movement, dramatic play, math, social studies, and art centers. Students will locate, plan, implement and evaluate creative learning activities using a variety of methods and materials.

ECED 165 - Assessment of Young Children (3)

This course will cover formal and informal assessment strategies appropriate for children birth through age eight. Assessment for children's cognitive, social, physical and motor development for curriculum planning will be addressed as well as identifying children with developmental needs.

ECED 206 - Family/Community Engagement (3)

This course addresses the role of the family and community in the physical, cognitive, social and emotional growth of the child in a diverse society. The areas of professionalism, program management, advocacy, family development and the structure of the family will be the main topics. Building partnerships with families of the children with special needs will also be included.

ECED 220 - Early Childhood Inclusion (3)

This course prepares learners to understand their roles, including the history and legal implications, and the nature of students with special needs. Techniques for creating an educational environment where all students have equal opportunity to develop academically and socially are specifically addressed.

ENGL 100 - English Essentials (3)

This course is designed to introduce students to essential English skills ranging from writing in the rhetorical modes of narration and argument to creating a rudimentary media-based presentation on a short expository essay (in the form of

process, definition, or persuasion). Students will draw on accompanying readings. Briefly, instructors will introduce Internet Research, and MLA style will be taught in some depth. In addition to these written skills practiced, students will study and be quizzed on correct grammar, punctuation, and usage.

MATH 100 - Math Essentials (3)

Students will learn how to perform operations on real numbers, the implications of exponents and the order of operations and how to evaluate algebraic expressions. The concepts of percents and their applications, introductory geometry, statistics, and problem-solving skills will all be incorporated. Students will solve equations in one variable, solve literal equations for a variable, and evaluate/graph inequalities. Students will translate and solve algebraic equations, and learn the skills required to solve application problems in one and two variables. Students will interpret and graph linear equations as well as solving and analyzing systems of equations. Students may also be introduced to operations on polynomials.

Subtotal Credit Hours Required 15

Component III - On-the-Job-Training (OJT) in the Occupation

- Apprenticeship for Child Development

Subtotal Credit Hours Required 30

Note: Registered Apprenticeship Program (RAP) in Child Development through the U.S. Department of Labor's Office of Apprenticeship is required to complete Component III

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Paralegal Studies, A.A.S.

The Associate of Applied Science Degree in Paralegal Studies is a program designed to provide students with a balance between theory and practice, enabling graduates to step immediately into opportunities in the growing legal community. The program is designed to prepare individuals for employment at all levels of the law-administration, trial, appellate, and government.

Program Outcomes

Students completing the Associate of Applied Science Degree in Paralegal Studies will be able to:

- Identify legal terminology needed to communicate with professionals in the legal field. (Remember)
- Demonstrate professional skills necessary to a paralegal career, including oral and written communication and technology skills. (Understand)
- Describe the sources of law, hierarchy, and powers of various state and federal courts. (Understand)
- Utilize appropriate ethical behavior within the legal field. (Apply)
- Apply critical thinking and research skills within a legal context. (Apply)

- Analyze a variety of legal sources, including statutes and case law, and apply them to a given set of facts. (Analyze)
- Compose various types of legal correspondence and legal documents. (Create)

Curriculum for an Associate of Applied Science in Paralegal Studies

General Education Core	18
Paralegal Core	42
Total Credit Hours Required	60

General Education Core

CAS 111 - Information Literacy (3)

This course covers a variety of introductory computing knowledge including how personal computers work, software essentials, hardware components, operating systems and the most popular productivity applications including word processing, spreadsheet, database and presentation software. Students will also be introduced to the Internet and e-mail essentials, file management and digital electronics. This course aligns with the Internet and Computing Core Certification (IC3), which demonstrates that a student has a clear understanding of the knowledge and application of computers and technology in the modern world.

COMM 202 - ~Fundamentals of Speech (3)

This course equips the student with the necessary tools to construct, deliver, and analyze public communication messages.

ENGL 101 - ~English Composition I (3)

ENGL 101 is an introduction to college writing. This class emphasizes processes for drafting, revising, and editing. It develops a student's ability to read a passage, analyze its meaning, and write an intelligent response which shows not only an understanding of the passage but also a working knowledge of the writing and rhetorical strategies. Students will learn how to make effective arguments and how to locate, synthesize, and evaluate relevant information.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 101L - English Composition I Lab (3), or placement test scores

MATH 101 - ~Introduction to Mathematics (3)

During this course topics to be covered are sets, mathematical logic, mathematical systems, the real number system, systematic counting, probability, measurement, and consumer mathematics. History of mathematics, critical thinking skills, problem solving, and use of technology will be incorporated throughout the course.

Prerequisite(s): MATH 100 - Math Essentials (3) or proper placement on test scores

PSCI 101 - ~American Federal Government (3)

This course involves the study of the functions and administration of government in the United States. The course is designed to provide an introduction to the structure, organization and functioning of the national government of the United States. It will examine the powers and relationships of the executive, legislative, and judicial branches of government with special emphasis given to the role that history, political parties, pressure groups, etc. play in influencing these relationships.

PSYC 203 - ~Introduction to Psychology (3)

This course will introduce the student to basic psychological principals and to enable the student to examine current thinking about development, personality, sensation and perception, cognition, learning, psychological disorders, and their treatment, and influence.

Corerequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement

SOCI 203 - ~General Sociology (3)

This course introduces students to the core concepts and perspectives of sociology, the study of human social environments and of human interactions within those environments. The course will explore a number of sociological topics to develop a sociological imagination, an ability to understand the effects of group membership on behavior, attitudes, beliefs, and life chances.

Corerequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement

Subtotal Credit Hours Required 18

Paralegal Core

BUSN 108 - Business Etiquette & Image (3)

This course provides students a hands-on opportunity to develop the professional image needed to succeed in business. Activities range from the handshake and making introductions to telephone etiquette and table manners. Topics also include professional dress, conduct at work, managing technology, networking, interviewing, and resume development.

LGST 100 - Intro to Law & Legal Systems (3)

This introductory course will provide students with information on the legal structure of American society. The emphasis is on how the law really works in everyday life. A vital feature of the course is an understanding of legal terminology and active inquiry by the students. The students will analyze authentic and fictional cases and examine common legal forms. The different topics will cover criminal, civil, juvenile, and consumer law. The goal of this course is to prepare the students with a functional knowledge of the everyday law and the Bill of Rights in the United States Constitution.

LGST 103 - Legal Terminology (3)

This course serves to introduce students to terms used in the legal field. The student will learn spelling, pronunciation, and definitions of commonly used terms within various components of the field, including constitutional law, criminal law, family law, business organizations, and courts.

LGST 105 - Legal Office Technology (3)

This course will provide students with an introduction to technologies used in the law office. Students will explore legal software, legal research tools, and legal document preparation. The role of social media, ethics and internet use will also be discussed.

LGST 150 - Legal Research and Writing (3)

This course is designed to familiarize the student with legal research, legal analysis, and legal writing. Topics covered will include utilizing print and online resources, legal citation, legal memorandum, and legal correspondence.

LGST 200 - Legal Ethics (3)

Legal Ethics provides an examination of contemporary ethical issues and conduct relevant to the legal profession. This course will discuss ethics from a variety of viewpoints including law enforcement, corrections, and courtroom personnel.

Corerequisite(s): LGST 100 - Intro to Law & Legal Systems (3) or CJST 200 - Intro Crim Justice Sys (3)

LGST 210 - Laws of Domestic Relations (3)

This course examines domestic relations law including case preparation and the rules and procedures of the family court system. Topics covered include child custody, divorce procedures, and dispute resolution options such as mediation and arbitration.

Corerequisite(s): LGST 100 - Intro to Law & Legal Systems (3)

LGST 212 - Business Law (3)

This course is an introduction to the American legal system and its impact on the business environment. Topics considered include contracts, employment law, antitrust law, torts, consumer protection, and the business organization. This study prepares students to identify and limit risk in business dealings.

LGST 213 - American Court System (3)

This course provides an overview of the American court system. Students will be introduced to the actors in the system, including judges, prosecutors, and defense attorneys. Courtroom processes from pretrial through sentencing and appeals will be discussed. The course will review the history of the court system and the different types of courts within the state and federal levels.

Corerequisite(s): LGST 100 - Intro to Law & Legal Systems (3) or CJST 200 - Intro Crim Justice Sys (3)

LGST 220 - Civil Litigation (3)

This course provides an overview of the civil litigation process from initial interview through trial procedures including the preparation of pleadings and trial documents. Topics covered include civil procedure, discovery, and statutes

relevant to the civil litigation process.

Corerequisite(s): LGST 100 - Intro to Law & Legal Systems (3)

LGST 230 - Criminal Law and Procedure (3)

This course provides an overview of criminal law beginning with the arrest and investigation through the trial process. Case studies and historical cases in criminal law will be reviewed and analyzed. Other topics covered include legal terminology, rights of criminal defendants, and courtroom activities.

Corerequisite(s): LGST 100 - Intro to Law & Legal Systems (3) or CJST 200 - Intro Crim Justice Sys (3)

LGST 292 - Field Experience (1-6)

Cooperative education allows students to acquire essential practical skills by being exposed to the reality of the work world beyond the boundaries of campus. Students will be required to complete a minimum of 100 hours working in the field.

Prerequisite(s): Minimum 2.0 overall GPA is required as well as completion of 30 credit hours.

- LGST - Restricted Electives in Legal Studies (6)

Subtotal Credit Hours Required

42

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Paramedic, A.A.S.

The Paramedic Program is a 60 Credit Hour Associate of Applied Science Degree program that is designed for students who are interested in pursuing careers in advanced emergency care. As of July 1, 2020, the U.S. Department of Education has implemented (Regulation 34 CFR 668.43 (a) (5) (v)) which requires Blue Ridge CTC's Paramedic program to provide a list of all states where our curriculum meets state educational requirements for certification. The National Registry Paramedic certification is a requirement for initial state licensure in all states except Montana, where it is optional, and New York and North Carolina, where alternate entry is available. Students should contact the state Department of EMS in the state they would like to be initially certified for more specific information.

Prior to registering for any advanced clinical (200 level) EMSP courses, students are required to:

- Complete the Emergency Medical Technician (EMT) course before or during the first semester.
- Obtain a valid EMT certification, which meets the U.S. Department of Transportation's National Standard
- Curriculum for Emergency Medical Technicians, no later than February 15th of the second semester.
- Pass the ALS Entrance Exam with a 70% or higher and submit the following documentation to the EMS Program Coordinator:
 1. An application to the advanced clinical (200 level) EMSP courses
 2. A photocopy of current CPR (AHA Healthcare Provider Course) certification

3. Current EMT card from either: National Registry, West Virginia, Maryland, Pennsylvania, or
4. A completed immunization record prior to participation in any EMS Practicum course
5. An annual PPD results (or chest X-ray, if appropriate)
6. Successfully complete a urine drug screen
7. Successfully complete a national criminal background check

Students in the Paramedic Program are subject to Blue Ridge Community and Technical College's requirements for admissions, basic skills testing, and appropriate course placement, including mandated developmental courses, which are not counted toward completion of the program. Blue Ridge Community and Technical College Catalog requirements regarding academic standards, student conduct, and graduation procedures also apply.

Blue Ridge CTC Paramedic Program Goal

The goal of the Associate of Applied Science Degree in Paramedic is to prepare competent entry-level Paramedics in the cognitive (knowledge), psychomotor (skills), and affective (behavior) learning domains.

EMS TECHNICAL STANDARDS

The following activities are examples of the kind of activities in which a student in the Paramedic Program will be required to perform in order to successfully complete the program.

1. **Critical Thinking:** Paramedic students should possess critical thinking ability sufficient for clinical judgment. For example, the paramedic student must be able to prioritize the care of the critically injured or ill patient.
2. **Interpersonal Skills:** Paramedic students shall possess interpersonal abilities sufficient to interact with individuals, families, groups, etc. from a variety of social, emotional, cultural and intellectual backgrounds. For example, the student shall establish rapport with clients/patients and health care team members.
3. **Communication Skills:** Paramedic students shall possess communication abilities sufficient for interaction with others in verbal and written forms. For example: providing verbal encode to medical direction from the field and documentation of patient care.
4. **Mobility:** Paramedic students shall possess physical abilities sufficient to move from room to room, maneuver in small spaces, stand and walk for extensive periods of time and lift average-size adults with help. For example: transferring patients on to stretchers, loading and unloading stretchers into the ambulance and moving about the scene to search and discover patients.
5. **Motor Skills:** Paramedic students shall possess gross and fine motor abilities sufficient to provide safe and effective care. For example: calibrate and use designated equipment, insertion of tubes and initiation of intravenous and intraosseous infusions and administration of medications.
6. **Hearing:** Paramedic students shall possess auditory ability sufficient to monitor and assess health needs. For example: hear monitor alarms, emergency signals, and cries for help and auscultate breath and bowel sounds.
7. **Visual:** Paramedic students shall possess visual ability sufficient for observation and assessment necessary for care. For example: observe patient/client responses to treatment, use of designated equipment and assessment of a patient.
8. **Tactile:** Paramedic students shall possess tactile ability sufficient for physical assessment. For example: perform palpation and percussion, assessment of skin vital signs.
9. **Weight Bearing:** Paramedic students shall possess the ability to lift and manipulate/move 45-50 pounds on a daily basis. For example position patients/clients, carry designated equipment.
10. **Cognitive Abilities:** Paramedic students shall possess an ability to be oriented to time, place and person and organize responsibilities, make decisions and function effectively in a critical situation. For example, a student shall assess client/patient complaints and implement appropriate plans for care.
11. **Occupational Exposures:** Paramedic students may be exposed to communicable diseases/ and or body fluids, toxic substances, medicinal preparations, and latex. Students shall use appropriate precautions at all times. For example, a student may be assigned a client/patient with a communicable disease and shall provide total care using universal precautions.
12. **Driving Skills/Abilities:** Paramedic students must have a valid Driver's License in order to complete their coursework at Blue Ridge Community and Technical College.

Career Opportunities

Paramedics must be able to perform under pressure—in settings demanding excellent clinical, stress management, and communication skills. As a paramedic, you will provide pre-hospital care to patients, administering medication, interpreting EKGs, and operating equipment.

Accredited by both the State of West Virginia and the Commission on Accreditation of Allied Health Program (click here for details), our graduates.

Paramedic Program Outcomes

CAAHEP Accredited Paramedic Programs and CoAEMSP Letter of Review (LoR) Programs track and report outcome measures annually to the Committee on Accreditation for the Emergency Medical Services Professions (CoAEMSP).

The most current CoAEMSP Annual Report was for the calendar year 2020.

The most recent success rate for the National Registry of EMT Paramedic/State Cognitive exam was 100%.

The most recent positive placement rate for graduates was 81.8%. Positive placement is defined by the CoAEMSP as 'Employed full or part-time in a related field and/or continuing his/her education and/or serving in the military'. Positive placement is measured at completion of the program.

The most recent retention rate was 61.1%.

Accreditation

The Blue Ridge Community and Technical College's Paramedic Program is Accredited by the Committee on Accreditation of EMS Programs as part of the Commission on Accreditation of Allied Health Education Programs.

It is through the assistance of the "Committee on Accreditation of Educational Programs for the Emergency Medical Services Professions" (www.coaemsp.org) that the "Commission on Accreditation of Allied Health Education Programs" (<http://www.caahep.org/Find-An-Accredited-Program>) grants our accreditation.

Curriculum for an Associate of Applied Science in Paramedic

General Education Core	17
EMS Core	43
Total Credit Hours Required	60

General Education Core

BIOL 120 - ^Human Anatomy & Physiology I (3)

This is course one in a two-course sequence that provides a detailed review of the human organism. It will provide a brief overview of the human body and the chemical basis for activities occurring within the body, a detailed review of the cell, tissues, the integumentary, skeletal, muscular, and nervous systems as well as an overview of the human senses.

Corerequisite(s): BIOL 121 - ^Human Anatomy & Phys I Lab (1)

BIOL 121 - ^Human Anatomy & Phys I Lab (1)

This is a laboratory course in human anatomy and physiology to be taken concurrently with BIOL 120.

Corerequisite(s): BIOL 120 - ^Human Anatomy & Physiology I (3)

BIOL 122 - ^Human Anatomy & Physiology II (3)

This is the second course in a two-course sequence that provides a detailed review of the human organism. This course provides a detailed review of cardiovascular, lymphatic, immune, respiratory, digestive, urinary, and reproductive systems.

Prerequisite(s): BIOL 120 - ^Human Anatomy & Physiology I (3) and BIOL 121 - ^Human Anatomy & Phys I Lab (1)

Corerequisite(s): BIOL 123 - ^Human Anatomy & Phys II Lab (1)

BIOL 123 - ^Human Anatomy & Phys II Lab (1)

This is a laboratory course in human anatomy and physiology to be taken concurrently with BIOL 122.

Prerequisite(s): BIOL 120 - ^Human Anatomy & Physiology I (3) and BIOL 121 - ^Human Anatomy & Phys I Lab (1)

Corerequisite(s): BIOL 122 - ^Human Anatomy & Physiology II (3)

ENGL 110 - ~Technical Writing & Communication (3)

This course is designed to prepare students to write technical reports and other technical documents. Emphasis is on audience, clarity, conciseness, and accuracy of expression. It covers research techniques, information design, writing style, and effective use of graphics.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

MATH 101 - ~Introduction to Mathematics (3)

During this course topics to be covered are sets, mathematical logic, mathematical systems, the real number system, systematic counting, probability, measurement, and consumer mathematics. History of mathematics, critical thinking skills, problem solving, and use of technology will be incorporated throughout the course.

Prerequisite(s): MATH 100 - Math Essentials (3) or proper placement on test scores

PSYC 203 - ~Introduction to Psychology (3)

This course will introduce the student to basic psychological principals and to enable the student to examine current thinking about development, personality, sensation and perception, cognition, learning, psychological disorders, and their treatment, and influence.

Corerequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement

Subtotal Credit Hours Required 17

EMS Concentration

EMSP 101 - Introduction to EMS (3)

This course is a survey course designed to acquaint the student with emergency medical services roles & responsibilities, well being of the EMS provider, illness and injury prevention, medical-legal issues, ethics, therapeutic communications, and life span development.

Pre-requisite/Co-requisite(s): Be a degree seeking student in Paramedic, A.A.S. or Paramedicine Certificate

EMSP 103 - EMS Operations (3)

This course will include in-depth review of such topics as emergency vehicle operations, medical incident command, rescue awareness and operations, hazardous materials recognition & identification and crime scene awareness.

Pre-requisite/Co-requisite(s): Be a degree seeking student in Paramedic, A.A.S. or Paramedicine Certificate

EMSP 104 - EMS Practicum (1)

This course provides the opportunity to observe and apply the skills learned in EMSP 102 in a supervised clinical setting including a local hospital emergency department, regional medical command center and on a field EMS unit. A minimum of fifty hours are required and will be scheduled by the student on an individual basis through the EMS Clinical Coordinator.

Pre-requisite/Co-requisite(s): Be a degree seeking student in Paramedic, A.A.S. or Paramedicine Certificate

EMSP 104L - EMS Lab I (1)

This course affords the student the opportunity to apply and reinforce the skills learned in EMSP 102 in a laboratory setting. The student will participate in both scenario based training as well as skill specific review.

Pre-requisite/Co-requisite(s): Be a degree seeking student in Paramedic, A.A.S. or Paramedicine Certificate

EMSP 201 - Adv Airway Mgmt & Pt Assessmen (3)

This course provides a comprehensive understanding of the respiratory system and respiratory emergencies. Covered is an advanced approach to managing simple as well as difficult airways. The course includes advanced patient assessment skills and techniques for the paramedic to use while establishing their appropriate treatment modalities.

Prerequisite(s): EMSP 104 - EMS Practicum (1)

Pre-requisite/Co-requisite(s): Students must be accepted into Paramedic, A.A.S. or Paramedicine Certificate

EMSP 202 - Pathophysiology of Shock & Trauma Resuscitation (3)

This course provides a comprehensive understanding of the pathophysiology of shock, the different types of shock followed by appropriate treatment. The course also will give an in-depth look at all of the types of trauma and how our bodies react to absorbing energy. Our course will follow up with time management and treatment modalities for trauma care.

Prerequisite(s): EMSP 204 - EMS Practicum II (2)

EMSP 203 - Pre-Hospital Pharmacology (3)

This course provides topics to include pharmacokinetics, pharmacodynamics, drug calculations, and drug administration. The course provides the cognitive understanding of such skills as intravenous cannulation, intraosseous infusion, intramuscular medication injection, and subcutaneous medication injection, intranasal medication administration to mention a few. The student will be working with Crew Resource Management techniques to ensure the accuracy of patient care.

Prerequisite(s): EMSP 104 - EMS Practicum (1)

Pre-requisite/Co-requisite(s): Students must be accepted into Paramedic, A.A.S. or Paramedicine Certificate

EMSP 204 - EMS Practicum II (2)

This course provides the opportunity to observe and apply the skills learned in EMSP 201, EMSP 202, and EMSP 203 in a supervised clinical setting including a local hospital emergency department, respiratory therapy department, and operating room and on a field EMS unit. A minimum of one hundred clinical hours are required and will be scheduled by the student on an individual basis through the EMS Clinical Coordinator.

Prerequisite(s): EMSP 104 - EMS Practicum (1)

Pre-requisite/Co-requisite(s): Students must be accepted into Paramedic, A.A.S. or Paramedicine Certificate

EMSP 204L - EMS Lab II (1)

This course affords the student the opportunity to apply and reinforce the skills that they have learned in the EMS program to this point in a laboratory setting, concentrating on EMSP 201 and EMSP 203. The student will participate in both scenario based training as well as skill specific review.

Prerequisite(s): EMSP 104 - EMS Practicum (1)

Pre-requisite/Co-requisite(s): Students must be accepted into Paramedic, A.A.S. or Paramedicine Certificate

EMSP 205 - Medical Emergencies I (3)

This course provides a comprehensive review of the pathophysiology of the cardiovascular system. This will include assessment and treatment for cardiovascular emergencies. Within this course, you will become fluent in Electro Cardio Grams (ECG) and their interpretations. The course will conclude with a complete 12 Lead understanding and interpretation.

Prerequisite(s): EMSP 204 - EMS Practicum II (2)

Corerequisite(s): EMSP 205L - Medical Emergencies I Lab (1)

Pre-requisite/Co-requisite(s): Be a degree seeking student in Paramedic, A.A.S. or Paramedicine Certificate

EMSP 205L - Medical Emergencies I Lab (1)

This course provides a comprehensive review and integration with patient care to the cardiac patient. This will include assessment and treatment for cardiovascular emergencies. Within this course, you will become fluent in Electro Cardio Grams (ECG) and their interpretations. The course will conclude with a complete 12 Lead understanding and interpretation.

Prerequisite(s): EMSP 204 - EMS Practicum II (2)

Corerequisite(s): EMSP 205 - Medical Emergencies I (3)

Pre-requisite/Co-requisite(s): Be a degree seeking student in Paramedic, A.A.S. or Paramedicine Certificate

EMSP 206 - EMS Practicum III (2)

This course provides the opportunity to observe and apply the skills learned in EMSP 205 in a supervised clinical setting including a local hospital emergency department, respiratory therapy, cardiac service, and cardiac care unit and on a field EMS unit. A minimum of one hundred clinical hours are required and will be scheduled by the student on an individual basis through the EMS Clinical Coordinator.

Prerequisite(s): EMSP 204 - EMS Practicum II (2)

Pre-requisite/Co-requisite(s): Be a degree seeking student in Paramedic, A.A.S. or Paramedicine Certificate

EMSP 206L - EMS Lab III (1)

This course affords the student the opportunity to apply and reinforce the skills learned in the EMS program to this point in a laboratory setting, concentrating on EMSP 205 and EMSP 206. The student will participate in both scenario-based training as well as skill-specific review.

Prerequisite(s): EMSP 204 - EMS Practicum II (2)

Pre-requisite/Co-requisite(s): Be a degree seeking student in Paramedic, A.A.S. or Paramedicine Certificate

EMSP 207 - Medical Emergencies II (3)

This course reviews pathophysiology, assessment and management of medical patients with neurological and endocrinological emergencies, allergies, and anaphylaxis, gastroenterological, urological, toxicological, hematological, and environmental emergencies, infectious and communicable diseases, behavioral, gynecological, and obstetrical emergencies.

Prerequisite(s): EMSP 206 - EMS Practicum III (2)

Pre-requisite/Co-requisite(s): Be a degree seeking student in Paramedic, A.A.S. or Paramedicine Certificate

EMSP 208 - Special Patients & Situations (3)

This course takes an in depth look at the approach to patients with special needs such as neonatal, pediatric and geriatric patients, patients with mental or physical impairments, or patients with high technology medical devices in the out-of-hospital setting.

Prerequisite(s): EMSP 206 - EMS Practicum III (2)

Pre-requisite/Co-requisite(s): Be a degree seeking student in Paramedic, A.A.S. or Paramedicine Certificate

EMSP 209 - EMS Practicum IV (2)

This course provides the opportunity to observe and apply the skills learned in EMSP 207 and EMSP 208 in a supervised clinical setting including a local hospital emergency department, pediatric unit, obstetrical unit, psychiatric unit and on a field EMS unit. A minimum of one hundred clinical hours are required and will be scheduled by the student on an individual basis through the EMS Clinical Coordinator.

Prerequisite(s): EMSP 206 - EMS Practicum III (2)

Pre-requisite/Co-requisite(s): Be a degree seeking student in Paramedic, A.A.S. or Paramedicine Certificate

EMSP 209I - EMS Internship (1)

This course is an internship which takes place in the final weeks at the completion of the EMSP program. The student will be assigned an internship mentor and field unit with whom they will do a minimum of 48 hours, prior to graduation. This internship will give the student a chance to "put it all together" in real-life situations.

Prerequisite(s): EMSP 206 - EMS Practicum III (2)

Pre-requisite/Co-requisite(s): Be a degree seeking student in Paramedic, A.A.S. or Paramedicine Certificate

EMSP 210 - Paramedic Capstone (2)

This course serves as the cumulative review and remedial application of what the student has learned in EMSP 201-209. The course will focus on providing summative evaluation of the student's performance in simulated situations or scenarios. Successful completion of this course is required to obtain recommendation to sit for the National Registry Examination for Paramedic. This course is designed to meet the standards set forth by the National Registry of EMTs.

Prerequisite(s): EMSP 206 - EMS Practicum III (2)

Pre-requisite/Co-requisite(s): Be a degree seeking student in Paramedic, A.A.S. or Paramedicine Certificate

EMSP 211 - Field Research and Evaluation (2)

This course encourages the student to analytically evaluate EMS operations and pre-hospital medical care and to become an advocate for change within the EMS System. A focus of this course is on conducting and evaluating a group and an independent field research project as well as presentation of research results in both written and oral formats.

SOCI 120 - Applied SOCI in Healthcare (3)

This course will introduce students to emotional, psychological, and physical trauma in relation to gender inequality, poverty, under/uninsured populations, and drug misuse, using the sociological theories of functionalism and conflict theory. The students will explore how trauma influences the patient perspective of medical care and patient health, as well as reflect on their own unconscious biases. Additionally, the course will prepare students to provide trauma-informed care.

Subtotal Credit Hours Required 43

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Physical Therapist Assisting, A.A.S.

The Physical Therapist Assisting (PTA) program is a 1 + 1 program. One year of prerequisites must be completed prior to starting the Fall semester of the technical phase. Because students apply on March 1st each year, students may be enrolled in prerequisites during the Spring semester and still apply. The midterm grades for those spring semester courses will be used to determine acceptance. Acceptance would be contingent upon the successful completion of those spring courses. If prerequisites are still left over to complete during any summer term, those students will NOT be considered for acceptance until the following year. In ALL prerequisite coursework, each student must earn a C or better. Once in the technical phase of this PTA program, it will last one year plus one five-week summer session. Once in the program, each student must maintain at least a 78% test average in order to keep their spot in the program. Admission to the PTA program is competitive and twenty students will be admitted to the PTA program each Fall.

A numerical score sheet is used to select 20 students for each class. Points are assigned for grades in all prerequisite courses, volunteer experience, the brief narrative written on the application, and previous degrees earned. For students who use EDGE credits for any of the prerequisite courses, a grade from the high school transcript will be utilized on the score sheet. Students who have previously earned an associate's or a bachelor's degree qualify for additional points. Students who have all A's in all of the PTA prerequisite courses qualify for additional points. Degrees earned at the end of the spring semester of which the student has applied to the technical phase WILL still allow the student to earn the extra points for the degree. Acceptance would be contingent upon the student actually earning the degree. The minimum requirement for volunteer hours is 20 total hours split between two distinctly different practice settings. Students are asked NOT to complete much over the 20-hour requirement so that we do not overwhelm clinical sites. The total score for the PTA score sheet for acceptance is composed of: 60% letter grades in prerequisite courses, 10% volunteer hours, 15% written essay on application, and 15% past degrees obtained. The 20 students with the highest scores are chosen. An applicant with a score below 130 in section A of the PTA Score sheet for Acceptance would not be a qualified applicant. 130 is the minimum qualifying score to get into the program.

The completed application packet must be submitted to the program coordinator by **March 1st** for the next entering class. Late applications are accepted only if space allows.

The Program's mission is to prepare graduates to be licensed as Physical Therapist Assistants and work in any health care setting so that the physical therapy needs of the citizens in our service region can be met.

Although technical competence is the predominant goal, broader academic abilities are also desired for PTA graduates. The general studies component of the curriculum provides the avenue for developing effective speaking, writing, and thinking skills to form a foundation for lifelong learning.

To fulfill this mission, the Program will:

1. Provide students with a program of study that will assist them in developing the knowledge and skills necessary to pass the National Physical Therapist Assistant Licensure Examination.
2. Hold high expectations for student acquisition of academic and clinical skills, and professional behaviors so that our graduates possess entry-level skills.
3. Maintain contact with health care providers and consumers in our service region to ensure that the Program remains relevant and continues to serve the needs of all communities of interest.

Graduate Goals

Upon successful completion of the PTA program the graduate is expected to:

- Exhibit conduct that reflects practice standards that are legal, ethical and safe.
- Implement a plan of care established by the physical therapist.
- Demonstrate competence in performing data collection through tests, measurements, and observations.
- Use verbal, non-verbal, and written communication in an effective, appropriate and capable manner.
- Demonstrate professional behavior through attendance, promptness, and the ability to assume appropriate responsibility.
- Demonstrate the cognitive knowledge basic to physical therapy intervention.

Student Abilities

To meet these goals, the student must be able to:

- Obtain information during class time and outside of class from lecture, text, computer-based, and video formats.
- Obtain information from the medical record.
- Produce written responses to assignments.
- Compose progress notes for the medical record.
- Complete in-class small group assignments.
- Receive and transmit information to the instructors, classmates, supervising physical therapists, and patients.

- Perform physical therapy techniques in high (standing), medium (sitting), and low (squatting, stooping) body positions.
- Operate equipment with knobs, switches, touch pads, and touch screens.
- Lift and position classmates, patients, and equipment.
- Assist and guard classmates and patients while they practice standing, walking, and moving into and out of wheelchairs.
- Assist classmates and patients while they perform therapeutic exercises.
- Perform physical therapy techniques and move about the clinical facility for up to 8 hours a day, 40 hours a week.
- Assess the patient's verbal and nonverbal response to treatment.
- Complete multi-step work assignments.

This program will prepare students to sit for the national PTA licensure examination which is required to practice in most states. This program will also prepare the PTA students to work in a variety of physical therapy settings including: acute care, outpatient orthopedics, skilled nursing, rehabilitation center, and nursing homes. The PTA licensure examination is administered at a Prometric test center in coordination with the Federation of State Boards of Physical Therapy (FSBPT). It is a national licensure, which is accepted by all states that require licensure. There is a standard passing score, which all states have agreed upon.

The students will have a total of 4 clinical education experiences. Each of these experiences will occur in a different setting so that the PTA student will be well rounded and prepared to work in any setting after graduation. The students will be evaluated by their clinical instructors while in the clinic or hospital.

The Physical Therapist Assistant Program at Blue Ridge Community and Technical College is accredited by the Commission on Accreditation in Physical Therapy Education (CAPTE), 3030 Potomac Avenue Suite 100, Alexandria, Virginia 22305; telephone: 703-706-3245; email: accreditation@apta.org ; website: <http://www.capteonline.org> . If needing to contact the program/institution directly, please call Dr. Chrystal McDonald at 304-260-4380, ext 3408 or email cmcdonal@blueridgectc.edu

Graduating Class	# Applied	# Accepted	Admission Rate	Graduation Rate	1st Time Licensure Pass Rate	Overall Licensure Pass Rate	Employment Rate
Class of 2018	39	20	54%	100%	84.2%	94.7%	94%
Class of 2019	48	20	47%	90%	88.2%	94.1%	100%
Class of 2020	35	20	57%	80%	68.8%	75.0%	92%
Class of 2021	34	20	68%	55%	90.9%	100%	100%

	2 year average graduation rate	2 year average employment rate	2 year average licensure pass rates- 1 st time	2 year average licensure pass rates- ultimate
Average for Class of 2019 and Class of 2020	85%	96%	76%	84.7%

Average for Class of 2020 and Class of 2021	67.5%	96%	79.9%	87.5%
---	-------	-----	-------	-------

Dr. Chrystal McDonald is the Program Coordinator. You can reach her at 304-260-4380, ext 3408 with any questions or complaints about the PTA program. Brandy Bartley is the Clinical Coordinator, and she can be reached at 304-260-4380, ext 3313.

PTA Accreditation

PTA Application

PTA Scoresheet for Acceptance New

Volunteer Hours Verification Form

Career Opportunities

As a Physical Therapist Assistant, you will be prepared to work alongside a Physical Therapist, helping patients recovering from injuries and other health conditions regain their ability to move and thrive.

Curriculum for an Associate of Applied Science in Physical Therapist Assisting

Prerequisites and Support Core	29
Technical Core	41
Total Credit Hours Required	70

Prerequisites and Support Core

BIOL 100 - The Human Body (3)

This is a survey course of basic Human Anatomy & Physiology. It is designed for students who need a rudimentary understanding of the human body and its organ systems but not in the detail that would be expected of a selective admissions healthcare program. This course will not substitute for BIOL 120 - ^Human Anatomy & Physiology I (3), BIOL 121 - ^Human Anatomy & Phys I Lab (1), BIOL 122 - ^Human Anatomy & Physiology II (3), or BIOL 123 - ^Human Anatomy & Phys II Lab (1).

CAHS 141 - Intro to Pharmacology (3)

This course provides information on a variety of medications that are commonly administered in the healthcare setting. Major drug categories associated with body systems will be reviewed. Students will learn about drug pharmacokinetics, dosage, preparation, administration and interactions.

Prerequisite(s): MATH 100 - Math Essentials (3) or placement

CAS 111 - Information Literacy (3)

This course covers a variety of introductory computing knowledge including how personal computers work, software essentials, hardware components, operating systems and the most popular productivity applications including word

processing, spreadsheet, database and presentation software. Students will also be introduced to the Internet and e-mail essentials, file management and digital electronics. This course aligns with the Internet and Computing Core Certification (IC3), which demonstrates that a student has a clear understanding of the knowledge and application of computers and technology in the modern world.

ENGL 110 - ~Technical Writing & Communication (3)

This course is designed to prepare students to write technical reports and other technical documents. Emphasis is on audience, clarity, conciseness, and accuracy of expression. It covers research techniques, information design, writing style, and effective use of graphics.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

MATH 101 - ~Introduction to Mathematics (3)

During this course topics to be covered are sets, mathematical logic, mathematical systems, the real number system, systematic counting, probability, measurement, and consumer mathematics. History of mathematics, critical thinking skills, problem solving, and use of technology will be incorporated throughout the course.

Prerequisite(s): MATH 100 - Math Essentials (3) or proper placement on test scores

MAST 102 - Medical Terminology (3)

This course is an integral component in understanding the language of medicine. It is designed to give the student a foundation in the basic structure of medical terms, word building and definitions as well as the applications of medical terminology. A human body systems approach is utilized and topics covered in each system include anatomy and physiology overview, medical terms, symptoms and signs, diseases and disorders, treatments, procedures and devices.

PSYC 203 - ~Introduction to Psychology (3)

This course will introduce the student to basic psychological principals and to enable the student to examine current thinking about development, personality, sensation and perception, cognition, learning, psychological disorders, and their treatment, and influence.

Corerequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement

PTA 108 - Patho of Disease for PTA (3)

Pathophysiology of diseases for the PTA will build upon previously learned knowledge of normal anatomy and normal physiology. This course will discuss pathologies and abnormalities that are deviations from the norm. For all pathologies, we will discuss causes, signs and symptoms, diagnosis, diagnostic tests, treatments, and prognosis. The pathologies will be organized according to the body system, including cardiovascular, respiratory, immune, gastrointestinal, urinary, reproductive, endocrine, nervous, musculoskeletal, and integumentary with emphasis placed on how these are addressed by PTA's. Other topics will include infectious diseases, neoplasms, hereditary diseases, diseases of the blood, and mental/cognitive disorders.

Prerequisite(s): BIOL 100 - The Human Body (3), or BIOL 120 - ^Human Anatomy & Physiology I (3) and BIOL 121 - ^Human Anatomy & Phys I Lab (1)

Corerequisite(s): PTA 111 - Anatomy & Physiology for PTA (4)

Pre-requisite/Co-requisite(s): Healthcare Professions, A.A.S., PTA Concentration Students Only

PTA 109 - Physics for PTA (1)

This is an introductory physics course for students wishing to enter the PTA program. Students will be introduced to the following concepts: Newton's Laws of Motion, Linear Motion, Circular Motion, Gravity, Work and Energy, Momentum, Vectors, Rotational Motion, Energy, Waves and Sound, Heat, and Heat Transfer.

PTA 111 - Anatomy & Physiology for PTA (4)

This course is specifically designed for the Physical Therapist Assistant (PTA) student, to build upon basic anatomy and physiology material from the pre-requisite, BIOL 100 The Human Body. More specifically, in-depth knowledge of the muscular, skeletal, and nervous systems are essential to the success of future PTAs and will therefore guide the overall course learning objectives and the specific unit learning objectives.

Prerequisite(s): BIOL 100 - The Human Body (3)

Subtotal Credit Hours Required 29

Technical Core

PTA 101 - Intro to Physical Therapy (2)

In this course, the history of the physical therapy profession and survey of general physical therapy services as well as the legal and ethical requirements for the physical therapist assistant are introduced. The Americans with Disabilities Act and architectural barriers are studied.

Prerequisite(s): Acceptance into PTA program.

PTA 102 - Patient & Professional Relationship (2)

Recognition of the reactions of the health care worker, patient, and family to illness and disability is discussed. The influence of race, class, age, ethnic origin, and gender on the physical therapist assistant and patient relationship is explored. The stages of adjustment to disability and death and dying are described. Communication skills between PTA, patient, family and other health care providers are developed.

Prerequisite(s): Acceptance into PTA program.

PTA 103 - Intro to Patient Care (3)

This course is an introduction to basic patient care procedures such as positioning, transferring, ambulating, dressing, fitting ambulation aids, and taking vital signs. Universal Precautions, isolation, and aseptic principles will be presented. Skills in basic note writing will be developed.

Prerequisite(s): Acceptance into PTA program.

PTA 104 - Physical Agents (4)

This course includes the lecture and lab study of thermal agents, compression, and massage. Skills in surface anatomy and goniometry are developed. Topics include electrical stimulation, traction, and manual muscle testing. Upon completion, students are able to correctly and safely apply these techniques in a laboratory setting while assessing the physiologic response and observing indications and contraindications. Also, students can write appropriate progress notes, and demonstrate knowledge of the physiological principles involved.

Prerequisite(s): Acceptance into PTA program.

PTA 105 - Kinesiology (3)

This course provides a study of human movement and related mechanical principles. Topics include detailed musculoskeletal anatomy and physiology. Upon completion, student will be able to analyze a functional task and identify component joint motions and muscle actions.

Prerequisite(s): Acceptance into PTA program.

PTA 106 - Clinical Education I (1)

This course is an initial clinical experience for students. Forty hours spaced throughout the semester introduces the various settings of a physical therapy practice - acute care, transitional care, out-patient clinic, home health, skilled nursing facility, rehabilitation unit, and the school system. The student may participate in the clinic's activities only if their skills have been checked-off in the course laboratory setting.

Prerequisite(s): Acceptance into PTA program.

PTA 107 - Clinical Education II (3)

This course is a concentrated fifteen day, 120 hour clinical experience. Students will be assigned to a variety of inpatient and outpatient facilities. They are expected to demonstrate beginner level intervention and patient management skills. The student will begin to assess patient response to treatment and be prepared to adjust the therapeutic intervention accordingly.

Prerequisite(s): Acceptance into PTA program.

PTA 201 - Therapeutic Exercise (4)

The principles and techniques of therapeutic exercise will be introduced. Topics also include gait analysis, posture assessment, and chest physical therapy. Upon completion the student will plan, implement, and assess the response to an exercise plan in a laboratory setting.

Prerequisite(s): PTA 101 - Intro to Physical Therapy (2)

PTA 202 - Orthopedics (4)

The dysfunctions caused by and intervention strategies for musculoskeletal disorders, amputations, wounds, and burns will be examined. Upon completion, the student will be able to combine previously and newly learned procedures and strategies to carry out an orthopedic care plan in a laboratory setting.

Prerequisite(s): PTA 101 - Intro to Physical Therapy (2)

PTA 203 - Neurology (4)

The dysfunctions caused by and intervention strategies for peripheral and nervous system disorders will be examined. Upon completion the student will be able to combine previously and newly learned procedures and strategies to carry out a neurologic care plan in a laboratory setting.

Prerequisite(s): PTA 101 - Intro to Physical Therapy (2)

PTA 204 - Clinical Education III (5)

This rotation consists of two hundred hours over a five week period that will allow the student to begin the process of working within the physical therapy Plan of Care. The emphasis will be to implement, develop, and progress a therapeutic exercise program for the patient to address the impairments of decreased range of motion, decreased strength, decreased endurance, or motor control deficit.

Prerequisite(s): PTA 101 - Intro to Physical Therapy (2)

PTA 205 - Capstone Seminar (1)

This intense five week seminar examines the expectations for an entry level physical therapist assistant and focuses on preparation for clinical rotations and entry into the profession. Previously learned and new material relating to safety, plan of care, communication, professional behavior, and knowledge are tied to the role of the PTA.

Prerequisite(s): PTA 101 - Intro to Physical Therapy (2)

PTA 206 - Clinical Education IV (5)

This five week, 200 hour clinical assignment allows the student to apply all previously learned theory and skills to patient care in a clinical setting. Each student is assigned to a clinical center to perform physical therapy modalities and procedures on a variety of patients.

Prerequisite(s): PTA 101 - Intro to Physical Therapy (2)

Subtotal Credit Hours Required 41

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Plastics Engineering Technology, A.A.S.

The Plastics Engineering Technology Program is one of the few programs in the United States and the only Plastics Engineering Technology program in the tri-state area (WV, MD, VA). This program leads to an Associate of Applied Science in Plastics Engineering Technology and could provide students the option to pursue a bachelor's degree in plastics engineering technology, mechanical engineering technology, or engineering management.

Program Overview

Graduates of the Plastics Engineering Technology program can enter careers such as Plastics Process Technician, Maintenance Technician, Quality Technician, Designers, Technical Sales, and Dye Makers. Students who pursue this degree should be eligible to sit for certification in CAD and machining.

Students will gain an understanding of the technology utilized in modern manufacturing and engineering firms. Students will have access to hands-on, innovative laboratories in areas such as Robotics, CNC, CAD, and Plastic Processing. Internships may be available.

Program Outcomes

- Demonstrate professionalism (on time, positive attitude, respectful).
- Identify industrial and personal safety equipment.
- Practice team building and effective communication.
- Identify tools and equipment used in plastics engineering.
- Understand the fundamentals of Quality Control.
- Demonstrate how to properly set up, program, operate, maintain and troubleshoot a scaled manufacturing system.
- Understand the fundamentals of plastics processing.
- Understand the processing methods of injection and blow molding.
- Utilize CAS and CAW to construct molds and plastic parts.
- Identify common robotic applications in the workplace.

Career Opportunities

Plastics Engineering Technicians may find employment opportunities with the consumer product, food and beverage, automotive, medical, aerospace, and toy manufacturers. The average annual salary for students in this field is between \$44,480 and \$55,770, with the top ten percent earning over \$80,000. Employment opportunities may be available at employers such as LogoPlaste, Technimark, Parker Plastics, Brentwood, and Monoflo.

Curriculum for an Associate of Applied Science in Plastics Engineering Technology

General Education Core	16
Technical Core	44
Total Credit Hours Required	60

General Education Core

ENGL 110 - ~Technical Writing & Communication (3)

This course is designed to prepare students to write technical reports and other technical documents. Emphasis is on audience, clarity, conciseness, and accuracy of expression. It covers research techniques, information design, writing style, and effective use of graphics.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

MATH 105 - ^Algebra (3)

Topics explored in this course include properties of the real numbers, operations on polynomials, rational and radical expressions, solutions of linear, quadratic, polynomial, radical and absolute value equations and inequalities. Coordinate geometry including distance, midpoint, lines, and circles will also be explored. Additional topics include systems of linear equations and their applications, analysis of functions, operations on functions, transformations of functions, and properties of linear, piecewise, quadratic, polynomial, rational, exponential and logarithmic functions.

Prerequisite(s): MATH 100A - Algebra Essentials (3) or proper placement on test scores

MATH 106 - Trigonometry (3)

Topics explored in this course include the study of angles in radians and degrees and evaluating trigonometric functions using the right triangle and a unit circle approaches. Other topics to be explored include verifying trigonometric identities, solving trigonometric equations, solving applied problems using right triangles and oblique triangles, analyzing the graphs and characteristics of trigonometric and inverse trigonometric functions, performing composition and transformations on trigonometric functions, and evaluating inverse trigonometric functions. Time permitting topics include polar coordinates, complex numbers, deMoivre's Theorem, and vectors.

Prerequisite(s): MATH 105 - Algebra (3) or proper placement on test scores

MATH 108 - Pre-Calculus (4)

This course is a one-semester preparation for calculus, which includes various algebra and trigonometry topics. Algebra topics include the analysis of linear, quadratic, polynomial, radical, rational, absolute value, piecewise, exponential and logarithmic functions and their graphs along with applications. Trigonometry topics include the study of angles using both the unit circle and right triangle approaches, verifying trigonometric identities, solving trigonometric equations, solving right and oblique triangles with applications, and analyzing the characteristics of trigonometric and inverse trigonometric functions. Additional topics include complex numbers, systems of equations, partial fractions, conic sections, sequences, and series. As time permits, vectors, polar coordinates, mathematical induction, and limits may also be explored.

Prerequisite(s): MATH 105 - Algebra (3) or proper placement on test scores

MECH 102 - Technical Physics (2)

Technical Physics emphasizes physical concepts as applied to technical fields. The five major areas on concentration include mechanics, matter and heat, wave motion and sound, electricity and magnetism, and light. Lab activities will provide hands on discovery of the concepts covered in the course. MECH 102L - Technical Physics Lab (2) is the laboratory portion of the class.

Corerequisite(s): MECH 102L - Technical Physics Lab (2)

Pre-requisite/Co-requisite(s): MATH 102 - Technical Mathematics (3), MATH 105 - Algebra (3), MATH 106 - Trigonometry (3), MATH 108 - Pre-Calculus (4), or MATH 114 - Elem Probability & Statistics (3)

MECH 102L - Technical Physics Lab (2)

Technical Physics emphasizes physical concepts as applied to technical fields. The five major areas on concentration include mechanics, matter and heat, wave motion and sound, electricity and magnetism, and light. This laboratory portion will include activities that will provide hands on discovery of the concepts covered in the course.

Corerequisite(s): MECH 102 - Technical Physics (2)

Pre-requisite/Co-requisite(s): MATH 102 - Technical Mathematics (3), MATH 105 - ^Algebra (3), MATH 106 - ^Trigonometry (3), MATH 108 - ^Pre-Calculus (4), or MATH 114 - ~Elem Probability & Statistics (3)

PSYC 203 - ~Introduction to Psychology (3)

This course will introduce the student to basic psychological principals and to enable the student to examine current thinking about development, personality, sensation and perception, cognition, learning, psychological disorders, and their treatment, and influence.

Corerequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement

SOCI 203 - ~General Sociology (3)

This course introduces students to the core concepts and perspectives of sociology, the study of human social environments and of human interactions within those environments. The course will explore a number of sociological topics to develop a sociological imagination, an ability to understand the effects of group membership on behavior, attitudes, beliefs, and life chances.

Corerequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement

Subtotal Credit Hours Required 16

Technical Core

CAD 102 - CAD Applications (2)

CAD Applications will be a continuation of CAD 101 - Intro to Engineering Graphics (2). This course will be a software based class that will prepare the student to produce accurate 2D and 3D drawings following ANSI standards. The class will focus on tools, editing, layers, dimensions and tolerances, and plotting to produce orthographic, section, auxiliary, isometric and oblique drawings. CAD 102L - CAD Applications Lab (2) is the laboratory portion of this class.

Corerequisite(s): CAD 201L - 3D Modeling Lab (2)

CAD 102L - CAD Applications Lab (2)

This is the laboratory portion of CAD Applications and it will be a continuation of CAD 101- Introduction to Engineering Graphics. This course will be a software-based class that will prepare the student to produce accurate 2D and 3D drawings following ANSI standards. The class will focus on tools, editing, layers, dimensions and tolerances, and plotting to produce orthographic, section, auxiliary, isometric and oblique drawings.

Corerequisite(s): CAD 102 - CAD Applications (2)

CAD 201 - 3D Modeling (1)

In this course students will learn to use 3D modeling software to develop parametric design solutions for various engineering problems. Students will develop designs, learn and apply ANSI (American National Standards Institute) standards, explore finite element analysis, and develop working, assembly and presentation drawings.

Corerequisite(s): CAD 201L - 3D Modeling Lab (2)

CAD 201L - 3D Modeling Lab (2)

In this course, students will learn to use 3D modeling software to develop parametric design solutions for various engineering problems. During the lab component, students will develop designs, learn and apply ANSI (American National Standards Institute) standards, explore finite element analysis, and develop working, assembly and presentation drawings.

Corerequisite(s): CAD 201 - 3D Modeling (1)

MECH 106 - Electricity & Electronics (2)

Electricity & Electronics is an introduction to AC electrical applications and commercial wiring practices. This course is paired with MECH 105 - Electricity & Commercial Wiring (1) to form a complete electricity/electronic experience for the mechatronics technician. This course introduces the fundamental concepts of and computations related to AC electricity. Emphasis is placed on AC circuits, components, operation of test equipment; and other related topics. Devices such as transformers, AC motors, and solenoids are covered. Commercial wiring tools and practices are introduced to prepare the student for the NEC exam. MECH 106L - Electricity & Electronics Lab (2) is the laboratory portion of this course.

Corerequisite(s): MECH 106L - Electricity & Electronics Lab (2)

Pre-requisite/Co-requisite(s): MATH 102 - Technical Mathematics (3), MATH 105 - ^Algebra (3), MATH 106 - ^Trigonometry (3), or MATH 108 - ^Pre-Calculus (4)

MECH 106L - Electricity & Electronics Lab (2)

Electricity & Electronics is an introduction to AC electrical applications and commercial wiring practices. This course is paired with MECH 105 - Electricity & Commercial Wiring (1) to form a complete electricity/electronic experience for the mechatronics technician. This course introduces the fundamental concepts of and computations related to AC electricity. Emphasis is placed on AC circuits, components, operation of test equipment; and other related topics. Devices such as transformers, AC motors, and solenoids are covered. Commercial wiring tools and practices are introduced to prepare the student for the NEC exam. This laboratory component provides hands-on experiences necessary for complete concept attainment.

Corerequisite(s): MECH 106 - Electricity & Electronics (2)

Pre-requisite/Co-requisite(s): MATH 102 - Technical Mathematics (3), MATH 105 - ^Algebra (3), MATH 106 - ^Trigonometry (3), or MATH 108 - ^Pre-Calculus (4)

MECH 110 - Mechanical Systems I (3)

Mechanics I is a comprehensive introduction to fundamentals of industrial mechanical concepts, principles, and equipment. The course covers safety, lubrication, bearing installation and removal, proper installation and adjustment of belt and chain drives, as well as coupling and shaft alignment.

Prerequisite(s): MECH 101 - Introduction to Mechatronics (1)

MECH 120 - Fluid Power (3)

The Fluid Power course is designed to provide students with a basic understanding of the concepts and applications of fluid power technology including hydraulics and pneumatics. The course is an overview of fluid power technology applications; the general concept of fluid power systems; an introduction to energy input, energy output, energy control, and systems auxiliary components; as well as the design and function of components.

MECH 121 - Safety Awareness & OSHA 10 (2)

Safety Awareness is designed to introduce students to the necessary skills to safely work in the industrial setting. Some major areas of studies include: Fall Protection, Fire Prevention and Protection, Electrical Safety, Personal Protective Equipment, Hazard Communication, and other elective topics. Upon successfully passing the OSHA exam the student will earn a 10 hour OSHA card.

MET 120 - Statics (3)

This is a Vector mechanics course covering concepts of forces, moments, couples, resultants; equilibrium of particles and rigid bodies in two and three dimensions; forces in trusses, frames and machines; centroids and centers of mass for lines, areas and volumes; distributed loads, internal shear-force and bending-moment calculations for beams; dry friction; area moments of inertia and the parallel-axis theorem.

Prerequisite(s): MATH 100A - Algebra Essentials (3), MATH 102 - Technical Mathematics (3), MATH 105 - ^Algebra (3), or placement

MET 200 - Introduction to CAM (2)

This course is a study of the basic concepts of automation. These concepts include machine language computer programming, computer process monitoring, process-computer interfaces, and automation problem-solving. The laboratory will consist of team problem-solving in automation and operation of computer-aided manufacturing systems.

Pre-requisite/Co-requisite(s): MATH 100A - Algebra Essentials (3), MATH 102 - Technical Mathematics (3), or placement

MET 201 - Intro to CNC Programming (2)

In this course, students will create basic programs for CNC mills and lathes. Students will generate industry standard G and M code programs. Programs are run on verification software to ensure accuracy. Additionally, students will study speed and feed calculations, operator notes and start-up lines, mill and lathe tooling types and procedures, rectangular coordinates, canned (drill) cycles, and file management.

Pre-requisite/Co-requisite(s): MATH 102 - Technical Mathematics (3), MATH 106 - ^Trigonometry (3) or placement

MET 220 - Strength of Materials (4)

This course is a mechanics of materials course covering concepts of normal and shear stress and strain, deformation, factors of safety and stress, axially-loaded members, torsionally-loaded members, shearing and bending of beams, internal shear-force and bending-moment diagrams, stresses resulting from combined loading, statically-indeterminate loading, thin-walled pressure vessels, stress transformation via equation and Mohr's circle, beam deflection, column buckling, and thin-walled pressure vessels.

Prerequisite(s): MET 120 - Statics (3)

PLET 120 - Introduction to Plastics (3)

Students will learn the fundamentals of plastics processing. Additionally, students will learn the basic characterizations of polymeric materials, as well as aspects of quality control.

PLET 200 - Plastics Processing (3)

Students will gain the necessary skills for various plastics processing methods including injection and blow molding. Students will also be introduced to maintenance practices of materials. Students are also introduced to tooling and design.

Prerequisite(s): PLET 120 - Introduction to Plastics (3)

PLET 210 - Plastics Design (3)

Students are introduced to the design of molds, tools, and plastic parts. CAS and CAW are used to construct a various mold and plastic part designs.

Prerequisite(s): MECH 201 - Systematic Troubleshooting (3) and PLET 120 - Introduction to Plastics (3)

ROB 210 - Robotics I (2)

This course is designed to introduce the student to industrial robotics applications typical environments. Topics include: robot history and fundamentals, robot classification, power sources, robot applications in the workplace, robot control techniques, path control, end of arm tooling, robot operation, and robot controllers, controller architecture in a system, robotic language programming, and human interface issues.

- Restricted Electives in MECH, MET, PLET or ROB (3)

Subtotal Credit Hours Required 44

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Software Development Engineering, A.A.S.

This program prepares students with practical skills and knowledge for entry-level positions within the software engineering profession. Software engineering relates to the concept, design, implementation, deployment, and maintenance of software. The program will provide the theoretical fundamentals of software development along with the hands-on practical aspects and competencies required by the industry. The program is designed to support innovation through the application of software engineering principles that provides a solution-focused skill set to real-world business needs and scenarios.

Program Outcomes

- Explain the theoretical fundamentals of software development.
- Develop practical skills and knowledge for positions within the software engineering profession.
- Apply competencies required by the software design industry through hands-on practice.
- Apply software engineering principles to provide a solution-focused skill set to real-world business needs and scenarios.
- Use current languages, methodologies, and integrated development environments to develop secure program code for a variety of platforms, including web and mobile.
- Produce robust software using the program development cycle to analyze, design, implement, deploy, document, and maintain applications.
- Complete a capstone project applying project management, communication, problem-solving and teamwork skills to a large software development project.

Curriculum for an Associate of Applied Science in Software Development Engineering

General Education Core	16
SDE Core	44
Total Credit Hours Required	60

General Education Core

CAS 111 - Information Literacy (3)

This course covers a variety of introductory computing knowledge including how personal computers work, software essentials, hardware components, operating systems and the most popular productivity applications including word processing, spreadsheet, database and presentation software. Students will also be introduced to the Internet and e-mail essentials, file management and digital electronics. This course aligns with the Internet and Computing Core Certification (IC3), which demonstrates that a student has a clear understanding of the knowledge and application of computers and technology in the modern world.

COMM 202 - ~Fundamentals of Speech (3)

This course equips the student with the necessary tools to construct, deliver, and analyze public communication messages.

ENGL 110 - ~Technical Writing & Communication (3)

This course is designed to prepare students to write technical reports and other technical documents. Emphasis is on audience, clarity, conciseness, and accuracy of expression. It covers research techniques, information design, writing style, and effective use of graphics.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

IT 105 - Computer Ethics (3)

This course is designed to educate existing and future Information Technology professionals on the tremendous impact ethical issues have on the use of information technology in the modern business world. The topics covered include an

overview of ethics, ethics for IT professionals and IT users, computer internet and crime, privacy, freedom of expression, intellectual property, software development, and employer/employee Issues. Individual case examinations will be presented to more closely represent real-life examples of each of these topics.

MATH 108 - ^Pre-Calculus (4)

This course is a one-semester preparation for calculus, which includes various algebra and trigonometry topics. Algebra topics include the analysis of linear, quadratic, polynomial, radical, rational, absolute value, piecewise, exponential and logarithmic functions and their graphs along with applications. Trigonometry topics include the study of angles using both the unit circle and right triangle approaches, verifying trigonometric identities, solving trigonometric equations, solving right and oblique triangles with applications, and analyzing the characteristics of trigonometric and inverse trigonometric functions. Additional topics include complex numbers, systems of equations, partial fractions, conic sections, sequences, and series. As time permits, vectors, polar coordinates, mathematical induction, and limits may also be explored.

Prerequisite(s): MATH 105 - ^Algebra (3) or proper placement on test scores

Subtotal Credit Hours Required 16

SDE Core

IT 189 - Operating Sys Fundamentals (3)

This course is an introduction to the basics of computer operating systems. Topics include operating system principles, CPU, file systems, input and output devices, disk management, virtualization, sharing resources, and system maintenance.

Prerequisite(s): CAS 111 - Information Literacy (3)

IT 269 - Project Management (3)

This comprehensive course examines the various models used to develop and control the Work Breakdown Structure (WBS), Schedule, and Cost. Additionally, the class will perform an analysis on the time, cost models, and evaluate the outcome. There will be case problems and labs utilizing various processing tools.

Prerequisite(s): CAS 111 - Information Literacy (3), ENGL 110 - ~Technical Writing & Communication (3), and completion of a minimum of 45 credits

MATH 105 - ^Algebra (3)

Topics explored in this course include properties of the real numbers, operations on polynomials, rational and radical expressions, solutions of linear, quadratic, polynomial, radical and absolute value equations and inequalities. Coordinate geometry including distance, midpoint, lines, and circles will also be explored. Additional topics include systems of linear equations and their applications, analysis of functions, operations on functions, transformations of functions, and properties of linear, piecewise, quadratic, polynomial, rational, exponential and logarithmic functions.

Prerequisite(s): MATH 100A - Algebra Essentials (3) or proper placement on test scores

MDIA 104 - Web Page Design (3)

In this course, students learn how to code web pages from scratch using HTML, XHTML, and XML incorporating Java Scripting. Students will explore basic and advanced tags by creating web pages utilizing tables, frames, audio, video, and Java scripting.

SDE 188 - Intro to Programming Logic (3)

This course introduces the basic concepts of programming logic. Students will examine the basic constructs of selection, sequence, and repetition, abstract data structures of records, arrays, and linked lists, and file access methods.

Corequisite(s): MATH 100 - Math Essentials (3) or appropriate test scores

SDE 193 - Programming in C# (3)

This course provides students with a thorough understanding of the basic principles of C# programming language. It covers the basic syntax and structure of the language with an emphasis on problem-solving techniques. Students create programs using input/output statements; if-while, do-while, and for-loop logic structures, arrays, functions, pointers and reference variables, record structures, header files, file I/O, and basic object-oriented programming techniques. Students will be able to recognize and correct common programming errors.

Prerequisite(s): SDE 188 - Intro to Programming Logic (3)

Corequisite(s): MATH 100A - Algebra Essentials (3) or higher, or appropriate test scores

SDE 194 - Programming in Java (3)

This course provides students with a basic understanding of the principles of JAVA programming. It covers syntax, structure and emphasizes problem-solving techniques. Students create programs using input/output statement; if, while, do while, and for-loop logic structure; arrays, functions, and basic object-oriented programming techniques. Students will be able to recognize and correct common programming errors.

Prerequisite(s): SDE 188 - Intro to Programming Logic (3)

Corequisite(s): MATH 100A - Algebra Essentials (3) or higher, or appropriate test scores

SDE 195 - Programming in Python (3)

This course provides an introduction to the Python language. Students will explore its most important libraries and practice recommended programming styles and idioms, using a hands-on approach to how the various language features can be used together to best achieve efficient, secure programs. Topics covered include variables, expressions, statements, data structures, lists, dictionaries, tuples, functions, arguments, conditionals, recursion, strings, regular expressions, object-oriented development, classes, inheritance, iterators, generators, and decorators. This course is not intended for absolute beginners in programming but includes a self-contained review of elementary features.

Prerequisite(s): SDE 188 - Intro to Programming Logic (3)

Corequisite(s): MATH 100A - Algebra Essentials (3) or higher, or appropriate test scores

SDE 200 - Mobile App Development (4)

This course acquaints students with the design, development, testing, and debugging of mobile applications for multi-platform (i.e. Android, IOS, etc.) deployment. It will use the object-oriented programming along with current languages and scripts to create the applications and their interfaces. Multiple mobile user interface elements are used to

gather input and drive the application. This course covers application development phases, terminologies, application design, and coding.

Prerequisite(s): SDE 193 - Programming in C# (3), SDE 194 - Programming in Java (3), or SDE 195 - Programming in Python (3)

SDE 204 - Server Side Web Development (3)

This course covers aspects of server-side scripting application development for web purposes. It will focus on program statements and techniques to manipulate database information. Students will explore topics such as logins, dynamic pages, content management, search engine creation, secure on-line coding and working with form data. Emphasis will be placed on the use of programming that can be utilized without limitation to a particular database management system.

Prerequisite(s): MDIA 104 - Web Page Design (3) and SDE 193 - Programming in C# (3) or SDE 194 - Programming in Java (3) or SDE 195 - Programming in Python (3)
OR

MDIA 206 - Site Designer (3) and SDE 188 - Intro to Programming Logic (3)

SDE 209 - Applied App Development (4)

This hands-on capstone course is designed to validate the knowledge and skills of the student in application development. It will utilize concepts learned through Mobile Application Development, Server-Side Web Development, and Project Management courses. It will require the student to develop, design, implement, and user test an application development project. Students will be required to work both independently and on teams with limited guidance and instruction and solve business requirements based on "real world" scenarios.

Prerequisite(s): IT 269 - Project Management (3) AND SDE 200 - Mobile App Development (4) OR SDE 204 - Server Side Web Development (3)

- Any 292 Field Experience (3)
- Restricted Electives (6) - CNET, CYBR, DBM, IT, MATH 207, MDIA, SDE

Subtotal Credit Hours Required 44

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Technical Studies, A.A.S.

This program is exclusively designed for students or prospective students currently employed by an employer who is working with Blue Ridge Community and Technical College. Our program allows employers to customize a course of study for their employees while giving them the skill sets to use technology effectively sharpen communication skills, and develop practical problem-solving strategies.

Program Overview

The Blue Ridge Community and Technical College can customize this degree program for employers. Certificate programs are also available.

Goals of the Technical Studies Program include:

- Cultivate the abilities of employees to use technology effectively and responsibly.
- Implement strategies for employees to communicate information effectively through reading, writing, speaking and listening.
- Develop employee's abilities to solve problems through understanding, reasoning, research, and productive teamwork.
- Identify ways in which lifelong learning and technical interests correlate with college-level learning.
- Demonstrate the interpersonal and evaluative skills necessary to effectively provide and receive constructive feedback.

This program is only for individuals whose employer is working with Blue Ridge Community and Technical College to ensure completion of this degree.

Career Opportunities

Completing this degree may enhance your professional skill sets and may increase your opportunities for upward mobility.

Curriculum for an Associate of Applied Science in Technical Studies

Component I – General Education Core	15
Component II – Technical Core	12
Component III – Occupational Specialty	18
Component IV – On-the-Job Training	15
Total Credit Hours Required	60

Degree programs implemented under this degree designation will include instruction consistent with the following components and categories.

Component I – General Education Core

ENGL 101 - ~English Composition I (3)

ENGL 101 is an introduction to college writing. This class emphasizes processes for drafting, revising, and editing. It develops a student's ability to read a passage, analyze its meaning, and write an intelligent response which shows not only an understanding of the passage but also a working knowledge of the writing and rhetorical strategies. Students will learn how to make effective arguments and how to locate, synthesize, and evaluate relevant information.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 101L - English Composition I Lab (3), or placement test scores

ENGL 110 - ~Technical Writing & Communication (3)

This course is designed to prepare students to write technical reports and other technical documents. Emphasis is on audience, clarity, conciseness, and accuracy of expression. It covers research techniques, information design, writing style, and effective use of graphics.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

- MATH 101 or Higher (3)
- Restricted Electives in CAS, COMM, ENGL, ESL, or LANG (3)
- Restricted Electives in ECON, HIST, PSCI, PSYC, or SOCI (3)
- Restricted Electives in BIOL, CHEM, COMM, ECON, ENGL, ESL, LANG, HIST, MATH, MLT, PSCI, PSYC, or SOCI (3)

Note: Restricted Electives must be taken from the General Education Core Competency list.

Subtotal Credit Hours Required 15

Component II – Technical Core

Each program of study must include a general technical core that meets the goal of developing skills that may be applied to a variety of occupations or that may be specific to an occupation.

Subtotal Credit Hours Required 12

Component III – Occupational Specialty

The component consists of technical specialty courses specific to an occupational area. Industry-based education and training programs are to be converted to college credit at the ratio of 15:1 and at a rate consistent with the lab hour/credit ratio of the degree-granting institution for laboratory credit.

Subtotal Credit Hours Required 18

Component IV – On-the-Job Training

The component consists of a paid or unpaid OJT, internship, or practicum performed in a business or industry setting in the occupational area. The on-the-job training component is to be converted to credit hours at a ratio of 150:1 with the maximum of 2,080 contact hours allowable. A statement of the total number of contact hours experience through on-the-job training will be placed on the college record.

Subtotal Credit Hours Required 15

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Associate of Arts

Liberal Arts, A.A.

Blue Ridge Community and Technical College's Liberal Arts Program features a balanced and flexible curriculum with coursework in communication, scientific and quantitative reasoning, and social and cultural awareness in addition to content, transfer, or career-specific coursework in six different concentrations designed to meet the needs of a diverse group of Liberal Arts majors.

Program Overview

The **Open Transfer Concentration** offers the most flexibility in course selection and options to tailor the curriculum to the individual student's aspirations. Additional concentrations provide an in-depth study of specific content areas and/or articulate to content-related four-year degree programs. The **Communication Studies Concentration** is designed for students who want to gain proficiency in interpersonal and professional communication skills or prepare for transfer programs such as public relations, communications, journalism, or management. The **English Concentration** is designed for students who desire an in-depth study of literature and composition. The **History Concentration** is designed for students who wish to specialize in history and is ideal for students who plan to transfer to a four-year degree program in history. The **Mathematics Concentration** is designed for students who intend to pursue a math-intensive degree program or career. Finally, the **Natural Science Concentration**, with its emphasis on biology and/or chemistry, is designed for students who intend to pursue a four-year degree/career related to the natural sciences. With such diverse options, the Liberal Arts Degree positions students for success in a variety of careers or university majors. Degree completion demonstrates to employers and transfer institutions that liberal arts graduates are knowledgeable individuals with the ability to communicate, reason, and thrive in diverse workplaces and educational environments.

A.A. Liberal Arts Mission/Program Goals:

- Assist students in gaining a better understanding of themselves and their relationships with others.
- Encourage students to become and remain informed citizens.
- Inspire students to become lifelong learners to keep pace with today's global economy.
- Support students in their efforts to understand and embrace diversity in an ever-changing, complex world.
- Provide the tools and experiences necessary to successfully transition into other educational institutions or into the workforce.

A.A. Liberal Arts Learner Outcomes:

- Students will demonstrate the interpersonal and evaluative skills necessary to effectively participate in a group and both provide and receive constructive feedback.
- Students will identify ways in which lifelong learning and aesthetic interests are important for living a balanced, enjoyable life.
- Students will exhibit the academic and social skills necessary for a successful transition to other colleges/universities or into the workforce.
- Students will apply ethical principles in both written and oral communication.
- Students will assess the historical and political issues that have shaped our culturally diverse country and articulate the importance of their roles as informed and participatory citizens.
- Students will express insight into an appreciation of the arts and evaluate their relevance in today's society.
- Students will cultivate an understanding of the complex cultural texture of today's world.

Career Opportunities

The flexibility of the Liberal Arts Open Transfer Concentration allows students to work with their academic advisors to select courses relevant to a broad range of prospective university transfer programs or careers. The more specialized concentrations offer focused study in the disciplines of Communication Studies, English, History, Mathematics, or Natural Sciences and prepare students for success in the respective university transfer programs or content-related career fields. No matter the chosen concentration, the Liberal Arts program hones the skills necessary for students to become critical thinkers, effective communicators, well-informed citizens, and valuable employees.

Curriculum for an Associate of Arts Degree in Liberal Arts

General Education Core	35
Concentration	25-27
Total Credit Hours Required	60-62

General Education Core

ART 103 - ~Introduction to Visual Arts (3)

This is an introductory course designed to survey prehistoric to contemporary visual art forms, giving insight into their nature and their relationships to the human condition. The course includes a study of the functions of various forms of art in which students are exposed to a variety of visual arts experiences to promote a deeper understanding of and appreciation for the role of the visual arts throughout human history and in contemporary society.

ENGL 215 - ~The Art of Literature (3)

This course explores the art of literature, specifically how a deeper understanding of form, genre, and style enhances our appreciation of literature and language and our understanding of artistic theory/aesthetics. Through a careful study of literature, students will understand the creative thinking of great writers and sharpen their own creative thinking skills.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

MUSC 111 - ~Introduction to Music (3)

This course provides training and experiences which will enable the student to acquire a historical-social-aesthetic perspective, to comprehend musical concepts, to discriminate quality levels, to select satisfying and stimulating musical experiences, and to empathize with the creators and performers of music.

THEA 101 - ~Introduction to Theatre (3)

This course is an analytical approach to the understanding and appreciation of theatre as an art form. The course is designed for students who wish to improve their understanding of theatre, both historically and aesthetically. The format of the course is a lecture focusing on the major historic periods in theatre, with representative plays being studied. No acting is required for this class.

Prerequisite(s): ENGL 101L - English Composition I Lab (3) or placement

BIOL 101 - ^General Biological Science I (4)

This is semester one of a two-semester general biology course which, with BIOL 102, satisfies the Liberal Arts science requirement. This is an integrated lecture and laboratory course dealing with both plants and animals, related to our environment from molecule to biosphere. This course focuses on molecular and cellular biology, patterns of inheritance and genetics, biotechnology, and mechanisms of evolution.

BIOL 102 - ~General Biological Science II (4)

This is semester two of a two-semester general biology course which, with BIOL 101, satisfies the Liberal Arts science requirement. This is an integrated lecture and laboratory course dealing with both plants and animals, related to our environment from molecule to biosphere. This course focuses on plant and animal structure and function, the dynamics of populations, communities and ecosystems, and human impact on the biosphere.

Prerequisite(s): BIOL 101 - ^General Biological Science I (4)

CHEM 127 - ~General, Organic & Biochem I (4)

This course is designed as the first in a one year sequence of courses intended for nursing or other allied health students who intend to transfer to a four year academic institution which requires a two semester sequence course in General, Organic and Biochemistry (GOB). This course will include an overview of the Metric System, Scientific Notation, Temperature Scales, Density, Atoms, Structure, Isotopes, Electrons, Periodic Table, Chemical Formulae, Types of Chemical Reactions, Quantification of Chemical Reactions, Mass, Moles, Energy, Kinetic, Potential, Law of Conservation of Energy, Thermochemistry, Matter, pH, Fission, Fusion, Functional Groups and Names, and General Organic Reactions to Form Functional Groups. This course sequence could also provide an eight credit General Education Science sequence. The course consists of a lecture portion and a laboratory portion.

Prerequisite(s): MATH 100 - Math Essentials (3) or placement

CHEM 128 - ~General, Organic & Biochem II (4)

This course is designed as the second course in a one year sequence of courses intended for nursing or other allied health students who intend to transfer to a four year academic institution which requires a two semester sequence course in General, Organic and Biochemistry (GOB). This course will include an overview of Alcohols, Reactions, Aldehydes and Ketones, Organic Acids, Amines, Aromatic Compounds, Heterocyclic Compounds, DNA, Hyper-, Iso-, Hypotonic Solutions, Metabolic Disorders, Complex Carbohydrates, Proteins, Lipids, Nucleic Acids, Body Fluids, Blood, Clotting Chemistry, Respiratory Exchange, Metabolic and Respiratory Acidosis and Ketosis. This course sequence could also provide an eight credit General Education Science sequence. The course consists of a lecture portion and a laboratory portion.

Prerequisite(s): CHEM 127 - ~General, Organic & Biochem I (4)

GEOL 101 - ~Geological Sciences (4)

This is a combined course in physical and historical geology dealing with the composition, structure, and history of planet Earth. Minerals, rocks, tectonic processes, and physical characteristics of the earth's surface will be emphasized in the physical component. Evolution, fossils, and the changing conditions and organisms throughout geologic time constitute the historical component. This class is comprised of three hours lecture and two hours lab per week.

PHYS 103 - ~General Physical Science I (4)

This is an introductory survey course which explores the major concepts in physics and chemistry. Topics covered will include motion, matter and energy, atomic models, nuclear structure, waves, and electricity. A combination of

conceptual framework, practical applications, and problem solving will be utilized in the integrated laboratory and lecture course.

PHYS 104 - ~General Physical Science II (4)

This is an introductory survey course which explores the major concepts in geology, astronomy, and meteorology. Topics covered will include rocks and minerals, weathering and erosion, surface and groundwater, geologic time, plate tectonics, earthquakes, volcanoes, and mountains; light and telescopes, the solar system, stars, nebulae, and galaxies; the origin of the universe; the basics of meteorology, and the effects of weather and climate. A combination of the conceptual framework, practical applications, and problem-solving will be utilized in the integrated laboratory and lecture course.

COMM 202 - ~Fundamentals of Speech (3)

This course equips the student with the necessary tools to construct, deliver, and analyze public communication messages.

ENGL 101 - ~English Composition I (3)

ENGL 101 is an introduction to college writing. This class emphasizes processes for drafting, revising, and editing. It develops a student's ability to read a passage, analyze its meaning, and write an intelligent response which shows not only an understanding of the passage but also a working knowledge of the writing and rhetorical strategies. Students will learn how to make effective arguments and how to locate, synthesize, and evaluate relevant information.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 101L - English Composition I Lab (3), or placement test scores

ENGL 102 - ~English Composition II (3)

ENGL 102 is a continuation of English Composition I that provides experience in analyzing and writing arguments and persuasive prose. A central feature of the course is library research that is intended to develop familiarity with reference sources and skill in summarizing the diverse points of view of multiple sources. Requires students to locate, evaluate, integrate, and document sources effectively.

Prerequisite(s): ENGL 101 - ~English Composition I (3)

ENGL 204 - ~Sur of American Lit (3)

This course is designed to familiarize students with the rich variety of literature produced in America-- from the Colonial through the Modern periods. Students are exposed to a range of writers and traditions that constitute the diverse and multicultural American experience. In addition to tests and quizzes, students are required to write and revise at least two critical essays or equivalent writings (one of which is 1,000-word computer drafted minimum); however, instructors are encouraged to assign significant amounts of writing beyond the required minimum in order to facilitate students' continued acquisition of critical thinking, reading, and writing skills.

Prerequisite(s): ENGL 102 - ~English Composition II (3)

ENGL 208 - ~Survey of World Literature I (3)

This course is designed to familiarize students with great works of world literature—both Western and Eastern traditions—representing Classical, Medieval, and Renaissance periods or non-Western chronological equivalents.

Students are exposed to diverse literary traditions through discussion and through critical thinking and writing about significant literary works. In addition to essay tests and quizzes, students are required to write at least one formal, critical essay (1,000 –word computer drafted minimum); however, instructors are encouraged to assign significant amounts of writing beyond the required minimum in order to continue to develop students' critical thinking, reading, and writing skills.

Prerequisite(s): ENGL 102 - ~English Composition II (3)

HIST 101 - ~World History to 1500: Early Man Through the Renaissance (3)

This course is a survey of World History covering the development of ancient civilizations and cultures to the year 1500, beginning with prehistoric humans and the rise of the first civilizations, including Ancient Mesopotamia, Egypt, the Indus River Valley, and Early China. Continuing with the Classical Era, the survey encompasses the Greek and Roman, Indian, Japanese, and Saharan African Civilizations. The course then examines World Civilizations in the Middle Ages, including the Middle East, Europe, Asia, the Americas, and Africa, before concluding with the European Renaissance. The course compares the development and philosophical foundations of all the major world religions including Judaism, Hinduism, Buddhism, Christianity, and Islam, as well as the major political, economic, social, and cultural systems to the year 1500.

HIST 102 - ~World History Since 1500: The Renaissance Through the Present (3)

This course is a survey of World History from the European Renaissance to the present. At the beginning of the course, developments in the Western World between 1500 and 1800 receive special attention, including the Renaissance, Reformation, Scientific Revolutions, Age of Exploration, Enlightenment, colonization of America, and the transition from mercantilism to capitalism. Having identified the dramatic transition taking place in the West, the course then looks at the impact of those changes around the globe through the trans-Atlantic Slave Trade, political revolutions in the Americas and Europe, industrialization, 19th-century imperialism, World Wars I and II, communist revolutions, the rise of fascism, the Cold War, and the 19th and 20th-century decolonization efforts in India, Africa, Southeast Asia, and the Middle East. The course closes with a review of economic and political globalization since the 1970s. Thematically, the course explores the nature of political, economic, and technological power and the relationship of that power to issues of race, class, gender, religion, and environment.

MATH 101 - ~Introduction to Mathematics (3)

During this course topics to be covered are sets, mathematical logic, mathematical systems, the real number system, systematic counting, probability, measurement, and consumer mathematics. History of mathematics, critical thinking skills, problem solving, and use of technology will be incorporated throughout the course.

Prerequisite(s): MATH 100 - Math Essentials (3) or proper placement on test scores

MATH 105 - ^Algebra (3)

Topics explored in this course include properties of the real numbers, operations on polynomials, rational and radical expressions, solutions of linear, quadratic, polynomial, radical and absolute value equations and inequalities. Coordinate geometry including distance, midpoint, lines, and circles will also be explored. Additional topics include systems of linear equations and their applications, analysis of functions, operations on functions, transformations of functions, and properties of linear, piecewise, quadratic, polynomial, rational, exponential and logarithmic functions.

Prerequisite(s): MATH 100A - Algebra Essentials (3) or proper placement on test scores

MATH 106 - ^Trigonometry (3)

Topics explored in this course include the study of angles in radians and degrees and evaluating trigonometric functions using the right triangle and a unit circle approaches. Other topics to be explored include verifying trigonometric identities, solving trigonometric equations, solving applied problems using right triangles and oblique triangles, analyzing the graphs and characteristics of trigonometric and inverse trigonometric functions, performing composition and transformations on trigonometric functions, and evaluating inverse trigonometric functions. Time permitting topics include polar coordinates, complex numbers, deMoivre's Theorem, and vectors.

Prerequisite(s): MATH 105 - ^Algebra (3) or proper placement on test scores

MATH 108 - ^Pre-Calculus (4)

This course is a one-semester preparation for calculus, which includes various algebra and trigonometry topics. Algebra topics include the analysis of linear, quadratic, polynomial, radical, rational, absolute value, piecewise, exponential and logarithmic functions and their graphs along with applications. Trigonometry topics include the study of angles using both the unit circle and right triangle approaches, verifying trigonometric identities, solving trigonometric equations, solving right and oblique triangles with applications, and analyzing the characteristics of trigonometric and inverse trigonometric functions. Additional topics include complex numbers, systems of equations, partial fractions, conic sections, sequences, and series. As time permits, vectors, polar coordinates, mathematical induction, and limits may also be explored.

Prerequisite(s): MATH 105 - ^Algebra (3) or proper placement on test scores

MATH 114 - ~Elem Probability & Statistics (3)

This course introduces the fundamental concepts of probability and statistics. Topics include descriptive statistics, random sampling methods, frequency distributions, measures of central tendency and variability, set theory, probability, permutations and combinations, random variables, probability and sampling distributions, expectation, central limit theorem, confidence intervals and hypothesis testing for means and proportions (one and two sample) and simple linear regression and correlation. Time permitting, one-way ANOVA and non-parametric techniques may be discussed. Appropriate application software will be utilized, and applications from a variety of disciplines will be presented.

Prerequisite(s): MATH 100A - Algebra Essentials (3) or proper placement on test scores

MATH 154 - ~Finite Mathematics (3)

This course introduces students to selected topics from finite mathematics. Mathematical models for the analysis of decision-making problems are examined. Topics include analyzing linear functions with applications, solving systems of linear equations using the Echelon and Gauss-Jordan methods, matrix operations and inverses, systems of linear inequalities, linear programming optimization by graphing and the simplex method, risk decisions using counting methods and probability. Additional topics may be chosen from financial mathematics, logic, or statistics.

Prerequisite(s): MATH 100A - Algebra Essentials (3) or proper placement on test scores

PSCI 100 - ~Introduction to Political Ideology (3)

This course provides an overview of major political ideologies that shaped the historical political landscape of the world and the United States and will give shape to the 21st century. An examination of liberalism, conservatism,

nationalism, multiculturalism, feminism, and Islamism (along with many other 'isms') provide the student with a sense of history and structure.

PSCI 101 - ~American Federal Government (3)

This course involves the study of the functions and administration of government in the United States. The course is designed to provide an introduction to the structure, organization and functioning of the national government of the United States. It will examine the powers and relationships of the executive, legislative, and judicial branches of government with special emphasis given to the role that history, political parties, pressure groups, etc. play in influencing these relationships.

PSCI 102 - ~State & Local Government (3)

This survey course covers the history and operations of state and local government. Some of the topics include state & local politics, state constitutions, state legislation, state governors, the justice system, and financing of state and local government.

PSYC 203 - ~Introduction to Psychology (3)

This course will introduce the student to basic psychological principals and to enable the student to examine current thinking about development, personality, sensation and perception, cognition, learning, psychological disorders, and their treatment, and influence.

Corerequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement

SOCI 203 - ~General Sociology (3)

This course introduces students to the core concepts and perspectives of sociology, the study of human social environments and of human interactions within those environments. The course will explore a number of sociological topics to develop a sociological imagination, an ability to understand the effects of group membership on behavior, attitudes, beliefs, and life chances.

Corerequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement

Subtotal Credit Hours Required 35

** Students should consult their academic advisor regarding the selection of specific general education course requirements for their respective concentration.*

Concentrations

Choose one concentration for completion of the program:

Communication Studies Concentration

COMM 205 - ~Professional Communications (3)

This course examines the process of communication and the challenges to and effective practices of communicating in a professional environment. Topics include listening skills and verbal, nonverbal, and written communications. The dynamics of communicating in a group, in a global society, and in culturally diverse environments is also investigated. Students apply a systematic approach to plan and create effective letters, memos, reports, presentations, electronic and other forms of business and professional communication.

- Select 12 credits from COMM 201, 203, 206, 207, 220, 221, 230 (12)
- Free Electives (10)

Subtotal Credit Hours Required 25

English Concentration

ENGL 201 - Intro to Literary Study (3)

This course introduces students to the discourse, practices, and protocols associated with the study of literature. The course is a gateway to upper-division English courses and must be completed with a C or better in order to articulate to an upper-division transfer program.

Prerequisite(s): ENGL 102 - ~English Composition II (3)

ENGL 204 - ~Sur of American Lit (3)

This course is designed to familiarize students with the rich variety of literature produced in America-- from the Colonial through the Modern periods. Students are exposed to a range of writers and traditions that constitute the diverse and multicultural American experience. In addition to tests and quizzes, students are required to write and revise at least two critical essays or equivalent writings (one of which is 1,000-word computer drafted minimum); however, instructors are encouraged to assign significant amounts of writing beyond the required minimum in order to facilitate students' continued acquisition of critical thinking, reading, and writing skills.

Prerequisite(s): ENGL 102 - ~English Composition II (3)

ENGL 208 - ~Survey of World Literature I (3)

This course is designed to familiarize students with great works of world literature—both Western and Eastern traditions—representing Classical, Medieval, and Renaissance periods or non-Western chronological equivalents. Students are exposed to diverse literary traditions through discussion and through critical thinking and writing about significant literary works. In addition to essay tests and quizzes, students are required to write at least one formal, critical essay (1,000 –word computer drafted minimum); however, instructors are encouraged to assign significant amounts of writing beyond the required minimum in order to continue to develop students' critical thinking, reading, and writing skills.

Prerequisite(s): ENGL 102 - ~English Composition II (3)

ENGL 212 - Shakespeare (3)

This course is a study of a selection of the great comedies, tragedies, and histories. Emphasis is placed on historical and contemporary Shakespearean criticism.

Prerequisite(s): ENGL 101 - ~English Composition I (3)

ENGL 215 - ~The Art of Literature (3)

This course explores the art of literature, specifically how a deeper understanding of form, genre, and style enhances our appreciation of literature and language and our understanding of artistic theory/aesthetics. Through a careful study of literature, students will understand the creative thinking of great writers and sharpen their own creative thinking skills.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

ENGL 270 - Traditional Grammar (3)

Students will be exposed to methods of teaching grammar as well as certain approaches to linguistic grammar. This course will focus initially on the study of traditional grammar and English structures (parts of speech, phrases, and clauses), noting additionally the practical application of standard English usage as apparent in publication and print.

Prerequisite(s): ENGL 101 - ~English Composition I (3)

FREN 101 - French I (3)

This is a basic, culturally-oriented course in conversational French designed for beginning students who wish to develop skills in speaking, writing, and comprehending the French language. Emphasis is placed on oral communication through dialogue and guided compositions. French culture is introduced.

FREN 102 - French II (3)

This course allows students to strengthen their comprehension and speaking proficiency in French by providing extensive practice in oral and written communication and self-expression and through discussions and oral presentations of readings in French and Canadian culture.

Prerequisite(s): FREN 101 - French I (3)

GRMN 101 - German I (3)

Students will be introduced to German by way of all four language skills: listening, speaking, reading, and writing. The course will concentrate on the cultures of the German-speaking world while practicing language skills.

GRMN 102 - German II (3)

Students will continue their study of German by way of all four language skills: listening, speaking, reading, and writing. In addition, the course will continue to concentrate on the cultures of the German-speaking world while practicing language skills.

Prerequisite(s): GRMN 101 - German I (3)

SPAN 101 - Spanish I (3)

Spanish I is an introductory course designed to expose beginning students to basic language skills. In this course, students develop the fundamentals of communication, listening and comprehension, speaking, and reading. Spanish culture is introduced as well as composition writing.

SPAN 102 - Spanish II (3)

Spanish II builds upon the basic grammatical structures introduced in Spanish I and continues to develop skills such as pronunciation practice, listening comprehension, and "guided" composition. Correct speaking is emphasized. The study of Hispanic countries and cultures continues to be covered in the course.

Prerequisite(s): SPAN 101 - Spanish I (3)

- Free Electives (4)

Subtotal Credit Hours Required 25

History Concentration

ECON 123 - ~Contemporary Economics (3)

This course introduces students to both macro and microeconomic concepts including the theory of the firm, consumer behavior, economic systems, and managerial economic principles that affect decisions in every venue of our lives.

Note: Not intended for students in majors that require ECON 205 - ~Principles of Macroeconomics (3) and ECON 206 - ~Principles of Microeconomics (3).

Note Not intended for A.S. Business Administration Students.

ECON 205 - ~Principles of Macroeconomics (3)

This class serves as an introduction to fundamental economic concepts including production possibilities and economic growth, market supply and demand analysis, money, banking, government, and monetary policies. Emphasis is placed upon fluctuations in national income, employment, and price level. Overall, the impact of scarcity and human decision making will be imparted.

GSPE 210 - Fitness for Life (3)

This course is designed to assist participants in developing a healthier lifestyle through appropriate exercise programs, nutrition and behaviors that contribute to optimal health and wellness.

HIST 201 - ~US History to 1877 (3)

This course will introduce students to the period of United States History until the end of Reconstruction. Special emphasis will be placed upon the political, economic, and social aspects of the nation from the Colonial period until the Civil War era.

HIST 202 - ~US History Since 1877 (3)

This course will explore the Post-Reconstruction era of United States History. Special emphasis will be placed on the political, economic, and social effects upon the United States during the Gilded, Progressive, Depression, World War, and Cold War eras.

HIST 206 - American Women's History (3)

This course introduces students to the experience of women in American society from the colonial period to present. Women's struggle for social, economic, and political equality will be a major focus of the course, as well as class distinctions, race, and ethnicity. Other topics include gender roles, family, feminism, and women's art and literature.

HIST 207 - African American History (3)

This course introduces students to the history of African Americans from the 16th century to present. Economic, political, and cultural influences on the black historical experience will be studied as well as historical factors that shape black cultural identity. Major topics include slavery in the New World, black migration, the Civil Rights Movement, race relations, black nationalism, and African American artists.

HIST 210 - ~WV and Appalachian History (3)

This course studies diverse elements of the history of West Virginia including economic, cultural, geographic, and political factors that have impacted the development of the state since the colonial period. Emphasis will be placed on patterns of colonial settlement, the statehood movement, industrialization and exploitation, and current conditions in the state and Appalachian region. A survey of West Virginia will be conducted in relation to the Appalachian region, the nation, and the world.

GRMN 101 - German I (3)

Students will be introduced to German by way of all four language skills: listening, speaking, reading, and writing. The course will concentrate on the cultures of the German-speaking world while practicing language skills.

GRMN 102 - German II (3)

Students will continue their study of German by way of all four language skills: listening, speaking, reading, and writing. In addition, the course will continue to concentrate on the cultures of the German-speaking world while practicing language skills.

Prerequisite(s): GRMN 101 - German I (3)

FREN 101 - French I (3)

This is a basic, culturally-oriented course in conversational French designed for beginning students who wish to develop skills in speaking, writing, and comprehending the French language. Emphasis is placed on oral communication through dialogue and guided compositions. French culture is introduced.

FREN 102 - French II (3)

This course allows students to strengthen their comprehension and speaking proficiency in French by providing extensive practice in oral and written communication and self-expression and through discussions and oral presentations of readings in French and Canadian culture.

Prerequisite(s): FREN 101 - French I (3)

SPAN 101 - Spanish I (3)

Spanish I is an introductory course designed to expose beginning students to basic language skills. In this course, students develop the fundamentals of communication, listening and comprehension, speaking, and reading. Spanish culture is introduced as well as composition writing.

SPAN 102 - Spanish II (3)

Spanish II builds upon the basic grammatical structures introduced in Spanish I and continues to develop skills such as pronunciation practice, listening comprehension, and "guided" composition. Correct speaking is emphasized. The study of Hispanic countries and cultures continues to be covered in the course.

Prerequisite(s): SPAN 101 - Spanish I (3)

Subtotal Credit Hours Required **27**

Mathematics Concentration

ECON 205 - ~Principles of Macroeconomics (3)

This class serves as an introduction to fundamental economic concepts including production possibilities and economic growth, market supply and demand analysis, money, banking, government, and monetary policies. Emphasis is placed upon fluctuations in national income, employment, and price level. Overall, the impact of scarcity and human decision making will be imparted.

ECON 206 - ~Principles of Microeconomics (3)

This course provides an introduction to microeconomic theory with a primary focus on the methodology of economics and the behaviors of individuals and firms. Fundamental concepts are covered including demand and supply analysis, marginal analysis, opportunity cost, market structure, pricing, labor markets, and government policy and regulation.

ENGL 110 - ~Technical Writing & Communication (3)

This course is designed to prepare students to write technical reports and other technical documents. Emphasis is on audience, clarity, conciseness, and accuracy of expression. It covers research techniques, information design, writing style, and effective use of graphics.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

HIST 201 - ~US History to 1877 (3)

This course will introduce students to the period of United States History until the end of Reconstruction. Special emphasis will be placed upon the political, economic, and social aspects of the nation from the Colonial period until the Civil War era.

HIST 202 - ~US History Since 1877 (3)

This course will explore the Post-Reconstruction era of United States History. Special emphasis will be placed on the political, economic, and social effects upon the United States during the Gilded, Progressive, Depression, World War, and Cold War eras.

MATH 106 - ^Trigonometry (3)

Topics explored in this course include the study of angles in radians and degrees and evaluating trigonometric functions using the right triangle and a unit circle approaches. Other topics to be explored include verifying trigonometric identities, solving trigonometric equations, solving applied problems using right triangles and oblique triangles, analyzing the graphs and characteristics of trigonometric and inverse trigonometric functions, performing composition and transformations on trigonometric functions, and evaluating inverse trigonometric functions. Time permitting topics include polar coordinates, complex numbers, deMoivre's Theorem, and vectors.

Prerequisite(s): MATH 105 - ^Algebra (3) or proper placement on test scores

MATH 108 - ^Pre-Calculus (4)

This course is a one-semester preparation for calculus, which includes various algebra and trigonometry topics. Algebra topics include the analysis of linear, quadratic, polynomial, radical, rational, absolute value, piecewise, exponential and logarithmic functions and their graphs along with applications. Trigonometry topics include the study of angles using both the unit circle and right triangle approaches, verifying trigonometric identities, solving trigonometric equations, solving right and oblique triangles with applications, and analyzing the characteristics of trigonometric and inverse trigonometric functions. Additional topics include complex numbers, systems of equations, partial fractions, conic sections, sequences, and series. As time permits, vectors, polar coordinates, mathematical induction, and limits may also be explored.

Prerequisite(s): MATH 105 - ^Algebra (3) or proper placement on test scores

MATH 114 - ~Elem Probability & Statistics (3)

This course introduces the fundamental concepts of probability and statistics. Topics include descriptive statistics, random sampling methods, frequency distributions, measures of central tendency and variability, set theory, probability, permutations and combinations, random variables, probability and sampling distributions, expectation, central limit theorem, confidence intervals and hypothesis testing for means and proportions (one and two sample) and simple linear regression and correlation. Time permitting, one-way ANOVA and non-parametric techniques may be discussed. Appropriate application software will be utilized, and applications from a variety of disciplines will be presented.

Prerequisite(s): MATH 100A - Algebra Essentials (3) or proper placement on test scores

MATH 207 - ^Calculus I (4)

This course is an introduction to the fundamental concepts of differential and integral calculus from algebraic, numerical, and graphical points of view. Topics covered include functions, trigonometry, limits, continuity, differentiation, and integration of elementary algebraic, transcendental, and inverse functions. Other topics include implicit differentiation, the Fundamental Theorem of Calculus, Mean Value Theorem, differentials, linear approximation, and L'Hopital's Rule. Applications will be incorporated throughout the course such as velocity, acceleration, the slope of a curve at a point, curve sketching, absolute and relative extrema, related rates, optimization, areas, volume, and arc length.

Prerequisite(s): MATH 108 - ^Pre-Calculus (4) or proper placement on test scores

- Free Electives (2)

Subtotal Credit Hours Required 25

Open Transfer Concentration

HIST 101 - ~World History to 1500: Early Man Through the Renaissance (3)

This course is a survey of World History covering the development of ancient civilizations and cultures to the year 1500, beginning with prehistoric humans and the rise of the first civilizations, including Ancient Mesopotamia, Egypt, the Indus River Valley, and Early China. Continuing with the Classical Era, the survey encompasses the Greek and Roman, Indian, Japanese, and Saharan African Civilizations. The course then examines World Civilizations in the Middle Ages, including the Middle East, Europe, Asia, the Americas, and Africa, before concluding with the European Renaissance. The course compares the development and philosophical foundations of all the major world religions including Judaism, Hinduism, Buddhism, Christianity, and Islam, as well as the major political, economic, social, and cultural systems to the year 1500.

HIST 102 - ~World History Since 1500: The Renaissance Through the Present (3)

This course is a survey of World History from the European Renaissance to the present. At the beginning of the course, developments in the Western World between 1500 and 1800 receive special attention, including the Renaissance, Reformation, Scientific Revolutions, Age of Exploration, Enlightenment, colonization of America, and the transition from mercantilism to capitalism. Having identified the dramatic transition taking place in the West, the course then looks at the impact of those changes around the globe through the trans-Atlantic Slave Trade, political revolutions in the Americas and Europe, industrialization, 19th-century imperialism, World Wars I and II, communist revolutions, the rise of fascism, the Cold War, and the 19th and 20th-century decolonization efforts in India, Africa, Southeast Asia, and the Middle East. The course closes with a review of economic and political globalization since the 1970s. Thematically, the course explores the nature of political, economic, and technological power and the relationship of that power to issues of race, class, gender, religion, and environment.

- Restricted Electives in ACCT 201, 202, ART, ASL, BIOL, BUSN, CHEM, COMM, CAS 111, ECON, EDUC, ENGL, FREN, GEOG, GEOL, GRMN, GSPE, HIST, LANG, MATH 101, MATH 105, MATH 106, MATH 108, MATH 114, MATH 154, MATH 200, MATH 207, MUSC, NURS, PHIL, PHYS, PSCI, PSYC, SOCI, or SPAN (16)
- Free Electives (6)

Subtotal Credit Hours Required 25

Natural Science Concentration

CHEM 127 - ~General, Organic & Biochem I (4)

This course is designed as the first in a one year sequence of courses intended for nursing or other allied health students who intend to transfer to a four year academic institution which requires a two semester sequence course in General, Organic and Biochemistry (GOB). This course will include an overview of the Metric System, Scientific Notation, Temperature Scales, Density, Atoms, Structure, Isotopes, Electrons, Periodic Table, Chemical Formulae, Types of Chemical Reactions, Quantification of Chemical Reactions, Mass, Moles, Energy, Kinetic, Potential, Law of Conservation of Energy, Thermochemistry, Matter, pH, Fission, Fusion, Functional Groups and Names, and General Organic Reactions to Form Functional Groups. This course sequence could also provide an eight credit General Education Science sequence. The course consists of a lecture portion and a laboratory portion.

Prerequisite(s): MATH 100 - Math Essentials (3) or placement

CHEM 128 - ~General, Organic & Biochem II (4)

This course is designed as the second course in a one year sequence of courses intended for nursing or other allied health students who intend to transfer to a four year academic institution which requires a two semester sequence course in General, Organic and Biochemistry (GOB). This course will include an overview of Alcohols, Reactions, Aldehydes and Ketones, Organic Acids, Amines, Aromatic Compounds, Heterocyclic Compounds, DNA, Hyper-, Iso-, Hypotonic Solutions, Metabolic Disorders, Complex Carbohydrates, Proteins, Lipids, Nucleic Acids, Body Fluids, Blood, Clotting Chemistry, Respiratory Exchange, Metabolic and Respiratory Acidosis and Ketosis. This course sequence could also provide an eight credit General Education Science sequence. The course consists of a lecture portion and a laboratory portion.

Prerequisite(s): CHEM 127 - ~General, Organic & Biochem I (4)

ECON 205 - ~Principles of Macroeconomics (3)

This class serves as an introduction to fundamental economic concepts including production possibilities and economic growth, market supply and demand analysis, money, banking, government, and monetary policies. Emphasis is placed upon fluctuations in national income, employment, and price level. Overall, the impact of scarcity and human decision making will be imparted.

ECON 206 - ~Principles of Microeconomics (3)

This course provides an introduction to microeconomic theory with a primary focus on the methodology of economics and the behaviors of individuals and firms. Fundamental concepts are covered including demand and supply analysis, marginal analysis, opportunity cost, market structure, pricing, labor markets, and government policy and regulation.

MATH 106 - ^Trigonometry (3)

Topics explored in this course include the study of angles in radians and degrees and evaluating trigonometric functions using the right triangle and a unit circle approaches. Other topics to be explored include verifying trigonometric identities, solving trigonometric equations, solving applied problems using right triangles and oblique triangles, analyzing the graphs and characteristics of trigonometric and inverse trigonometric functions, performing composition and transformations on trigonometric functions, and evaluating inverse trigonometric functions. Time permitting topics include polar coordinates, complex numbers, deMoivre's Theorem, and vectors.

Prerequisite(s): MATH 105 - ^Algebra (3) or proper placement on test scores

MATH 108 - ^Pre-Calculus (4)

This course is a one-semester preparation for calculus, which includes various algebra and trigonometry topics. Algebra topics include the analysis of linear, quadratic, polynomial, radical, rational, absolute value, piecewise, exponential and logarithmic functions and their graphs along with applications. Trigonometry topics include the study of angles using both the unit circle and right triangle approaches, verifying trigonometric identities, solving trigonometric equations, solving right and oblique triangles with applications, and analyzing the characteristics of trigonometric and inverse trigonometric functions. Additional topics include complex numbers, systems of equations, partial fractions, conic sections, sequences, and series. As time permits, vectors, polar coordinates, mathematical induction, and limits may also be explored.

Prerequisite(s): MATH 105 - ^Algebra (3) or proper placement on test scores

MATH 114 - ~Elem Probability & Statistics (3)

This course introduces the fundamental concepts of probability and statistics. Topics include descriptive statistics, random sampling methods, frequency distributions, measures of central tendency and variability, set theory, probability, permutations and combinations, random variables, probability and sampling distributions, expectation, central limit theorem, confidence intervals and hypothesis testing for means and proportions (one and two sample) and simple linear regression and correlation. Time permitting, one-way ANOVA and non-parametric techniques may be discussed. Appropriate application software will be utilized, and applications from a variety of disciplines will be presented.

Prerequisite(s): MATH 100A - Algebra Essentials (3) or proper placement on test scores

MATH 207 - ^Calculus I (4)

This course is an introduction to the fundamental concepts of differential and integral calculus from algebraic, numerical, and graphical points of view. Topics covered include functions, trigonometry, limits, continuity, differentiation, and integration of elementary algebraic, transcendental, and inverse functions. Other topics include implicit differentiation, the Fundamental Theorem of Calculus, Mean Value Theorem, differentials, linear approximation, and L'Hopital's Rule. Applications will be incorporated throughout the course such as velocity, acceleration, the slope of a curve at a point, curve sketching, absolute and relative extrema, related rates, optimization, areas, volume, and arc length.

Prerequisite(s): MATH 108 - ^Pre-Calculus (4) or proper placement on test scores

Subtotal Credit Hours Required 25

Note(s):

Each course may be used to fulfill only one requirement.

Students who intend to transfer out-of-state should work with their academic advisor to determine the appropriate course selections based on their intended major and potential transfer institutions.

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Associate of Science

Business Administration, A.S.

The Associate of Science Degree in Business Administration is for students who, upon graduation, plan to go on to the baccalaureate degree program. This program provides a solid foundation in the general education curriculum while developing social awareness and the communication and critical thinking skills needed to be successful in college and business. Students also acquire a basic understanding of accounting, economics, marketing, business law, and management that will serve them well in future studies and their careers.

Upon successful completion of all Associate of Science in Business Administration program requirements, graduates will be able to:

- Describe the fundamentals of business, its core theories, and practices, using relevant business terminology. (Comprehension)
- Recognize the ethical issues present in society. (Comprehension)
- Identify an economic, political, or other social challenge spanning countries, cultures, or continents. (Comprehension)
- Complete an analytical task using a recognized business method. (Application)
- Use graphs or other visual depictions of trends, relationships, or changes in status to explain past, present, or future business situations. (Application)
- Discover recognized business methods to gather and evaluate information. (Analysis)
- Apply alternative approaches to answering a question in a real-world business setting. (Analysis)
- Prepare evidence for an economic, political, or other social challenge and propose a solution to it. (Analysis).

Curriculum for an Associate of Science in Business Administration

General Education Core	26
Business Core	36
Total Credit Hours Required	62

General Education Core

BIOL 101 - ^General Biological Science I (4)

This is semester one of a two-semester general biology course which, with BIOL 102, satisfies the Liberal Arts science requirement. This is an integrated lecture and laboratory course dealing with both plants and animals, related to our environment from molecule to biosphere. This course focuses on molecular and cellular biology, patterns of inheritance and genetics, biotechnology, and mechanisms of evolution.

BIOL 102 - ~General Biological Science II (4)

This is semester two of a two-semester general biology course which, with BIOL 101, satisfies the Liberal Arts science requirement. This is an integrated lecture and laboratory course dealing with both plants and animals, related to our environment from molecule to biosphere. This course focuses on plant and animal structure and function, the dynamics of populations, communities and ecosystems, and human impact on the biosphere.

Prerequisite(s): BIOL 101 - ^General Biological Science I (4)

PHYS 103 - ~General Physical Science I (4)

This is an introductory survey course which explores the major concepts in physics and chemistry. Topics covered will include motion, matter and energy, atomic models, nuclear structure, waves, and electricity. A combination of conceptual framework, practical applications, and problem solving will be utilized in the integrated laboratory and lecture course.

PHYS 104 - ~General Physical Science II (4)

This is an introductory survey course which explores the major concepts in geology, astronomy, and meteorology. Topics covered will include rocks and minerals, weathering and erosion, surface and groundwater, geologic time, plate tectonics, earthquakes, volcanoes, and mountains; light and telescopes, the solar system, stars, nebulae, and galaxies; the origin of the universe; the basics of meteorology, and the effects of weather and climate. A combination of the conceptual framework, practical applications, and problem-solving will be utilized in the integrated laboratory and lecture course.

COMM 202 - ~Fundamentals of Speech (3)

This course equips the student with the necessary tools to construct, deliver, and analyze public communication messages.

ENGL 101 - ~English Composition I (3)

ENGL 101 is an introduction to college writing. This class emphasizes processes for drafting, revising, and editing. It develops a student's ability to read a passage, analyze its meaning, and write an intelligent response which shows not only an understanding of the passage but also a working knowledge of the writing and rhetorical strategies. Students will learn how to make effective arguments and how to locate, synthesize, and evaluate relevant information.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 101L - English Composition I Lab (3), or placement test scores

ENGL 102 - ~English Composition II (3)

ENGL 102 is a continuation of English Composition I that provides experience in analyzing and writing arguments and persuasive prose. A central feature of the course is library research that is intended to develop familiarity with reference sources and skill in summarizing the diverse points of view of multiple sources. Requires students to locate, evaluate, integrate, and document sources effectively.

Prerequisite(s): ENGL 101 - ~English Composition I (3)

HIST 101 - ~World History to 1500: Early Man Through the Renaissance (3)

This course is a survey of World History covering the development of ancient civilizations and cultures to the year 1500, beginning with prehistoric humans and the rise of the first civilizations, including Ancient Mesopotamia, Egypt, the Indus River Valley, and Early China. Continuing with the Classical Era, the survey encompasses the Greek and Roman, Indian, Japanese, and Saharan African Civilizations. The course then examines World Civilizations in the Middle Ages, including the Middle East, Europe, Asia, the Americas, and Africa, before concluding with the European Renaissance. The course compares the development and philosophical foundations of all the major world religions including Judaism, Hinduism, Buddhism, Christianity, and Islam, as well as the major political, economic, social, and cultural systems to the year 1500.

HIST 102 - ~World History Since 1500: The Renaissance Through the Present (3)

This course is a survey of World History from the European Renaissance to the present. At the beginning of the course, developments in the Western World between 1500 and 1800 receive special attention, including the Renaissance, Reformation, Scientific Revolutions, Age of Exploration, Enlightenment, colonization of America, and the transition from mercantilism to capitalism. Having identified the dramatic transition taking place in the West, the course then looks at the impact of those changes around the globe through the trans-Atlantic Slave Trade, political revolutions in

the Americas and Europe, industrialization, 19th-century imperialism, World Wars I and II, communist revolutions, the rise of fascism, the Cold War, and the 19th and 20th-century decolonization efforts in India, Africa, Southeast Asia, and the Middle East. The course closes with a review of economic and political globalization since the 1970s. Thematically, the course explores the nature of political, economic, and technological power and the relationship of that power to issues of race, class, gender, religion, and environment.

MATH 114 - ~Elem Probability & Statistics (3)

This course introduces the fundamental concepts of probability and statistics. Topics include descriptive statistics, random sampling methods, frequency distributions, measures of central tendency and variability, set theory, probability, permutations and combinations, random variables, probability and sampling distributions, expectation, central limit theorem, confidence intervals and hypothesis testing for means and proportions (one and two sample) and simple linear regression and correlation. Time permitting, one-way ANOVA and non-parametric techniques may be discussed. Appropriate application software will be utilized, and applications from a variety of disciplines will be presented.

Prerequisite(s): MATH 100A - Algebra Essentials (3) or proper placement on test scores

MATH 105 - ^Algebra (3)

Topics explored in this course include properties of the real numbers, operations on polynomials, rational and radical expressions, solutions of linear, quadratic, polynomial, radical and absolute value equations and inequalities. Coordinate geometry including distance, midpoint, lines, and circles will also be explored. Additional topics include systems of linear equations and their applications, analysis of functions, operations on functions, transformations of functions, and properties of linear, piecewise, quadratic, polynomial, rational, exponential and logarithmic functions.

Prerequisite(s): MATH 100A - Algebra Essentials (3) or proper placement on test scores

MATH 108 - ^Pre-Calculus (4)

This course is a one-semester preparation for calculus, which includes various algebra and trigonometry topics. Algebra topics include the analysis of linear, quadratic, polynomial, radical, rational, absolute value, piecewise, exponential and logarithmic functions and their graphs along with applications. Trigonometry topics include the study of angles using both the unit circle and right triangle approaches, verifying trigonometric identities, solving trigonometric equations, solving right and oblique triangles with applications, and analyzing the characteristics of trigonometric and inverse trigonometric functions. Additional topics include complex numbers, systems of equations, partial fractions, conic sections, sequences, and series. As time permits, vectors, polar coordinates, mathematical induction, and limits may also be explored.

Prerequisite(s): MATH 105 - ^Algebra (3) or proper placement on test scores

MATH 154 - ~Finite Mathematics (3)

This course introduces students to selected topics from finite mathematics. Mathematical models for the analysis of decision-making problems are examined. Topics include analyzing linear functions with applications, solving systems of linear equations using the Echelon and Gauss-Jordan methods, matrix operations and inverses, systems of linear inequalities, linear programming optimization by graphing and the simplex method, risk decisions using counting methods and probability. Additional topics may be chosen from financial mathematics, logic, or statistics.

Prerequisite(s): MATH 100A - Algebra Essentials (3) or proper placement on test scores

Subtotal Credit Hours Required **26**

Business Core

ACCT 201 - Principles of Accounting I (3)

This course is a study of the fundamental theory and principles of accounting concepts for reporting financial information to business users. The course stresses the relationship between the rules by which financial statements are prepared and the use of financial statement information for decision making. This course covers accounting terms, organization of accounts, the accounting cycle, working papers, and financial statements. This study continues in ACCT 202 - Principles of Accounting II (3).

Prerequisite(s): MATH 100 - Math Essentials (3) or placement

ACCT 202 - Principles of Accounting II (3)

This course continues and concludes the fundamental study of financial accounting and then introduces the study of theory and principles of managerial and cost accounting concepts. The course stresses the use of accounting information for decision making and role of managerial accounting in a business environment. This course covers budgeting, costs systems, accounting for corporations, and financial statement analysis.

Prerequisite(s): ACCT 201 - Principles of Accounting I (3)

BUSN 101 - Introduction to Business (3)

This course provides an overview of the complex building blocks of business including administration, management, finance, labor, marketing, law, and ethics. These aspects are considered in reference to local and global markets, e-commerce, and evolving technology and trends.

BUSN 213 - Small Business Fundamentals (3)

This course examines the opportunities and challenges of starting a small business. Various business entities will be explored as ways to start a new business. Other topics covered include financing a new business, partnerships, liability and risk, and franchising with a major emphasis on starting and growing the business.

BUSN 280 - Business Information Systems (3)

Introduction to the use of computers in data and document management as a problem-solving tool for business; fundamental concepts of information technology and theory; opportunities to use existing application software to solve various business information systems oriented problems.

ECON 210 - Money and Banking (3)

This course looks at the concepts of money, banking, central banking, financial markets and global markets. Students will analyze all these systems and how they interact including financial instruments.

Prerequisite(s): ECON 205 - Principles of Macroeconomics (3)

ART 103 - ~Introduction to Visual Arts (3)

This is an introductory course designed to survey prehistoric to contemporary visual art forms, giving insight into their nature and their relationships to the human condition. The course includes a study of the functions of various forms of art in which students are exposed to a variety of visual arts experiences to promote a deeper understanding of and appreciation for the role of the visual arts throughout human history and in contemporary society.

ENGL 215 - ~The Art of Literature (3)

This course explores the art of literature, specifically how a deeper understanding of form, genre, and style enhances our appreciation of literature and language and our understanding of artistic theory/aesthetics. Through a careful study of literature, students will understand the creative thinking of great writers and sharpen their own creative thinking skills.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

MUSC 111 - ~Introduction to Music (3)

This course provides training and experiences which will enable the student to acquire a historical-social-aesthetic perspective, to comprehend musical concepts, to discriminate quality levels, to select satisfying and stimulating musical experiences, and to empathize with the creators and performers of music.

THEA 101 - ~Introduction to Theatre (3)

This course is an analytical approach to the understanding and appreciation of theatre as an art form. The course is designed for students who wish to improve their understanding of theatre, both historically and aesthetically. The format of the course is a lecture focusing on the major historic periods in theatre, with representative plays being studied. No acting is required for this class.

Prerequisite(s): ENGL 101L - English Composition I Lab (3) or placement

BUSN 175 - Human Resource Management I (3)

This course covers the components of human resource management from organizational assessment to manpower planning including recruitment and selection, training and development, and evaluation and compensation. The impact of employment laws, ethical considerations, global competition, and rapid technological advances on small and large organizations are also considered.

BUSN 205 - Business Ethics (3)

This course considers business actions and decisions in relation to moral principles and values. Beginning with an introduction to ethical theory and personal credo, students apply a systematic approach to ethical decision making. That approach is then applied to business situations involving employee relations, consumer affairs, finance, government, and international competition. The role and expectations of business in society, both locally and globally, are discussed.

BUSN 201 - Principles of Management (3)

This course examines the basic functions of management – planning, organizing, coordinating, and controlling - in a business organization. Students study management theory and practice in order to identify their own management style and appreciate the complex nature of management. The impact of social responsibility, corporate culture, and technological advances on management are also considered.

BUSN 231 - Marketing (3)

This course provides an in-depth study of the four pillars of marketing: product, price, placement, and promotion. These aspects are considered in reference to local and global markets, e-commerce, and evolving technology and trends. Students put newly acquired knowledge to work in the development of a marketing plan.

COMM 205 - ~Professional Communications (3)

This course examines the process of communication and the challenges to and effective practices of communicating in a professional environment. Topics include listening skills and verbal, nonverbal, and written communications. The dynamics of communicating in a group, in a global society, and in culturally diverse environments is also investigated. Students apply a systematic approach to plan and create effective letters, memos, reports, presentations, electronic and other forms of business and professional communication.

ECON 205 - ~Principles of Macroeconomics (3)

This class serves as an introduction to fundamental economic concepts including production possibilities and economic growth, market supply and demand analysis, money, banking, government, and monetary policies. Emphasis is placed upon fluctuations in national income, employment, and price level. Overall, the impact of scarcity and human decision making will be imparted.

ECON 206 - ~Principles of Microeconomics (3)

This course provides an introduction to microeconomic theory with a primary focus on the methodology of economics and the behaviors of individuals and firms. Fundamental concepts are covered including demand and supply analysis, marginal analysis, opportunity cost, market structure, pricing, labor markets, and government policy and regulation.

ENGL 204 - ~Sur of American Lit (3)

This course is designed to familiarize students with the rich variety of literature produced in America-- from the Colonial through the Modern periods. Students are exposed to a range of writers and traditions that constitute the diverse and multicultural American experience. In addition to tests and quizzes, students are required to write and revise at least two critical essays or equivalent writings (one of which is 1,000-word computer drafted minimum); however, instructors are encouraged to assign significant amounts of writing beyond the required minimum in order to facilitate students' continued acquisition of critical thinking, reading, and writing skills.

Prerequisite(s): ENGL 102 - ~English Composition II (3)

ENGL 208 - ~Survey of World Literature I (3)

This course is designed to familiarize students with great works of world literature—both Western and Eastern traditions—representing Classical, Medieval, and Renaissance periods or non-Western chronological equivalents. Students are exposed to diverse literary traditions through discussion and through critical thinking and writing about significant literary works. In addition to essay tests and quizzes, students are required to write at least one formal, critical essay (1,000 –word computer drafted minimum); however, instructors are encouraged to assign significant amounts of writing beyond the required minimum in order to continue to develop students' critical thinking, reading,

and writing skills.

Prerequisite(s): ENGL 102 - ~English Composition II (3)

HIST 201 - ~US History to 1877 (3)

This course will introduce students to the period of United States History until the end of Reconstruction. Special emphasis will be placed upon the political, economic, and social aspects of the nation from the Colonial period until the Civil War era.

HIST 202 - ~US History Since 1877 (3)

This course will explore the Post-Reconstruction era of United States History. Special emphasis will be placed on the political, economic, and social effects upon the United States during the Gilded, Progressive, Depression, World War, and Cold War eras.

HIST 206 - American Women's History (3)

This course introduces students to the experience of women in American society from the colonial period to present. Women's struggle for social, economic, and political equality will be a major focus of the course, as well as class distinctions, race, and ethnicity. Other topics include gender roles, family, feminism, and women's art and literature.

HIST 207 - African American History (3)

This course introduces students to the history of African Americans from the 16th century to present. Economic, political, and cultural influences on the black historical experience will be studied as well as historical factors that shape black cultural identity. Major topics include slavery in the New World, black migration, the Civil Rights Movement, race relations, black nationalism, and African American artists.

LGST 212 - Business Law (3)

This course is an introduction to the American legal system and its impact on the business environment. Topics considered include contracts, employment law, antitrust law, torts, consumer protection, and the business organization. This study prepares students to identify and limit risk in business dealings.

PSCI 100 - ~Introduction to Political Ideology (3)

This course provides an overview of major political ideologies that shaped the historical political landscape of the world and the United States and will give shape to the 21st century. An examination of liberalism, conservatism, nationalism, multiculturalism, feminism, and Islamism (along with many other 'isms') provide the student with a sense of history and structure.

PSCI 101 - ~American Federal Government (3)

This course involves the study of the functions and administration of government in the United States. The course is designed to provide an introduction to the structure, organization and functioning of the national government of the United States. It will examine the powers and relationships of the executive, legislative, and judicial branches of government with special emphasis given to the role that history, political parties, pressure groups, etc. play in influencing these relationships.

PSCI 102 - ~State & Local Government (3)

This survey course covers the history and operations of state and local government. Some of the topics include state & local politics, state constitutions, state legislation, state governors, the justice system, and financing of state and local government.

PSYC 203 - ~Introduction to Psychology (3)

This course will introduce the student to basic psychological principals and to enable the student to examine current thinking about development, personality, sensation and perception, cognition, learning, psychological disorders, and their treatment, and influence.

Corerequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement

SOCI 203 - ~General Sociology (3)

This course introduces students to the core concepts and perspectives of sociology, the study of human social environments and of human interactions within those environments. The course will explore a number of sociological topics to develop a sociological imagination, an ability to understand the effects of group membership on behavior, attitudes, beliefs, and life chances.

Corerequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement

Subtotal Credit Hours Required 36

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Education, A.S.

The Associate of Science in Education addresses introductory topics related to teaching and learning and prepares students for transfer to an upper-division program leading to professional licensure or certification. Students will complete general education courses to target communication skills, critical thinking, and problem-solving skills, and to sharpen social awareness. Students will also gain foundational knowledge about the education system and teaching as a profession in preparation for admittance to a pre-licensure program. Students select from the following specializations: Social Studies (5-Adult), General Science (5-Adult), Biology (9-Adult), Mathematics (5-Adult), English (5-Adult), Elementary (K-6), or Physical Education.

Program Outcomes

- Exhibit awareness of the complexity of the education system and the teaching profession.

- Express an awareness of relationships between personal learning principles, contexts of learning, instruction, student learning outcomes, and assessment.
- Demonstrate effective oral, written, and technological communication skills.
- Apply critical thinking and problem-solving skills to diverse situations.
- Exhibit social awareness and collective understanding in order to effectively collaborate with others.
- Express the necessity to plan for the diverse and unique learning needs of all students.

Graduation Requirements for the Associate of Science in Education

- Overall Cumulative GPA of 2.75.
- Passing scores on the Praxis Core Exams: Reading 156, Writing 162, and Math 150.
- A satisfactory portfolio.
- A "C" or better in all required courses.

Curriculum for an Associate of Science in Education

Professional Education Core	9
Concentration	51-56
Total Credit Hours Required	60-65

Professional Education Core

EDUC 150 - Seminar in Education (1)

This course introduces students to the field of education, including the nature of education in society and the practical and ethical issues that arise in the field with a focus on reflection and self as a learner. The purpose is for students to begin to develop a philosophical, socio-historical, and practical understanding of learning and teaching. The requirements for successful progress through the program and a successful experience on campus are also discussed. The course includes a one-day observation in a public school classroom.

Prerequisite(s): Must be a major in Education, A.S. or Social Sciences, A.S. (Education Concentration)

EDUC 200 - Foundations of Education (3)

This course examines the relationship between the school as a social institution and the larger society through a combination of philosophical, historical, and problem-oriented inquiry into that relationship. The assumption is that a teacher who has developed an understanding of the vital relationships between school and society is in a position to see his or her professional roles beyond the narrow confines of the classroom, and will emerge a more sensitive, responsive, and effective teacher. The course includes substantial reading and writing components and a field experience with an at-risk population.

Prerequisite(s): ENGL 100R - Reading Essentials (3) or placement, ENGL 101 - ~English Composition I (3), and EDUC 150 - Seminar in Education (1)

EDUC 220 - Soci & Psyc Cond of Learning (4)

This course is a reflective exploration of the knower (the learner), knowing (learning), the known (knowledge), and the contexts in which knowledge is constructed through teaching/learning. This course includes a field component in a

public school classroom.

Prerequisite(s): EDUC 200 - Foundations of Education (3), COMM 202 - ~Fundamentals of Speech (3), ENGL 101 - ~English Composition I (3), and ENGL 102 - ~English Composition II (3)

EDUC 292 - Praxis Core Prep (1)

This course will review the main topics on the three Praxis Core Subject tests.

Prerequisite(s): Be a degree seeking student with a major in Education, A.S. or Social Sciences, A.S. with a concentration in Education.

Subtotal Credit Hours Required 9

Choose a Concentration:

Biology (9-Adult)

ART 103 - ~Introduction to Visual Arts (3)

This is an introductory course designed to survey prehistoric to contemporary visual art forms, giving insight into their nature and their relationships to the human condition. The course includes a study of the functions of various forms of art in which students are exposed to a variety of visual arts experiences to promote a deeper understanding of and appreciation for the role of the visual arts throughout human history and in contemporary society.

MUSC 111 - ~Introduction to Music (3)

This course provides training and experiences which will enable the student to acquire a historical-social-aesthetic perspective, to comprehend musical concepts, to discriminate quality levels, to select satisfying and stimulating musical experiences, and to empathize with the creators and performers of music.

ENGL 215 - ~The Art of Literature (3)

This course explores the art of literature, specifically how a deeper understanding of form, genre, and style enhances our appreciation of literature and language and our understanding of artistic theory/aesthetics. Through a careful study of literature, students will understand the creative thinking of great writers and sharpen their own creative thinking skills.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

BIOL 101 - ^General Biological Science I (4)

This is semester one of a two-semester general biology course which, with BIOL 102, satisfies the Liberal Arts science requirement. This is an integrated lecture and laboratory course dealing with both plants and animals, related to our environment from molecule to biosphere. This course focuses on molecular and cellular biology, patterns of inheritance and genetics, biotechnology, and mechanisms of evolution.

BIOL 102 - ~General Biological Science II (4)

This is semester two of a two-semester general biology course which, with BIOL 101, satisfies the Liberal Arts science requirement. This is an integrated lecture and laboratory course dealing with both plants and animals, related to our environment from molecule to biosphere. This course focuses on plant and animal structure and function, the dynamics of populations, communities and ecosystems, and human impact on the biosphere.

Prerequisite(s): BIOL 101 - ^General Biological Science I (4)

BIOL 120 - ^Human Anatomy & Physiology I (3)

This is course one in a two-course sequence that provides a detailed review of the human organism. It will provide a brief overview of the human body and the chemical basis for activities occurring within the body, a detailed review of the cell, tissues, the integumentary, skeletal, muscular, and nervous systems as well as an overview of the human senses.

Corerequisite(s): BIOL 121 - ^Human Anatomy & Phys I Lab (1)

BIOL 122 - ^Human Anatomy & Physiology II (3)

This is the second course in a two-course sequence that provides a detailed review of the human organism. This course provides a detailed review of cardiovascular, lymphatic, immune, respiratory, digestive, urinary, and reproductive systems.

Prerequisite(s): BIOL 120 - ^Human Anatomy & Physiology I (3) and BIOL 121 - ^Human Anatomy & Phys I Lab (1)

Corerequisite(s): BIOL 123 - ^Human Anatomy & Phys II Lab (1)

CHEM 125 - ~Introduction to College Chemistry (4)

This course is for students with little or no prior background in chemistry whose program (AS Nursing, for example) requires one semester of chemistry, or who require preparation for additional coursework in chemistry. Emphasis is on calculations and measurement, dimensional analysis, formulas, and equations, stoichiometry, atomic structure and molecular geometry, gas laws and solutions.

Prerequisite(s): MATH 100 - Math Essentials (3) or placement

BIOL 220 - Microbiology (3)

This is a course for students in the health and life science to be taken concurrently with the 1-credit laboratory. The course will emphasize the impact of microorganisms on human health and disease, including identification and control pathogens, the mechanisms of pathogenicity and disease transmission, host resistance, and immunity. Other aspects of microbiology will also be considered, including basic microbial metabolic activities and their role in nutrient cycling and as experimental subjects; biotechnology and recombinant DNA will be introduced.

Prerequisite(s): CHEM 125 - ~Introduction to College Chemistry (4) or CHEM 127 - ~General, Organic & Biochem I (4)

Corerequisite(s): BIOL 221 - Microbiology Lab (1)

BIOL 221 - Microbiology Lab (1)

This is a laboratory course in microbiological identification and experimentation techniques to be taken concurrently with BIOL 220.

Prerequisite(s): CHEM 125 - ~Introduction to College Chemistry (4) or CHEM 127 - ~General, Organic & Biochem I (4)

Corerequisite(s): BIOL 220 - Microbiology (3)

COMM 202 - ~Fundamentals of Speech (3)

This course equips the student with the necessary tools to construct, deliver, and analyze public communication messages.

ECON 123 - ~Contemporary Economics (3)

This course introduces students to both macro and microeconomic concepts including the theory of the firm, consumer behavior, economic systems, and managerial economic principles that affect decisions in every venue of our lives.

Note: Not intended for students in majors that require ECON 205 - ~Principles of Macroeconomics (3) and ECON 206 - ~Principles of Microeconomics (3).

Note Not intended for A.S. Business Administration Students.

ECON 205 - ~Principles of Macroeconomics (3)

This class serves as an introduction to fundamental economic concepts including production possibilities and economic growth, market supply and demand analysis, money, banking, government, and monetary policies. Emphasis is placed upon fluctuations in national income, employment, and price level. Overall, the impact of scarcity and human decision making will be imparted.

PSCI 101 - ~American Federal Government (3)

This course involves the study of the functions and administration of government in the United States. The course is designed to provide an introduction to the structure, organization and functioning of the national government of the United States. It will examine the powers and relationships of the executive, legislative, and judicial branches of government with special emphasis given to the role that history, political parties, pressure groups, etc. play in influencing these relationships.

EDUC 260 - Survey of Exceptional Child (3)

This is a course to familiarize the student with the nature, etiology, specific characteristics, and needs of the exceptional child. The course is designed to meet basic certification requirements in those states that require a minimum of three hours of course work in special education in order to be certified. It is equally relevant to early education, elementary education, secondary education, therapeutic recreation, psychology, and nursing. Includes a field component in a public school classroom.

Prerequisite(s): EDUC 200 - Foundations of Education (3)

ENGL 101 - ~English Composition I (3)

ENGL 101 is an introduction to college writing. This class emphasizes processes for drafting, revising, and editing. It develops a student's ability to read a passage, analyze its meaning, and write an intelligent response which shows not only an understanding of the passage but also a working knowledge of the writing and rhetorical strategies. Students will learn how to make effective arguments and how to locate, synthesize, and evaluate relevant information.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 101L - English Composition I Lab (3), or placement test scores

ENGL 102 - ~English Composition II (3)

ENGL 102 is a continuation of English Composition I that provides experience in analyzing and writing arguments and persuasive prose. A central feature of the course is library research that is intended to develop familiarity with reference sources and skill in summarizing the diverse points of view of multiple sources. Requires students to locate, evaluate, integrate, and document sources effectively.

Prerequisite(s): ENGL 101 - ~English Composition I (3)

GEOL 101 - ~Geological Sciences (4)

This is a combined course in physical and historical geology dealing with the composition, structure, and history of planet Earth. Minerals, rocks, tectonic processes, and physical characteristics of the earth's surface will be emphasized in the physical component. Evolution, fossils, and the changing conditions and organisms throughout geologic time constitute the historical component. This class is comprised of three hours lecture and two hours lab per week.

GSPE 210 - Fitness for Life (3)

This course is designed to assist participants in developing a healthier lifestyle through appropriate exercise programs, nutrition and behaviors that contribute to optimal health and wellness.

HIST 101 - ~World History to 1500: Early Man Through the Renaissance (3)

This course is a survey of World History covering the development of ancient civilizations and cultures to the year 1500, beginning with prehistoric humans and the rise of the first civilizations, including Ancient Mesopotamia, Egypt, the Indus River Valley, and Early China. Continuing with the Classical Era, the survey encompasses the Greek and Roman, Indian, Japanese, and Saharan African Civilizations. The course then examines World Civilizations in the Middle Ages, including the Middle East, Europe, Asia, the Americas, and Africa, before concluding with the European Renaissance. The course compares the development and philosophical foundations of all the major world religions including Judaism, Hinduism, Buddhism, Christianity, and Islam, as well as the major political, economic, social, and cultural systems to the year 1500.

HIST 102 - ~World History Since 1500: The Renaissance Through the Present (3)

This course is a survey of World History from the European Renaissance to the present. At the beginning of the course, developments in the Western World between 1500 and 1800 receive special attention, including the Renaissance, Reformation, Scientific Revolutions, Age of Exploration, Enlightenment, colonization of America, and the transition from mercantilism to capitalism. Having identified the dramatic transition taking place in the West, the course then looks at the impact of those changes around the globe through the trans-Atlantic Slave Trade, political revolutions in the Americas and Europe, industrialization, 19th-century imperialism, World Wars I and II, communist revolutions, the rise of fascism, the Cold War, and the 19th and 20th-century decolonization efforts in India, Africa, Southeast Asia, and the Middle East. The course closes with a review of economic and political globalization since the 1970s. Thematically, the course explores the nature of political, economic, and technological power and the relationship of that power to issues of race, class, gender, religion, and environment.

HIST 201 - ~US History to 1877 (3)

This course will introduce students to the period of United States History until the end of Reconstruction. Special emphasis will be placed upon the political, economic, and social aspects of the nation from the Colonial period until the Civil War era.

HIST 202 - ~US History Since 1877 (3)

This course will explore the Post-Reconstruction era of United States History. Special emphasis will be placed on the political, economic, and social effects upon the United States during the Gilded, Progressive, Depression, World War, and Cold War eras.

MATH 114 - ~Elem Probability & Statistics (3)

This course introduces the fundamental concepts of probability and statistics. Topics include descriptive statistics, random sampling methods, frequency distributions, measures of central tendency and variability, set theory, probability, permutations and combinations, random variables, probability and sampling distributions, expectation, central limit theorem, confidence intervals and hypothesis testing for means and proportions (one and two sample) and simple linear regression and correlation. Time permitting, one-way ANOVA and non-parametric techniques may be discussed. Appropriate application software will be utilized, and applications from a variety of disciplines will be presented.

Prerequisite(s): MATH 100A - Algebra Essentials (3) or proper placement on test scores

Subtotal Credit Hours Required 56

Elementary (K-6)

Either/or options in the Elementary (K-6) specialization represent specific requirements for corresponding four-year programs. Students MUST choose General Education courses with the approval of their advisor based on the university to which they choose to transfer.

ART 103 - ~Introduction to Visual Arts (3)

This is an introductory course designed to survey prehistoric to contemporary visual art forms, giving insight into their nature and their relationships to the human condition. The course includes a study of the functions of various forms of art in which students are exposed to a variety of visual arts experiences to promote a deeper understanding of and appreciation for the role of the visual arts throughout human history and in contemporary society.

MUSC 111 - ~Introduction to Music (3)

This course provides training and experiences which will enable the student to acquire a historical-social-aesthetic perspective, to comprehend musical concepts, to discriminate quality levels, to select satisfying and stimulating musical experiences, and to empathize with the creators and performers of music.

ENGL 215 - ~The Art of Literature (3)

This course explores the art of literature, specifically how a deeper understanding of form, genre, and style enhances our appreciation of literature and language and our understanding of artistic theory/aesthetics. Through a careful study of literature, students will understand the creative thinking of great writers and sharpen their own creative thinking skills.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

ECED 103 - Early Language and Literacy (3)

This course examines quality literature appropriate for children from infancy to age eight. Appropriate literacy experiences of reading, writing, and language are practiced in the student's communities. Students will also examine methods of presentation and the creation of literature based settings.

BIOL 101 - ^General Biological Science I (4)

This is semester one of a two-semester general biology course which, with BIOL 102, satisfies the Liberal Arts science requirement. This is an integrated lecture and laboratory course dealing with both plants and animals, related to our environment from molecule to biosphere. This course focuses on molecular and cellular biology, patterns of inheritance and genetics, biotechnology, and mechanisms of evolution.

PHYS 103 - ~General Physical Science I (4)

This is an introductory survey course which explores the major concepts in physics and chemistry. Topics covered will include motion, matter and energy, atomic models, nuclear structure, waves, and electricity. A combination of conceptual framework, practical applications, and problem solving will be utilized in the integrated laboratory and lecture course.

CHEM 127 - ~General, Organic & Biochem I (4)

This course is designed as the first in a one year sequence of courses intended for nursing or other allied health students who intend to transfer to a four year academic institution which requires a two semester sequence course in General, Organic and Biochemistry (GOB). This course will include an overview of the Metric System, Scientific Notation, Temperature Scales, Density, Atoms, Structure, Isotopes, Electrons, Periodic Table, Chemical Formulae, Types of Chemical Reactions, Quantification of Chemical Reactions, Mass, Moles, Energy, Kinetic, Potential, Law of Conservation of Energy, Thermochemistry, Matter, pH, Fission, Fusion, Functional Groups and Names, and General Organic Reactions to Form Functional Groups. This course sequence could also provide an eight credit General Education Science sequence. The course consists of a lecture portion and a laboratory portion.

Prerequisite(s): MATH 100 - Math Essentials (3) or placement

PHYS 104 - ~General Physical Science II (4)

This is an introductory survey course which explores the major concepts in geology, astronomy, and meteorology. Topics covered will include rocks and minerals, weathering and erosion, surface and groundwater, geologic time, plate tectonics, earthquakes, volcanoes, and mountains; light and telescopes, the solar system, stars, nebulae, and galaxies; the origin of the universe; the basics of meteorology, and the effects of weather and climate. A combination of the conceptual framework, practical applications, and problem-solving will be utilized in the integrated laboratory and lecture course.

GEOL 101 - ~Geological Sciences (4)

This is a combined course in physical and historical geology dealing with the composition, structure, and history of planet Earth. Minerals, rocks, tectonic processes, and physical characteristics of the earth's surface will be emphasized

in the physical component. Evolution, fossils, and the changing conditions and organisms throughout geologic time constitute the historical component. This class is comprised of three hours lecture and two hours lab per week.

HIST 210 - ~WV and Appalachian History (3)

This course studies diverse elements of the history of West Virginia including economic, cultural, geographic, and political factors that have impacted the development of the state since the colonial period. Emphasis will be placed on patterns of colonial settlement, the statehood movement, industrialization and exploitation, and current conditions in the state and Appalachian region. A survey of West Virginia will be conducted in relation to the Appalachian region, the nation, and the world.

GEOG 105 - ~World Cultural Geography (3)

This course introduces students to fundamental issues and concepts that explain the dynamic and complex relationships between people and the environments they inhabit. Students will explore the ways in which geography affects human settlement, health, diets, language, religion, and overall social, political, and economic development.

PSYC 210 - Human Growth & Development (3)

This course explores the basic principles of human growth and development throughout the lifespan. Prenatal development, as well as physical, emotional, mental, and social changes in children, adolescents, and adults will be reviewed. The multiple factors that influence development and shape personality will be considered.

GSPE 210 - Fitness for Life (3)

This course is designed to assist participants in developing a healthier lifestyle through appropriate exercise programs, nutrition and behaviors that contribute to optimal health and wellness.

COMM 202 - ~Fundamentals of Speech (3)

This course equips the student with the necessary tools to construct, deliver, and analyze public communication messages.

EDUC 260 - Survey of Exceptional Child (3)

This is a course to familiarize the student with the nature, etiology, specific characteristics, and needs of the exceptional child. The course is designed to meet basic certification requirements in those states that require a minimum of three hours of course work in special education in order to be certified. It is equally relevant to early education, elementary education, secondary education, therapeutic recreation, psychology, and nursing. Includes a field component in a public school classroom.

Prerequisite(s): EDUC 200 - Foundations of Education (3)

ENGL 101 - ~English Composition I (3)

ENGL 101 is an introduction to college writing. This class emphasizes processes for drafting, revising, and editing. It develops a student's ability to read a passage, analyze its meaning, and write an intelligent response which shows not only an understanding of the passage but also a working knowledge of the writing and rhetorical strategies. Students will learn how to make effective arguments and how to locate, synthesize, and evaluate relevant information.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 101L - English Composition I Lab (3), or placement test scores

ENGL 102 - ~English Composition II (3)

ENGL 102 is a continuation of English Composition I that provides experience in analyzing and writing arguments and persuasive prose. A central feature of the course is library research that is intended to develop familiarity with reference sources and skill in summarizing the diverse points of view of multiple sources. Requires students to locate, evaluate, integrate, and document sources effectively.

Prerequisite(s): ENGL 101 - ~English Composition I (3)

ENGL 204 - ~Sur of American Lit (3)

This course is designed to familiarize students with the rich variety of literature produced in America-- from the Colonial through the Modern periods. Students are exposed to a range of writers and traditions that constitute the diverse and multicultural American experience. In addition to tests and quizzes, students are required to write and revise at least two critical essays or equivalent writings (one of which is 1,000-word computer drafted minimum); however, instructors are encouraged to assign significant amounts of writing beyond the required minimum in order to facilitate students' continued acquisition of critical thinking, reading, and writing skills.

Prerequisite(s): ENGL 102 - ~English Composition II (3)

ENGL 208 - ~Survey of World Literature I (3)

This course is designed to familiarize students with great works of world literature—both Western and Eastern traditions—representing Classical, Medieval, and Renaissance periods or non-Western chronological equivalents. Students are exposed to diverse literary traditions through discussion and through critical thinking and writing about significant literary works. In addition to essay tests and quizzes, students are required to write at least one formal, critical essay (1,000 –word computer drafted minimum); however, instructors are encouraged to assign significant amounts of writing beyond the required minimum in order to continue to develop students' critical thinking, reading, and writing skills.

Prerequisite(s): ENGL 102 - ~English Composition II (3)

- HIST 201 US History to 1877 (3) OR
- HIST 202 US History Since 1877 (3)

HIST 101 - ~World History to 1500: Early Man Through the Renaissance (3)

This course is a survey of World History covering the development of ancient civilizations and cultures to the year 1500, beginning with prehistoric humans and the rise of the first civilizations, including Ancient Mesopotamia, Egypt, the Indus River Valley, and Early China. Continuing with the Classical Era, the survey encompasses the Greek and Roman, Indian, Japanese, and Saharan African Civilizations. The course then examines World Civilizations in the Middle Ages, including the Middle East, Europe, Asia, the Americas, and Africa, before concluding with the European Renaissance. The course compares the development and philosophical foundations of all the major world religions including Judaism, Hinduism, Buddhism, Christianity, and Islam, as well as the major political, economic, social, and cultural systems to the year 1500.

HIST 102 - ~World History Since 1500: The Renaissance Through the Present (3)

This course is a survey of World History from the European Renaissance to the present. At the beginning of the course, developments in the Western World between 1500 and 1800 receive special attention, including the Renaissance, Reformation, Scientific Revolutions, Age of Exploration, Enlightenment, colonization of America, and the transition from mercantilism to capitalism. Having identified the dramatic transition taking place in the West, the course then looks at the impact of those changes around the globe through the trans-Atlantic Slave Trade, political revolutions in the Americas and Europe, industrialization, 19th-century imperialism, World Wars I and II, communist revolutions, the rise of fascism, the Cold War, and the 19th and 20th-century decolonization efforts in India, Africa, Southeast Asia, and the Middle East. The course closes with a review of economic and political globalization since the 1970s. Thematically, the course explores the nature of political, economic, and technological power and the relationship of that power to issues of race, class, gender, religion, and environment.

HIST 201 - ~US History to 1877 (3)

This course will introduce students to the period of United States History until the end of Reconstruction. Special emphasis will be placed upon the political, economic, and social aspects of the nation from the Colonial period until the Civil War era.

HIST 202 - ~US History Since 1877 (3)

This course will explore the Post-Reconstruction era of United States History. Special emphasis will be placed on the political, economic, and social effects upon the United States during the Gilded, Progressive, Depression, World War, and Cold War eras.

MATH 232 - Math for Elem Teachers I (3)

This course is designed for Education majors in the Elementary (K-6) specialization as an introduction to selected topics in mathematics, including reasoning and problem solving skills, patterns and relations, elementary set theory & number theory, number systems other than base 10, algorithms, rational numbers, real numbers, estimation, and functions. The history of mathematics will be presented throughout the course, as well as the appropriate use of technology and manipulatives.

Prerequisite(s): MATH 105 - ^Algebra (3)

MATH 233 - Math for Elem Teachers II (3)

This course is designed for Education majors in the Elementary (K-6) specialization as an introduction to selected topics in mathematics, including elementary probability and statistics, data analysis, and basic geometry and measurement. The history of mathematics will be presented throughout the course, as well as the appropriate use of technology and manipulatives.

Prerequisite(s): MATH 105 - ^Algebra (3)

MATH 200 - College Geometry (3)

This course explores the fundamental ideas of geometry. Content includes the analysis and classification of geometric figures; the study of geometry transformations, congruence, and similarity; the application of formulas related area, perimeter, surface area, and volume; the development of proofs; and an overview of measurement. The course also incorporates technology to aid in solving problems.

Prerequisite(s): MATH 105 - ^Algebra (3)

MATH 114 - ~Elem Probability & Statistics (3)

This course introduces the fundamental concepts of probability and statistics. Topics include descriptive statistics, random sampling methods, frequency distributions, measures of central tendency and variability, set theory, probability, permutations and combinations, random variables, probability and sampling distributions, expectation, central limit theorem, confidence intervals and hypothesis testing for means and proportions (one and two sample) and simple linear regression and correlation. Time permitting, one-way ANOVA and non-parametric techniques may be discussed. Appropriate application software will be utilized, and applications from a variety of disciplines will be presented.

Prerequisite(s): MATH 100A - Algebra Essentials (3) or proper placement on test scores

MATH 105 - ^Algebra (3)

Topics explored in this course include properties of the real numbers, operations on polynomials, rational and radical expressions, solutions of linear, quadratic, polynomial, radical and absolute value equations and inequalities. Coordinate geometry including distance, midpoint, lines, and circles will also be explored. Additional topics include systems of linear equations and their applications, analysis of functions, operations on functions, transformations of functions, and properties of linear, piecewise, quadratic, polynomial, rational, exponential and logarithmic functions.

Prerequisite(s): MATH 100A - Algebra Essentials (3) or proper placement on test scores

PSCI 101 - ~American Federal Government (3)

This course involves the study of the functions and administration of government in the United States. The course is designed to provide an introduction to the structure, organization and functioning of the national government of the United States. It will examine the powers and relationships of the executive, legislative, and judicial branches of government with special emphasis given to the role that history, political parties, pressure groups, etc. play in influencing these relationships.

PSYC 203 - ~Introduction to Psychology (3)

This course will introduce the student to basic psychological principals and to enable the student to examine current thinking about development, personality, sensation and perception, cognition, learning, psychological disorders, and their treatment, and influence.

Corerequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement

Subtotal Credit Hours Required 54

English (5-Adult)

ENGL 215 - ~The Art of Literature (3)

This course explores the art of literature, specifically how a deeper understanding of form, genre, and style enhances our appreciation of literature and language and our understanding of artistic theory/aesthetics. Through a careful study of literature, students will understand the creative thinking of great writers and sharpen their own creative thinking

skills.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

BIOL 101 - ^General Biological Science I (4)

This is semester one of a two-semester general biology course which, with BIOL 102, satisfies the Liberal Arts science requirement. This is an integrated lecture and laboratory course dealing with both plants and animals, related to our environment from molecule to biosphere. This course focuses on molecular and cellular biology, patterns of inheritance and genetics, biotechnology, and mechanisms of evolution.

PHYS 103 - ~General Physical Science I (4)

This is an introductory survey course which explores the major concepts in physics and chemistry. Topics covered will include motion, matter and energy, atomic models, nuclear structure, waves, and electricity. A combination of conceptual framework, practical applications, and problem solving will be utilized in the integrated laboratory and lecture course.

BIOL 102 - ~General Biological Science II (4)

This is semester two of a two-semester general biology course which, with BIOL 101, satisfies the Liberal Arts science requirement. This is an integrated lecture and laboratory course dealing with both plants and animals, related to our environment from molecule to biosphere. This course focuses on plant and animal structure and function, the dynamics of populations, communities and ecosystems, and human impact on the biosphere.

Prerequisite(s): BIOL 101 - ^General Biological Science I (4)

PHYS 104 - ~General Physical Science II (4)

This is an introductory survey course which explores the major concepts in geology, astronomy, and meteorology. Topics covered will include rocks and minerals, weathering and erosion, surface and groundwater, geologic time, plate tectonics, earthquakes, volcanoes, and mountains; light and telescopes, the solar system, stars, nebulae, and galaxies; the origin of the universe; the basics of meteorology, and the effects of weather and climate. A combination of the conceptual framework, practical applications, and problem-solving will be utilized in the integrated laboratory and lecture course.

COMM 202 - ~Fundamentals of Speech (3)

This course equips the student with the necessary tools to construct, deliver, and analyze public communication messages.

ECON 123 - ~Contemporary Economics (3)

This course introduces students to both macro and microeconomic concepts including the theory of the firm, consumer behavior, economic systems, and managerial economic principles that affect decisions in every venue of our lives.

Note: Not intended for students in majors that require ECON 205 - ~Principles of Macroeconomics (3) and ECON 206 - ~Principles of Microeconomics (3).

Note Not intended for A.S. Business Administration Students.

ECON 205 - ~Principles of Macroeconomics (3)

This class serves as an introduction to fundamental economic concepts including production possibilities and economic growth, market supply and demand analysis, money, banking, government, and monetary policies. Emphasis is placed upon fluctuations in national income, employment, and price level. Overall, the impact of scarcity and human decision making will be imparted.

PSCI 101 - ~American Federal Government (3)

This course involves the study of the functions and administration of government in the United States. The course is designed to provide an introduction to the structure, organization and functioning of the national government of the United States. It will examine the powers and relationships of the executive, legislative, and judicial branches of government with special emphasis given to the role that history, political parties, pressure groups, etc. play in influencing these relationships.

EDUC 260 - Survey of Exceptional Child (3)

This is a course to familiarize the student with the nature, etiology, specific characteristics, and needs of the exceptional child. The course is designed to meet basic certification requirements in those states that require a minimum of three hours of course work in special education in order to be certified. It is equally relevant to early education, elementary education, secondary education, therapeutic recreation, psychology, and nursing. Includes a field component in a public school classroom.

Prerequisite(s): EDUC 200 - Foundations of Education (3)

ENGL 101 - ~English Composition I (3)

ENGL 101 is an introduction to college writing. This class emphasizes processes for drafting, revising, and editing. It develops a student's ability to read a passage, analyze its meaning, and write an intelligent response which shows not only an understanding of the passage but also a working knowledge of the writing and rhetorical strategies. Students will learn how to make effective arguments and how to locate, synthesize, and evaluate relevant information.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 101L - English Composition I Lab (3), or placement test scores

ENGL 102 - ~English Composition II (3)

ENGL 102 is a continuation of English Composition I that provides experience in analyzing and writing arguments and persuasive prose. A central feature of the course is library research that is intended to develop familiarity with reference sources and skill in summarizing the diverse points of view of multiple sources. Requires students to locate, evaluate, integrate, and document sources effectively.

Prerequisite(s): ENGL 101 - ~English Composition I (3)

ENGL 204 - ~Sur of American Lit (3)

This course is designed to familiarize students with the rich variety of literature produced in America-- from the Colonial through the Modern periods. Students are exposed to a range of writers and traditions that constitute the diverse and multicultural American experience. In addition to tests and quizzes, students are required to write and revise at least two critical essays or equivalent writings (one of which is 1,000-word computer drafted minimum); however, instructors are encouraged to assign significant amounts of writing beyond the required minimum in order to

facilitate students' continued acquisition of critical thinking, reading, and writing skills.

Prerequisite(s): ENGL 102 - ~English Composition II (3)

ENGL 207 - Teach Rdg & Young Adult Lit (3)

Students will be exposed to reading pedagogy and the methods of teaching reading as well as the young adult literary canon and the reading and oral interpretation of classic and contemporary young adult literature.

Prerequisite(s): ENGL 102 - ~English Composition II (3)

ENGL 208 - ~Survey of World Literature I (3)

This course is designed to familiarize students with great works of world literature—both Western and Eastern traditions—representing Classical, Medieval, and Renaissance periods or non-Western chronological equivalents. Students are exposed to diverse literary traditions through discussion and through critical thinking and writing about significant literary works. In addition to essay tests and quizzes, students are required to write at least one formal, critical essay (1,000 –word computer drafted minimum); however, instructors are encouraged to assign significant amounts of writing beyond the required minimum in order to continue to develop students' critical thinking, reading, and writing skills.

Prerequisite(s): ENGL 102 - ~English Composition II (3)

ENGL 270 - Traditional Grammar (3)

Students will be exposed to methods of teaching grammar as well as certain approaches to linguistic grammar. This course will focus initially on the study of traditional grammar and English structures (parts of speech, phrases, and clauses), noting additionally the practical application of standard English usage as apparent in publication and print.

Prerequisite(s): ENGL 101 - ~English Composition I (3)

GSPE 210 - Fitness for Life (3)

This course is designed to assist participants in developing a healthier lifestyle through appropriate exercise programs, nutrition and behaviors that contribute to optimal health and wellness.

HIST 101 - ~World History to 1500: Early Man Through the Renaissance (3)

This course is a survey of World History covering the development of ancient civilizations and cultures to the year 1500, beginning with prehistoric humans and the rise of the first civilizations, including Ancient Mesopotamia, Egypt, the Indus River Valley, and Early China. Continuing with the Classical Era, the survey encompasses the Greek and Roman, Indian, Japanese, and Saharan African Civilizations. The course then examines World Civilizations in the Middle Ages, including the Middle East, Europe, Asia, the Americas, and Africa, before concluding with the European Renaissance. The course compares the development and philosophical foundations of all the major world religions including Judaism, Hinduism, Buddhism, Christianity, and Islam, as well as the major political, economic, social, and cultural systems to the year 1500.

HIST 102 - ~World History Since 1500: The Renaissance Through the Present (3)

This course is a survey of World History from the European Renaissance to the present. At the beginning of the course, developments in the Western World between 1500 and 1800 receive special attention, including the Renaissance,

Reformation, Scientific Revolutions, Age of Exploration, Enlightenment, colonization of America, and the transition from mercantilism to capitalism. Having identified the dramatic transition taking place in the West, the course then looks at the impact of those changes around the globe through the trans-Atlantic Slave Trade, political revolutions in the Americas and Europe, industrialization, 19th-century imperialism, World Wars I and II, communist revolutions, the rise of fascism, the Cold War, and the 19th and 20th-century decolonization efforts in India, Africa, Southeast Asia, and the Middle East. The course closes with a review of economic and political globalization since the 1970s. Thematically, the course explores the nature of political, economic, and technological power and the relationship of that power to issues of race, class, gender, religion, and environment.

SPAN 101 - Spanish I (3)

Spanish I is an introductory course designed to expose beginning students to basic language skills. In this course, students develop the fundamentals of communication, listening and comprehension, speaking, and reading. Spanish culture is introduced as well as composition writing.

SPAN 102 - Spanish II (3)

Spanish II builds upon the basic grammatical structures introduced in Spanish I and continues to develop skills such as pronunciation practice, listening comprehension, and "guided" composition. Correct speaking is emphasized. The study of Hispanic countries and cultures continues to be covered in the course.

Prerequisite(s): SPAN 101 - Spanish I (3)

MATH 101 - ~Introduction to Mathematics (3)

During this course topics to be covered are sets, mathematical logic, mathematical systems, the real number system, systematic counting, probability, measurement, and consumer mathematics. History of mathematics, critical thinking skills, problem solving, and use of technology will be incorporated throughout the course.

Prerequisite(s): MATH 100 - Math Essentials (3) or proper placement on test scores

MATH 105 - ^Algebra (3)

Topics explored in this course include properties of the real numbers, operations on polynomials, rational and radical expressions, solutions of linear, quadratic, polynomial, radical and absolute value equations and inequalities. Coordinate geometry including distance, midpoint, lines, and circles will also be explored. Additional topics include systems of linear equations and their applications, analysis of functions, operations on functions, transformations of functions, and properties of linear, piecewise, quadratic, polynomial, rational, exponential and logarithmic functions.

Prerequisite(s): MATH 100A - Algebra Essentials (3) or proper placement on test scores

MATH 154 - ~Finite Mathematics (3)

This course introduces students to selected topics from finite mathematics. Mathematical models for the analysis of decision-making problems are examined. Topics include analyzing linear functions with applications, solving systems of linear equations using the Echelon and Gauss-Jordan methods, matrix operations and inverses, systems of linear inequalities, linear programming optimization by graphing and the simplex method, risk decisions using counting methods and probability. Additional topics may be chosen from financial mathematics, logic, or statistics.

Prerequisite(s): MATH 100A - Algebra Essentials (3) or proper placement on test scores

Subtotal Credit Hours Required **53**

General Science (5-Adult)

ART 103 - ~Introduction to Visual Arts (3)

This is an introductory course designed to survey prehistoric to contemporary visual art forms, giving insight into their nature and their relationships to the human condition. The course includes a study of the functions of various forms of art in which students are exposed to a variety of visual arts experiences to promote a deeper understanding of and appreciation for the role of the visual arts throughout human history and in contemporary society.

MUSC 111 - ~Introduction to Music (3)

This course provides training and experiences which will enable the student to acquire a historical-social-aesthetic perspective, to comprehend musical concepts, to discriminate quality levels, to select satisfying and stimulating musical experiences, and to empathize with the creators and performers of music.

ENGL 215 - ~The Art of Literature (3)

This course explores the art of literature, specifically how a deeper understanding of form, genre, and style enhances our appreciation of literature and language and our understanding of artistic theory/aesthetics. Through a careful study of literature, students will understand the creative thinking of great writers and sharpen their own creative thinking skills.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

BIOL 101 - ^General Biological Science I (4)

This is semester one of a two-semester general biology course which, with BIOL 102, satisfies the Liberal Arts science requirement. This is an integrated lecture and laboratory course dealing with both plants and animals, related to our environment from molecule to biosphere. This course focuses on molecular and cellular biology, patterns of inheritance and genetics, biotechnology, and mechanisms of evolution.

BIOL 102 - ~General Biological Science II (4)

This is semester two of a two-semester general biology course which, with BIOL 101, satisfies the Liberal Arts science requirement. This is an integrated lecture and laboratory course dealing with both plants and animals, related to our environment from molecule to biosphere. This course focuses on plant and animal structure and function, the dynamics of populations, communities and ecosystems, and human impact on the biosphere.

Prerequisite(s): BIOL 101 - ^General Biological Science I (4)

BIOL 120 - ^Human Anatomy & Physiology I (3)

This is course one in a two-course sequence that provides a detailed review of the human organism. It will provide a brief overview of the human body and the chemical basis for activities occurring within the body, a detailed review of the cell, tissues, the integumentary, skeletal, muscular, and nervous systems as well as an overview of the human

senses.

Corequisite(s): BIOL 121 - ^Human Anatomy & Phys I Lab (1)

BIOL 122 - ^Human Anatomy & Physiology II (3)

This is the second course in a two-course sequence that provides a detailed review of the human organism. This course provides a detailed review of cardiovascular, lymphatic, immune, respiratory, digestive, urinary, and reproductive systems.

Prerequisite(s): BIOL 120 - ^Human Anatomy & Physiology I (3) and BIOL 121 - ^Human Anatomy & Phys I Lab (1)
Corequisite(s): BIOL 123 - ^Human Anatomy & Phys II Lab (1)

CHEM 125 - ~Introduction to College Chemistry (4)

This course is for students with little or no prior background in chemistry whose program (AS Nursing, for example) requires one semester of chemistry, or who require preparation for additional coursework in chemistry. Emphasis is on calculations and measurement, dimensional analysis, formulas, and equations, stoichiometry, atomic structure and molecular geometry, gas laws and solutions.

Prerequisite(s): MATH 100 - Math Essentials (3) or placement

COMM 202 - ~Fundamentals of Speech (3)

This course equips the student with the necessary tools to construct, deliver, and analyze public communication messages.

EDUC 260 - Survey of Exceptional Child (3)

This is a course to familiarize the student with the nature, etiology, specific characteristics, and needs of the exceptional child. The course is designed to meet basic certification requirements in those states that require a minimum of three hours of course work in special education in order to be certified. It is equally relevant to early education, elementary education, secondary education, therapeutic recreation, psychology, and nursing. Includes a field component in a public school classroom.

Prerequisite(s): EDUC 200 - Foundations of Education (3)

ENGL 101 - ~English Composition I (3)

ENGL 101 is an introduction to college writing. This class emphasizes processes for drafting, revising, and editing. It develops a student's ability to read a passage, analyze its meaning, and write an intelligent response which shows not only an understanding of the passage but also a working knowledge of the writing and rhetorical strategies. Students will learn how to make effective arguments and how to locate, synthesize, and evaluate relevant information.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 101L - English Composition I Lab (3), or placement test scores

ENGL 102 - ~English Composition II (3)

ENGL 102 is a continuation of English Composition I that provides experience in analyzing and writing arguments and persuasive prose. A central feature of the course is library research that is intended to develop familiarity with reference

sources and skill in summarizing the diverse points of view of multiple sources. Requires students to locate, evaluate, integrate, and document sources effectively.

Prerequisite(s): ENGL 101 - ~English Composition I (3)

GEOL 101 - ~Geological Sciences (4)

This is a combined course in physical and historical geology dealing with the composition, structure, and history of planet Earth. Minerals, rocks, tectonic processes, and physical characteristics of the earth's surface will be emphasized in the physical component. Evolution, fossils, and the changing conditions and organisms throughout geologic time constitute the historical component. This class is comprised of three hours lecture and two hours lab per week.

GSPE 210 - Fitness for Life (3)

This course is designed to assist participants in developing a healthier lifestyle through appropriate exercise programs, nutrition and behaviors that contribute to optimal health and wellness.

HIST 101 - ~World History to 1500: Early Man Through the Renaissance (3)

This course is a survey of World History covering the development of ancient civilizations and cultures to the year 1500, beginning with prehistoric humans and the rise of the first civilizations, including Ancient Mesopotamia, Egypt, the Indus River Valley, and Early China. Continuing with the Classical Era, the survey encompasses the Greek and Roman, Indian, Japanese, and Saharan African Civilizations. The course then examines World Civilizations in the Middle Ages, including the Middle East, Europe, Asia, the Americas, and Africa, before concluding with the European Renaissance. The course compares the development and philosophical foundations of all the major world religions including Judaism, Hinduism, Buddhism, Christianity, and Islam, as well as the major political, economic, social, and cultural systems to the year 1500.

HIST 102 - ~World History Since 1500: The Renaissance Through the Present (3)

This course is a survey of World History from the European Renaissance to the present. At the beginning of the course, developments in the Western World between 1500 and 1800 receive special attention, including the Renaissance, Reformation, Scientific Revolutions, Age of Exploration, Enlightenment, colonization of America, and the transition from mercantilism to capitalism. Having identified the dramatic transition taking place in the West, the course then looks at the impact of those changes around the globe through the trans-Atlantic Slave Trade, political revolutions in the Americas and Europe, industrialization, 19th-century imperialism, World Wars I and II, communist revolutions, the rise of fascism, the Cold War, and the 19th and 20th-century decolonization efforts in India, Africa, Southeast Asia, and the Middle East. The course closes with a review of economic and political globalization since the 1970s. Thematically, the course explores the nature of political, economic, and technological power and the relationship of that power to issues of race, class, gender, religion, and environment.

HIST 201 - ~US History to 1877 (3)

This course will introduce students to the period of United States History until the end of Reconstruction. Special emphasis will be placed upon the political, economic, and social aspects of the nation from the Colonial period until the Civil War era.

HIST 202 - ~US History Since 1877 (3)

This course will explore the Post-Reconstruction era of United States History. Special emphasis will be placed on the political, economic, and social effects upon the United States during the Gilded, Progressive, Depression, World War, and Cold War eras.

MATH 114 - ~Elem Probability & Statistics (3)

This course introduces the fundamental concepts of probability and statistics. Topics include descriptive statistics, random sampling methods, frequency distributions, measures of central tendency and variability, set theory, probability, permutations and combinations, random variables, probability and sampling distributions, expectation, central limit theorem, confidence intervals and hypothesis testing for means and proportions (one and two sample) and simple linear regression and correlation. Time permitting, one-way ANOVA and non-parametric techniques may be discussed. Appropriate application software will be utilized, and applications from a variety of disciplines will be presented.

Prerequisite(s): MATH 100A - Algebra Essentials (3) or proper placement on test scores

SOCI 203 - ~General Sociology (3)

This course introduces students to the core concepts and perspectives of sociology, the study of human social environments and of human interactions within those environments. The course will explore a number of sociological topics to develop a sociological imagination, an ability to understand the effects of group membership on behavior, attitudes, beliefs, and life chances.

Corerequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement

Subtotal Credit Hours Required 52

Mathematics (5-Adult)

ART 103 - ~Introduction to Visual Arts (3)

This is an introductory course designed to survey prehistoric to contemporary visual art forms, giving insight into their nature and their relationships to the human condition. The course includes a study of the functions of various forms of art in which students are exposed to a variety of visual arts experiences to promote a deeper understanding of and appreciation for the role of the visual arts throughout human history and in contemporary society.

MUSC 111 - ~Introduction to Music (3)

This course provides training and experiences which will enable the student to acquire a historical-social-aesthetic perspective, to comprehend musical concepts, to discriminate quality levels, to select satisfying and stimulating musical experiences, and to empathize with the creators and performers of music.

ENGL 215 - ~The Art of Literature (3)

This course explores the art of literature, specifically how a deeper understanding of form, genre, and style enhances our appreciation of literature and language and our understanding of artistic theory/aesthetics. Through a careful study of literature, students will understand the creative thinking of great writers and sharpen their own creative thinking skills.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

COMM 202 - ~Fundamentals of Speech (3)

This course equips the student with the necessary tools to construct, deliver, and analyze public communication messages.

ECON 205 - ~Principles of Macroeconomics (3)

This class serves as an introduction to fundamental economic concepts including production possibilities and economic growth, market supply and demand analysis, money, banking, government, and monetary policies. Emphasis is placed upon fluctuations in national income, employment, and price level. Overall, the impact of scarcity and human decision making will be imparted.

EDUC 260 - Survey of Exceptional Child (3)

This is a course to familiarize the student with the nature, etiology, specific characteristics, and needs of the exceptional child. The course is designed to meet basic certification requirements in those states that require a minimum of three hours of course work in special education in order to be certified. It is equally relevant to early education, elementary education, secondary education, therapeutic recreation, psychology, and nursing. Includes a field component in a public school classroom.

Prerequisite(s): EDUC 200 - Foundations of Education (3)

ENGL 101 - ~English Composition I (3)

ENGL 101 is an introduction to college writing. This class emphasizes processes for drafting, revising, and editing. It develops a student's ability to read a passage, analyze its meaning, and write an intelligent response which shows not only an understanding of the passage but also a working knowledge of the writing and rhetorical strategies. Students will learn how to make effective arguments and how to locate, synthesize, and evaluate relevant information.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 101L - English Composition I Lab (3), or placement test scores

ENGL 102 - ~English Composition II (3)

ENGL 102 is a continuation of English Composition I that provides experience in analyzing and writing arguments and persuasive prose. A central feature of the course is library research that is intended to develop familiarity with reference sources and skill in summarizing the diverse points of view of multiple sources. Requires students to locate, evaluate, integrate, and document sources effectively.

Prerequisite(s): ENGL 101 - ~English Composition I (3)

ENGL 204 - ~Sur of American Lit (3)

This course is designed to familiarize students with the rich variety of literature produced in America-- from the Colonial through the Modern periods. Students are exposed to a range of writers and traditions that constitute the diverse and multicultural American experience. In addition to tests and quizzes, students are required to write and revise at least two critical essays or equivalent writings (one of which is 1,000-word computer drafted minimum);

however, instructors are encouraged to assign significant amounts of writing beyond the required minimum in order to facilitate students' continued acquisition of critical thinking, reading, and writing skills.

Prerequisite(s): ENGL 102 - ~English Composition II (3)

ENGL 208 - ~Survey of World Literature I (3)

This course is designed to familiarize students with great works of world literature—both Western and Eastern traditions—representing Classical, Medieval, and Renaissance periods or non-Western chronological equivalents. Students are exposed to diverse literary traditions through discussion and through critical thinking and writing about significant literary works. In addition to essay tests and quizzes, students are required to write at least one formal, critical essay (1,000 –word computer drafted minimum); however, instructors are encouraged to assign significant amounts of writing beyond the required minimum in order to continue to develop students' critical thinking, reading, and writing skills.

Prerequisite(s): ENGL 102 - ~English Composition II (3)

HIST 201 - ~US History to 1877 (3)

This course will introduce students to the period of United States History until the end of Reconstruction. Special emphasis will be placed upon the political, economic, and social aspects of the nation from the Colonial period until the Civil War era.

HIST 202 - ~US History Since 1877 (3)

This course will explore the Post-Reconstruction era of United States History. Special emphasis will be placed on the political, economic, and social effects upon the United States during the Gilded, Progressive, Depression, World War, and Cold War eras.

GSPE 210 - Fitness for Life (3)

This course is designed to assist participants in developing a healthier lifestyle through appropriate exercise programs, nutrition and behaviors that contribute to optimal health and wellness.

HIST 101 - ~World History to 1500: Early Man Through the Renaissance (3)

This course is a survey of World History covering the development of ancient civilizations and cultures to the year 1500, beginning with prehistoric humans and the rise of the first civilizations, including Ancient Mesopotamia, Egypt, the Indus River Valley, and Early China. Continuing with the Classical Era, the survey encompasses the Greek and Roman, Indian, Japanese, and Saharan African Civilizations. The course then examines World Civilizations in the Middle Ages, including the Middle East, Europe, Asia, the Americas, and Africa, before concluding with the European Renaissance. The course compares the development and philosophical foundations of all the major world religions including Judaism, Hinduism, Buddhism, Christianity, and Islam, as well as the major political, economic, social, and cultural systems to the year 1500.

HIST 102 - ~World History Since 1500: The Renaissance Through the Present (3)

This course is a survey of World History from the European Renaissance to the present. At the beginning of the course, developments in the Western World between 1500 and 1800 receive special attention, including the Renaissance, Reformation, Scientific Revolutions, Age of Exploration, Enlightenment, colonization of America, and the transition from mercantilism to capitalism. Having identified the dramatic transition taking place in the West, the course then

looks at the impact of those changes around the globe through the trans-Atlantic Slave Trade, political revolutions in the Americas and Europe, industrialization, 19th-century imperialism, World Wars I and II, communist revolutions, the rise of fascism, the Cold War, and the 19th and 20th-century decolonization efforts in India, Africa, Southeast Asia, and the Middle East. The course closes with a review of economic and political globalization since the 1970s. Thematically, the course explores the nature of political, economic, and technological power and the relationship of that power to issues of race, class, gender, religion, and environment.

MATH 108 - ^Pre-Calculus (4)

This course is a one-semester preparation for calculus, which includes various algebra and trigonometry topics. Algebra topics include the analysis of linear, quadratic, polynomial, radical, rational, absolute value, piecewise, exponential and logarithmic functions and their graphs along with applications. Trigonometry topics include the study of angles using both the unit circle and right triangle approaches, verifying trigonometric identities, solving trigonometric equations, solving right and oblique triangles with applications, and analyzing the characteristics of trigonometric and inverse trigonometric functions. Additional topics include complex numbers, systems of equations, partial fractions, conic sections, sequences, and series. As time permits, vectors, polar coordinates, mathematical induction, and limits may also be explored.

Prerequisite(s): MATH 105 - ^Algebra (3) or proper placement on test scores

MATH 114 - ~Elem Probability & Statistics (3)

This course introduces the fundamental concepts of probability and statistics. Topics include descriptive statistics, random sampling methods, frequency distributions, measures of central tendency and variability, set theory, probability, permutations and combinations, random variables, probability and sampling distributions, expectation, central limit theorem, confidence intervals and hypothesis testing for means and proportions (one and two sample) and simple linear regression and correlation. Time permitting, one-way ANOVA and non-parametric techniques may be discussed. Appropriate application software will be utilized, and applications from a variety of disciplines will be presented.

Prerequisite(s): MATH 100A - Algebra Essentials (3) or proper placement on test scores

MATH 207 - ^Calculus I (4)

This course is an introduction to the fundamental concepts of differential and integral calculus from algebraic, numerical, and graphical points of view. Topics covered include functions, trigonometry, limits, continuity, differentiation, and integration of elementary algebraic, transcendental, and inverse functions. Other topics include implicit differentiation, the Fundamental Theorem of Calculus, Mean Value Theorem, differentials, linear approximation, and L'Hopital's Rule. Applications will be incorporated throughout the course such as velocity, acceleration, the slope of a curve at a point, curve sketching, absolute and relative extrema, related rates, optimization, areas, volume, and arc length.

Prerequisite(s): MATH 108 - ^Pre-Calculus (4) or proper placement on test scores

PHYS 201 - General Physics I (4)

This is a calculus-based physics course covering topics of motion, force, Newton's laws, energy, momentum, gravitation, rotation, acoustics, fluid dynamics, and thermodynamics. The course includes a lab component.

Prerequisite(s): MATH 207 - ^Calculus I (4)

SDE 188 - Intro to Programming Logic (3)

This course introduces the basic concepts of programming logic. Students will examine the basic constructs of selection, sequence, and repetition, abstract data structures of records, arrays, and linked lists, and file access methods.

Corerequisite(s): MATH 100 - Math Essentials (3) or appropriate test scores

- Restricted Electives-Choose with Advisor (6)

Subtotal Credit Hours Required 51

Physical Education (K-12)

ART 103 - ~Introduction to Visual Arts (3)

This is an introductory course designed to survey prehistoric to contemporary visual art forms, giving insight into their nature and their relationships to the human condition. The course includes a study of the functions of various forms of art in which students are exposed to a variety of visual arts experiences to promote a deeper understanding of and appreciation for the role of the visual arts throughout human history and in contemporary society.

MUSC 111 - ~Introduction to Music (3)

This course provides training and experiences which will enable the student to acquire a historical-social-aesthetic perspective, to comprehend musical concepts, to discriminate quality levels, to select satisfying and stimulating musical experiences, and to empathize with the creators and performers of music.

ENGL 215 - ~The Art of Literature (3)

This course explores the art of literature, specifically how a deeper understanding of form, genre, and style enhances our appreciation of literature and language and our understanding of artistic theory/aesthetics. Through a careful study of literature, students will understand the creative thinking of great writers and sharpen their own creative thinking skills.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

BIOL 101 - ^General Biological Science I (4)

This is semester one of a two-semester general biology course which, with BIOL 102, satisfies the Liberal Arts science requirement. This is an integrated lecture and laboratory course dealing with both plants and animals, related to our environment from molecule to biosphere. This course focuses on molecular and cellular biology, patterns of inheritance and genetics, biotechnology, and mechanisms of evolution.

PHYS 103 - ~General Physical Science I (4)

This is an introductory survey course which explores the major concepts in physics and chemistry. Topics covered will include motion, matter and energy, atomic models, nuclear structure, waves, and electricity. A combination of conceptual framework, practical applications, and problem solving will be utilized in the integrated laboratory and lecture course.

BIOL 102 - ~General Biological Science II (4)

This is semester two of a two-semester general biology course which, with BIOL 101, satisfies the Liberal Arts science requirement. This is an integrated lecture and laboratory course dealing with both plants and animals, related to our environment from molecule to biosphere. This course focuses on plant and animal structure and function, the dynamics of populations, communities and ecosystems, and human impact on the biosphere.

Prerequisite(s): BIOL 101 - ^General Biological Science I (4)

PHYS 104 - ~General Physical Science II (4)

This is an introductory survey course which explores the major concepts in geology, astronomy, and meteorology. Topics covered will include rocks and minerals, weathering and erosion, surface and groundwater, geologic time, plate tectonics, earthquakes, volcanoes, and mountains; light and telescopes, the solar system, stars, nebulae, and galaxies; the origin of the universe; the basics of meteorology, and the effects of weather and climate. A combination of the conceptual framework, practical applications, and problem-solving will be utilized in the integrated laboratory and lecture course.

BIOL 120 - ^Human Anatomy & Physiology I (3)

This is course one in a two-course sequence that provides a detailed review of the human organism. It will provide a brief overview of the human body and the chemical basis for activities occurring within the body, a detailed review of the cell, tissues, the integumentary, skeletal, muscular, and nervous systems as well as an overview of the human senses.

Corequisite(s): BIOL 121 - ^Human Anatomy & Phys I Lab (1)

BIOL 121 - ^Human Anatomy & Phys I Lab (1)

This is a laboratory course in human anatomy and physiology to be taken concurrently with BIOL 120.

Corequisite(s): BIOL 120 - ^Human Anatomy & Physiology I (3)

BIOL 122 - ^Human Anatomy & Physiology II (3)

This is the second course in a two-course sequence that provides a detailed review of the human organism. This course provides a detailed review of cardiovascular, lymphatic, immune, respiratory, digestive, urinary, and reproductive systems.

Prerequisite(s): BIOL 120 - ^Human Anatomy & Physiology I (3) and BIOL 121 - ^Human Anatomy & Phys I Lab (1)

Corequisite(s): BIOL 123 - ^Human Anatomy & Phys II Lab (1)

BIOL 123 - ^Human Anatomy & Phys II Lab (1)

This is a laboratory course in human anatomy and physiology to be taken concurrently with BIOL 122.

Prerequisite(s): BIOL 120 - ^Human Anatomy & Physiology I (3) and BIOL 121 - ^Human Anatomy & Phys I Lab (1)

Corequisite(s): BIOL 122 - ^Human Anatomy & Physiology II (3)

COMM 202 - ~Fundamentals of Speech (3)

This course equips the student with the necessary tools to construct, deliver, and analyze public communication messages.

EDUC 260 - Survey of Exceptional Child (3)

This is a course to familiarize the student with the nature, etiology, specific characteristics, and needs of the exceptional child. The course is designed to meet basic certification requirements in those states that require a minimum of three hours of course work in special education in order to be certified. It is equally relevant to early education, elementary education, secondary education, therapeutic recreation, psychology, and nursing. Includes a field component in a public school classroom.

Prerequisite(s): EDUC 200 - Foundations of Education (3)

ENGL 101 - ~English Composition I (3)

ENGL 101 is an introduction to college writing. This class emphasizes processes for drafting, revising, and editing. It develops a student's ability to read a passage, analyze its meaning, and write an intelligent response which shows not only an understanding of the passage but also a working knowledge of the writing and rhetorical strategies. Students will learn how to make effective arguments and how to locate, synthesize, and evaluate relevant information.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 101L - English Composition I Lab (3), or placement test scores

ENGL 102 - ~English Composition II (3)

ENGL 102 is a continuation of English Composition I that provides experience in analyzing and writing arguments and persuasive prose. A central feature of the course is library research that is intended to develop familiarity with reference sources and skill in summarizing the diverse points of view of multiple sources. Requires students to locate, evaluate, integrate, and document sources effectively.

Prerequisite(s): ENGL 101 - ~English Composition I (3)

GSPE 210 - Fitness for Life (3)

This course is designed to assist participants in developing a healthier lifestyle through appropriate exercise programs, nutrition and behaviors that contribute to optimal health and wellness.

GEOG 105 - ~World Cultural Geography (3)

This course introduces students to fundamental issues and concepts that explain the dynamic and complex relationships between people and the environments they inhabit. Students will explore the ways in which geography affects human settlement, health, diets, language, religion, and overall social, political, and economic development.

PSYC 203 - ~Introduction to Psychology (3)

This course will introduce the student to basic psychological principals and to enable the student to examine current thinking about development, personality, sensation and perception, cognition, learning, psychological disorders, and their treatment, and influence.

Corerequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement

SOCI 203 - ~General Sociology (3)

This course introduces students to the core concepts and perspectives of sociology, the study of human social environments and of human interactions within those environments. The course will explore a number of sociological topics to develop a sociological imagination, an ability to understand the effects of group membership on behavior, attitudes, beliefs, and life chances.

Corequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement

HIST 101 - ~World History to 1500: Early Man Through the Renaissance (3)

This course is a survey of World History covering the development of ancient civilizations and cultures to the year 1500, beginning with prehistoric humans and the rise of the first civilizations, including Ancient Mesopotamia, Egypt, the Indus River Valley, and Early China. Continuing with the Classical Era, the survey encompasses the Greek and Roman, Indian, Japanese, and Saharan African Civilizations. The course then examines World Civilizations in the Middle Ages, including the Middle East, Europe, Asia, the Americas, and Africa, before concluding with the European Renaissance. The course compares the development and philosophical foundations of all the major world religions including Judaism, Hinduism, Buddhism, Christianity, and Islam, as well as the major political, economic, social, and cultural systems to the year 1500.

HIST 102 - ~World History Since 1500: The Renaissance Through the Present (3)

This course is a survey of World History from the European Renaissance to the present. At the beginning of the course, developments in the Western World between 1500 and 1800 receive special attention, including the Renaissance, Reformation, Scientific Revolutions, Age of Exploration, Enlightenment, colonization of America, and the transition from mercantilism to capitalism. Having identified the dramatic transition taking place in the West, the course then looks at the impact of those changes around the globe through the trans-Atlantic Slave Trade, political revolutions in the Americas and Europe, industrialization, 19th-century imperialism, World Wars I and II, communist revolutions, the rise of fascism, the Cold War, and the 19th and 20th-century decolonization efforts in India, Africa, Southeast Asia, and the Middle East. The course closes with a review of economic and political globalization since the 1970s. Thematically, the course explores the nature of political, economic, and technological power and the relationship of that power to issues of race, class, gender, religion, and environment.

HIST 201 - ~US History to 1877 (3)

This course will introduce students to the period of United States History until the end of Reconstruction. Special emphasis will be placed upon the political, economic, and social aspects of the nation from the Colonial period until the Civil War era.

HIST 202 - ~US History Since 1877 (3)

This course will explore the Post-Reconstruction era of United States History. Special emphasis will be placed on the political, economic, and social effects upon the United States during the Gilded, Progressive, Depression, World War, and Cold War eras.

MATH 101 - ~Introduction to Mathematics (3)

During this course topics to be covered are sets, mathematical logic, mathematical systems, the real number system, systematic counting, probability, measurement, and consumer mathematics. History of mathematics, critical thinking skills, problem solving, and use of technology will be incorporated throughout the course.

Prerequisite(s): MATH 100 - Math Essentials (3) or proper placement on test scores

MATH 105 - Algebra (3)

Topics explored in this course include properties of the real numbers, operations on polynomials, rational and radical expressions, solutions of linear, quadratic, polynomial, radical and absolute value equations and inequalities. Coordinate geometry including distance, midpoint, lines, and circles will also be explored. Additional topics include systems of linear equations and their applications, analysis of functions, operations on functions, transformations of functions, and properties of linear, piecewise, quadratic, polynomial, rational, exponential and logarithmic functions.

Prerequisite(s): MATH 100A - Algebra Essentials (3) or proper placement on test scores

MATH 154 - Finite Mathematics (3)

This course introduces students to selected topics from finite mathematics. Mathematical models for the analysis of decision-making problems are examined. Topics include analyzing linear functions with applications, solving systems of linear equations using the Echelon and Gauss-Jordan methods, matrix operations and inverses, systems of linear inequalities, linear programming optimization by graphing and the simplex method, risk decisions using counting methods and probability. Additional topics may be chosen from financial mathematics, logic, or statistics.

Prerequisite(s): MATH 100A - Algebra Essentials (3) or proper placement on test scores

PSCI 101 - American Federal Government (3)

This course involves the study of the functions and administration of government in the United States. The course is designed to provide an introduction to the structure, organization and functioning of the national government of the United States. It will examine the powers and relationships of the executive, legislative, and judicial branches of government with special emphasis given to the role that history, political parties, pressure groups, etc. play in influencing these relationships.

ECON 123 - Contemporary Economics (3)

This course introduces students to both macro and microeconomic concepts including the theory of the firm, consumer behavior, economic systems, and managerial economic principles that affect decisions in every venue of our lives.

Note: Not intended for students in majors that require ECON 205 - Principles of Macroeconomics (3) and ECON 206 - Principles of Microeconomics (3).

Note Not intended for A.S. Business Administration Students.

ECON 205 - Principles of Macroeconomics (3)

This class serves as an introduction to fundamental economic concepts including production possibilities and economic growth, market supply and demand analysis, money, banking, government, and monetary policies. Emphasis is placed upon fluctuations in national income, employment, and price level. Overall, the impact of scarcity and human decision making will be imparted.

ECON 206 - Principles of Microeconomics (3)

This course provides an introduction to microeconomic theory with a primary focus on the methodology of economics and the behaviors of individuals and firms. Fundamental concepts are covered including demand and supply analysis, marginal analysis, opportunity cost, market structure, pricing, labor markets, and government policy and regulation.

- PHED 104 Foundations of Health and Physical Education-To Be Completed at Shepherd University (3)

Subtotal Credit Hours Required 52

Social Studies (5-Adult)

ART 103 - ~Introduction to Visual Arts (3)

This is an introductory course designed to survey prehistoric to contemporary visual art forms, giving insight into their nature and their relationships to the human condition. The course includes a study of the functions of various forms of art in which students are exposed to a variety of visual arts experiences to promote a deeper understanding of and appreciation for the role of the visual arts throughout human history and in contemporary society.

MUSC 111 - ~Introduction to Music (3)

This course provides training and experiences which will enable the student to acquire a historical-social-aesthetic perspective, to comprehend musical concepts, to discriminate quality levels, to select satisfying and stimulating musical experiences, and to empathize with the creators and performers of music.

ENGL 215 - ~The Art of Literature (3)

This course explores the art of literature, specifically how a deeper understanding of form, genre, and style enhances our appreciation of literature and language and our understanding of artistic theory/aesthetics. Through a careful study of literature, students will understand the creative thinking of great writers and sharpen their own creative thinking skills.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

BIOL 101 - ^General Biological Science I (4)

This is semester one of a two-semester general biology course which, with BIOL 102, satisfies the Liberal Arts science requirement. This is an integrated lecture and laboratory course dealing with both plants and animals, related to our environment from molecule to biosphere. This course focuses on molecular and cellular biology, patterns of inheritance and genetics, biotechnology, and mechanisms of evolution.

PHYS 103 - ~General Physical Science I (4)

This is an introductory survey course which explores the major concepts in physics and chemistry. Topics covered will include motion, matter and energy, atomic models, nuclear structure, waves, and electricity. A combination of conceptual framework, practical applications, and problem solving will be utilized in the integrated laboratory and lecture course.

BIOL 102 - ~General Biological Science II (4)

This is semester two of a two-semester general biology course which, with BIOL 101, satisfies the Liberal Arts science requirement. This is an integrated lecture and laboratory course dealing with both plants and animals, related to our environment from molecule to biosphere. This course focuses on plant and animal structure and function, the dynamics of populations, communities and ecosystems, and human impact on the biosphere.

Prerequisite(s): BIOL 101 - ^General Biological Science I (4)

PHYS 104 - ~General Physical Science II (4)

This is an introductory survey course which explores the major concepts in geology, astronomy, and meteorology. Topics covered will include rocks and minerals, weathering and erosion, surface and groundwater, geologic time, plate tectonics, earthquakes, volcanoes, and mountains; light and telescopes, the solar system, stars, nebulae, and galaxies; the origin of the universe; the basics of meteorology, and the effects of weather and climate. A combination of the conceptual framework, practical applications, and problem-solving will be utilized in the integrated laboratory and lecture course.

COMM 202 - ~Fundamentals of Speech (3)

This course equips the student with the necessary tools to construct, deliver, and analyze public communication messages.

ECON 205 - ~Principles of Macroeconomics (3)

This class serves as an introduction to fundamental economic concepts including production possibilities and economic growth, market supply and demand analysis, money, banking, government, and monetary policies. Emphasis is placed upon fluctuations in national income, employment, and price level. Overall, the impact of scarcity and human decision making will be imparted.

ECON 206 - ~Principles of Microeconomics (3)

This course provides an introduction to microeconomic theory with a primary focus on the methodology of economics and the behaviors of individuals and firms. Fundamental concepts are covered including demand and supply analysis, marginal analysis, opportunity cost, market structure, pricing, labor markets, and government policy and regulation.

EDUC 260 - Survey of Exceptional Child (3)

This is a course to familiarize the student with the nature, etiology, specific characteristics, and needs of the exceptional child. The course is designed to meet basic certification requirements in those states that require a minimum of three hours of course work in special education in order to be certified. It is equally relevant to early education, elementary education, secondary education, therapeutic recreation, psychology, and nursing. Includes a field component in a public school classroom.

Prerequisite(s): EDUC 200 - Foundations of Education (3)

ENGL 101 - ~English Composition I (3)

ENGL 101 is an introduction to college writing. This class emphasizes processes for drafting, revising, and editing. It develops a student's ability to read a passage, analyze its meaning, and write an intelligent response which shows not only an understanding of the passage but also a working knowledge of the writing and rhetorical strategies. Students will learn how to make effective arguments and how to locate, synthesize, and evaluate relevant information.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 101L - English Composition I Lab (3), or placement test scores

ENGL 102 - ~English Composition II (3)

ENGL 102 is a continuation of English Composition I that provides experience in analyzing and writing arguments and persuasive prose. A central feature of the course is library research that is intended to develop familiarity with reference sources and skill in summarizing the diverse points of view of multiple sources. Requires students to locate, evaluate, integrate, and document sources effectively.

Prerequisite(s): ENGL 101 - ~English Composition I (3)

GEOG 105 - ~World Cultural Geography (3)

This course introduces students to fundamental issues and concepts that explain the dynamic and complex relationships between people and the environments they inhabit. Students will explore the ways in which geography affects human settlement, health, diets, language, religion, and overall social, political, and economic development.

GSPE 210 - Fitness for Life (3)

This course is designed to assist participants in developing a healthier lifestyle through appropriate exercise programs, nutrition and behaviors that contribute to optimal health and wellness.

HIST 101 - ~World History to 1500: Early Man Through the Renaissance (3)

This course is a survey of World History covering the development of ancient civilizations and cultures to the year 1500, beginning with prehistoric humans and the rise of the first civilizations, including Ancient Mesopotamia, Egypt, the Indus River Valley, and Early China. Continuing with the Classical Era, the survey encompasses the Greek and Roman, Indian, Japanese, and Saharan African Civilizations. The course then examines World Civilizations in the Middle Ages, including the Middle East, Europe, Asia, the Americas, and Africa, before concluding with the European Renaissance. The course compares the development and philosophical foundations of all the major world religions including Judaism, Hinduism, Buddhism, Christianity, and Islam, as well as the major political, economic, social, and cultural systems to the year 1500.

HIST 102 - ~World History Since 1500: The Renaissance Through the Present (3)

This course is a survey of World History from the European Renaissance to the present. At the beginning of the course, developments in the Western World between 1500 and 1800 receive special attention, including the Renaissance, Reformation, Scientific Revolutions, Age of Exploration, Enlightenment, colonization of America, and the transition from mercantilism to capitalism. Having identified the dramatic transition taking place in the West, the course then looks at the impact of those changes around the globe through the trans-Atlantic Slave Trade, political revolutions in the Americas and Europe, industrialization, 19th-century imperialism, World Wars I and II, communist revolutions, the rise of fascism, the Cold War, and the 19th and 20th-century decolonization efforts in India, Africa, Southeast Asia, and the Middle East. The course closes with a review of economic and political globalization since the 1970s. Thematically, the course explores the nature of political, economic, and technological power and the relationship of that power to issues of race, class, gender, religion, and environment.

HIST 201 - ~US History to 1877 (3)

This course will introduce students to the period of United States History until the end of Reconstruction. Special emphasis will be placed upon the political, economic, and social aspects of the nation from the Colonial period until the Civil War era.

HIST 202 - ~US History Since 1877 (3)

This course will explore the Post-Reconstruction era of United States History. Special emphasis will be placed on the political, economic, and social effects upon the United States during the Gilded, Progressive, Depression, World War, and Cold War eras.

MATH 101 - ~Introduction to Mathematics (3)

During this course topics to be covered are sets, mathematical logic, mathematical systems, the real number system, systematic counting, probability, measurement, and consumer mathematics. History of mathematics, critical thinking skills, problem solving, and use of technology will be incorporated throughout the course.

Prerequisite(s): MATH 100 - Math Essentials (3) or proper placement on test scores

MATH 105 - ^Algebra (3)

Topics explored in this course include properties of the real numbers, operations on polynomials, rational and radical expressions, solutions of linear, quadratic, polynomial, radical and absolute value equations and inequalities. Coordinate geometry including distance, midpoint, lines, and circles will also be explored. Additional topics include systems of linear equations and their applications, analysis of functions, operations on functions, transformations of functions, and properties of linear, piecewise, quadratic, polynomial, rational, exponential and logarithmic functions.

Prerequisite(s): MATH 100A - Algebra Essentials (3) or proper placement on test scores

MATH 154 - ~Finite Mathematics (3)

This course introduces students to selected topics from finite mathematics. Mathematical models for the analysis of decision-making problems are examined. Topics include analyzing linear functions with applications, solving systems of linear equations using the Echelon and Gauss-Jordan methods, matrix operations and inverses, systems of linear inequalities, linear programming optimization by graphing and the simplex method, risk decisions using counting methods and probability. Additional topics may be chosen from financial mathematics, logic, or statistics.

Prerequisite(s): MATH 100A - Algebra Essentials (3) or proper placement on test scores

PSCI 101 - ~American Federal Government (3)

This course involves the study of the functions and administration of government in the United States. The course is designed to provide an introduction to the structure, organization and functioning of the national government of the United States. It will examine the powers and relationships of the executive, legislative, and judicial branches of government with special emphasis given to the role that history, political parties, pressure groups, etc. play in influencing these relationships.

PSYC 203 - ~Introduction to Psychology (3)

This course will introduce the student to basic psychological principals and to enable the student to examine current thinking about development, personality, sensation and perception, cognition, learning, psychological disorders, and

their treatment, and influence.

Corerequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement

Subtotal Credit Hours Required **53**

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Social Sciences, A.S.

The Associate of Science degree in Social Sciences will serve as a meta-major for students seeking four-year degrees in social science fields. It fulfills general education and introductory level core requirements that are transferrable to specific baccalaureate programs at four-year colleges and universities. Students graduating with an A.S. in Social Sciences follow a specific concentration and direct their scholarship at the two-year level towards four-year degrees in one of the following fields in the social sciences: Economics, Education, Political Science, Psychology, and Sociology. Each concentration leads to building specific career-related skills based on tailored coursework and advised choice of credit-bearing electives.

The degree offers sound preparation for students who wish to enhance critical thinking and problem-solving skills, writing skills, and an awareness of social context to be applied to practical work experiences. The skills mastered through the completion of an A.S. in Social Sciences will aid students in future studies, in the workplace, and in positioning themselves for success within their chosen career fields. The objectives of the degree program are to prepare graduates to:

- Analyze and evaluate information from quantitative and/or qualitative sources to solve problems in conventional and innovative ways.
- Demonstrate effective expression of ideas in writing and through discussion to general and specialized audiences.
- Describe how diverse perspectives might affect interpretations of problems in politics, society, and human relationships.
- Identify basic terminology, practices, and the scope of specific fields of study within social sciences.

Curriculum for an Associate of Science Degree in Social Sciences

Program Core	9
Concentration	51-53
Total Credit Hours Required	60-62

Program Core

ENGL 101 - ~English Composition I (3)

ENGL 101 is an introduction to college writing. This class emphasizes processes for drafting, revising, and editing. It develops a student's ability to read a passage, analyze its meaning, and write an intelligent response which shows not only an understanding of the passage but also a working knowledge of the writing and rhetorical strategies. Students will learn how to make effective arguments and how to locate, synthesize, and evaluate relevant information.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 101L - English Composition I Lab (3), or placement test scores

ENGL 102 - ~English Composition II (3)

ENGL 102 is a continuation of English Composition I that provides experience in analyzing and writing arguments and persuasive prose. A central feature of the course is library research that is intended to develop familiarity with reference sources and skill in summarizing the diverse points of view of multiple sources. Requires students to locate, evaluate, integrate, and document sources effectively.

Prerequisite(s): ENGL 101 - ~English Composition I (3)

HIST 101 - ~World History to 1500: Early Man Through the Renaissance (3)

This course is a survey of World History covering the development of ancient civilizations and cultures to the year 1500, beginning with prehistoric humans and the rise of the first civilizations, including Ancient Mesopotamia, Egypt, the Indus River Valley, and Early China. Continuing with the Classical Era, the survey encompasses the Greek and Roman, Indian, Japanese, and Saharan African Civilizations. The course then examines World Civilizations in the Middle Ages, including the Middle East, Europe, Asia, the Americas, and Africa, before concluding with the European Renaissance. The course compares the development and philosophical foundations of all the major world religions including Judaism, Hinduism, Buddhism, Christianity, and Islam, as well as the major political, economic, social, and cultural systems to the year 1500.

HIST 102 - ~World History Since 1500: The Renaissance Through the Present (3)

This course is a survey of World History from the European Renaissance to the present. At the beginning of the course, developments in the Western World between 1500 and 1800 receive special attention, including the Renaissance, Reformation, Scientific Revolutions, Age of Exploration, Enlightenment, colonization of America, and the transition from mercantilism to capitalism. Having identified the dramatic transition taking place in the West, the course then looks at the impact of those changes around the globe through the trans-Atlantic Slave Trade, political revolutions in the Americas and Europe, industrialization, 19th-century imperialism, World Wars I and II, communist revolutions, the rise of fascism, the Cold War, and the 19th and 20th-century decolonization efforts in India, Africa, Southeast Asia, and the Middle East. The course closes with a review of economic and political globalization since the 1970s. Thematically, the course explores the nature of political, economic, and technological power and the relationship of that power to issues of race, class, gender, religion, and environment.

Subtotal Credit Hours Required 9

Concentration

Choose one concentration for completion of the program:

Economics Concentration

ART 103 - ~Introduction to Visual Arts (3)

This is an introductory course designed to survey prehistoric to contemporary visual art forms, giving insight into their nature and their relationships to the human condition. The course includes a study of the functions of various forms of art in which students are exposed to a variety of visual arts experiences to promote a deeper understanding of and appreciation for the role of the visual arts throughout human history and in contemporary society.

MUSC 111 - ~Introduction to Music (3)

This course provides training and experiences which will enable the student to acquire a historical-social-aesthetic perspective, to comprehend musical concepts, to discriminate quality levels, to select satisfying and stimulating musical experiences, and to empathize with the creators and performers of music.

BIOL 101 - ^General Biological Science I (4)

This is semester one of a two-semester general biology course which, with BIOL 102, satisfies the Liberal Arts science requirement. This is an integrated lecture and laboratory course dealing with both plants and animals, related to our environment from molecule to biosphere. This course focuses on molecular and cellular biology, patterns of inheritance and genetics, biotechnology, and mechanisms of evolution.

BIOL 102 - ~General Biological Science II (4)

This is semester two of a two-semester general biology course which, with BIOL 101, satisfies the Liberal Arts science requirement. This is an integrated lecture and laboratory course dealing with both plants and animals, related to our environment from molecule to biosphere. This course focuses on plant and animal structure and function, the dynamics of populations, communities and ecosystems, and human impact on the biosphere.

Prerequisite(s): BIOL 101 - ^General Biological Science I (4)

PHYS 103 - ~General Physical Science I (4)

This is an introductory survey course which explores the major concepts in physics and chemistry. Topics covered will include motion, matter and energy, atomic models, nuclear structure, waves, and electricity. A combination of conceptual framework, practical applications, and problem solving will be utilized in the integrated laboratory and lecture course.

PHYS 104 - ~General Physical Science II (4)

This is an introductory survey course which explores the major concepts in geology, astronomy, and meteorology. Topics covered will include rocks and minerals, weathering and erosion, surface and groundwater, geologic time, plate tectonics, earthquakes, volcanoes, and mountains; light and telescopes, the solar system, stars, nebulae, and galaxies; the origin of the universe; the basics of meteorology, and the effects of weather and climate. A combination of the conceptual framework, practical applications, and problem-solving will be utilized in the integrated laboratory and lecture course.

COMM 202 - ~Fundamentals of Speech (3)

This course equips the student with the necessary tools to construct, deliver, and analyze public communication messages.

ECON 205 - ~Principles of Macroeconomics (3)

This class serves as an introduction to fundamental economic concepts including production possibilities and economic growth, market supply and demand analysis, money, banking, government, and monetary policies. Emphasis is placed upon fluctuations in national income, employment, and price level. Overall, the impact of scarcity and human decision making will be imparted.

ECON 206 - ~Principles of Microeconomics (3)

This course provides an introduction to microeconomic theory with a primary focus on the methodology of economics and the behaviors of individuals and firms. Fundamental concepts are covered including demand and supply analysis, marginal analysis, opportunity cost, market structure, pricing, labor markets, and government policy and regulation.

ECON 210 - Money and Banking (3)

This course looks at the concepts of money, banking, central banking, financial markets and global markets. Students will analyze all these systems and how they interact including financial instruments.

Prerequisite(s): ECON 205 - ~Principles of Macroeconomics (3)

ENGL 204 - ~Sur of American Lit (3)

This course is designed to familiarize students with the rich variety of literature produced in America-- from the Colonial through the Modern periods. Students are exposed to a range of writers and traditions that constitute the diverse and multicultural American experience. In addition to tests and quizzes, students are required to write and revise at least two critical essays or equivalent writings (one of which is 1,000-word computer drafted minimum); however, instructors are encouraged to assign significant amounts of writing beyond the required minimum in order to facilitate students' continued acquisition of critical thinking, reading, and writing skills.

Prerequisite(s): ENGL 102 - ~English Composition II (3)

ENGL 208 - ~Survey of World Literature I (3)

This course is designed to familiarize students with great works of world literature—both Western and Eastern traditions—representing Classical, Medieval, and Renaissance periods or non-Western chronological equivalents. Students are exposed to diverse literary traditions through discussion and through critical thinking and writing about significant literary works. In addition to essay tests and quizzes, students are required to write at least one formal, critical essay (1,000 –word computer drafted minimum); however, instructors are encouraged to assign significant amounts of writing beyond the required minimum in order to continue to develop students' critical thinking, reading, and writing skills.

Prerequisite(s): ENGL 102 - ~English Composition II (3)

GSPE 210 - Fitness for Life (3)

This course is designed to assist participants in developing a healthier lifestyle through appropriate exercise programs, nutrition and behaviors that contribute to optimal health and wellness.

MATH 114 - ~Elem Probability & Statistics (3)

This course introduces the fundamental concepts of probability and statistics. Topics include descriptive statistics, random sampling methods, frequency distributions, measures of central tendency and variability, set theory, probability, permutations and combinations, random variables, probability and sampling distributions, expectation, central limit theorem, confidence intervals and hypothesis testing for means and proportions (one and two sample) and simple linear regression and correlation. Time permitting, one-way ANOVA and non-parametric techniques may be discussed. Appropriate application software will be utilized, and applications from a variety of disciplines will be presented.

Prerequisite(s): MATH 100A - Algebra Essentials (3) or proper placement on test scores

MATH 154 - ~Finite Mathematics (3)

This course introduces students to selected topics from finite mathematics. Mathematical models for the analysis of decision-making problems are examined. Topics include analyzing linear functions with applications, solving systems of linear equations using the Echelon and Gauss-Jordan methods, matrix operations and inverses, systems of linear inequalities, linear programming optimization by graphing and the simplex method, risk decisions using counting methods and probability. Additional topics may be chosen from financial mathematics, logic, or statistics.

Prerequisite(s): MATH 100A - Algebra Essentials (3) or proper placement on test scores

PSCI 101 - ~American Federal Government (3)

This course involves the study of the functions and administration of government in the United States. The course is designed to provide an introduction to the structure, organization and functioning of the national government of the United States. It will examine the powers and relationships of the executive, legislative, and judicial branches of government with special emphasis given to the role that history, political parties, pressure groups, etc. play in influencing these relationships.

PSYC 203 - ~Introduction to Psychology (3)

This course will introduce the student to basic psychological principals and to enable the student to examine current thinking about development, personality, sensation and perception, cognition, learning, psychological disorders, and their treatment, and influence.

Corerequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement

SOCI 203 - ~General Sociology (3)

This course introduces students to the core concepts and perspectives of sociology, the study of human social environments and of human interactions within those environments. The course will explore a number of sociological topics to develop a sociological imagination, an ability to understand the effects of group membership on behavior, attitudes, beliefs, and life chances.

Corerequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement

- Restricted Electives in ACCT, BUSN, ECON, FINC, or PSCI (12)

Subtotal Credit Hours Required **53**

Education Concentration

ART 103 - ~Introduction to Visual Arts (3)

This is an introductory course designed to survey prehistoric to contemporary visual art forms, giving insight into their nature and their relationships to the human condition. The course includes a study of the functions of various forms of art in which students are exposed to a variety of visual arts experiences to promote a deeper understanding of and appreciation for the role of the visual arts throughout human history and in contemporary society.

MUSC 111 - ~Introduction to Music (3)

This course provides training and experiences which will enable the student to acquire a historical-social-aesthetic perspective, to comprehend musical concepts, to discriminate quality levels, to select satisfying and stimulating musical experiences, and to empathize with the creators and performers of music.

ENGL 215 - ~The Art of Literature (3)

This course explores the art of literature, specifically how a deeper understanding of form, genre, and style enhances our appreciation of literature and language and our understanding of artistic theory/aesthetics. Through a careful study of literature, students will understand the creative thinking of great writers and sharpen their own creative thinking skills.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

COMM 202 - ~Fundamentals of Speech (3)

This course equips the student with the necessary tools to construct, deliver, and analyze public communication messages.

EDUC 150 - Seminar in Education (1)

This course introduces students to the field of education, including the nature of education in society and the practical and ethical issues that arise in the field with a focus on reflection and self as a learner. The purpose is for students to begin to develop a philosophical, socio-historical, and practical understanding of learning and teaching. The requirements for successful progress through the program and a successful experience on campus are also discussed. The course includes a one-day observation in a public school classroom.

Prerequisite(s): Must be a major in Education, A.S. or Social Sciences, A.S. (Education Concentration)

EDUC 200 - Foundations of Education (3)

This course examines the relationship between the school as a social institution and the larger society through a combination of philosophical, historical, and problem-oriented inquiry into that relationship. The assumption is that a teacher who has developed an understanding of the vital relationships between school and society is in a position to see his or her professional roles beyond the narrow confines of the classroom, and will emerge a more sensitive,

responsive, and effective teacher. The course includes substantial reading and writing components and a field experience with an at-risk population.

Prerequisite(s): ENGL 100R - Reading Essentials (3) or placement, ENGL 101 - ~English Composition I (3), and EDUC 150 - Seminar in Education (1)

EDUC 220 - Soci & Psyc Cond of Learning (4)

This course is a reflective exploration of the knower (the learner), knowing (learning), the known (knowledge), and the contexts in which knowledge is constructed through teaching/learning. This course includes a field component in a public school classroom.

Prerequisite(s): EDUC 200 - Foundations of Education (3), COMM 202 - ~Fundamentals of Speech (3), ENGL 101 - ~English Composition I (3), and ENGL 102 - ~English Composition II (3)

EDUC 260 - Survey of Exceptional Child (3)

This is a course to familiarize the student with the nature, etiology, specific characteristics, and needs of the exceptional child. The course is designed to meet basic certification requirements in those states that require a minimum of three hours of course work in special education in order to be certified. It is equally relevant to early education, elementary education, secondary education, therapeutic recreation, psychology, and nursing. Includes a field component in a public school classroom.

Prerequisite(s): EDUC 200 - Foundations of Education (3)

EDUC 292 - Praxis Core Prep (1)

This course will review the main topics on the three Praxis Core Subject tests.

Prerequisite(s): Be a degree seeking student with a major in Education, A.S. or Social Sciences, A.S. with a concentration in Education.

GSPE 210 - Fitness for Life (3)

This course is designed to assist participants in developing a healthier lifestyle through appropriate exercise programs, nutrition and behaviors that contribute to optimal health and wellness.

- Science Electives-BIOL 101/102, BIOL 120/121/122/123, CHEM 125, GEOL 101, PHYS 103/104, PHYS 201-Choose with Advisor (8)
- Math Electives - MATH 101, 105, 108, 114, 154, 200, 207, or 232 -Choose with Advisor (3)
- Restricted Electives - CAS 111, ECON 123, 205, 206, EDUC 204, EMSP 100/100L, ENGL 100, 204, 207, 208, GEOG 105, HIST 201, 202, PSCI 101, PSYC 203, 210, SDE 188, SPAN 101, 102, or SOCI 203-Choose with Advisor (19)

Subtotal Credit Hours Required 51

Political Science Concentration

ART 103 - ~Introduction to Visual Arts (3)

This is an introductory course designed to survey prehistoric to contemporary visual art forms, giving insight into their nature and their relationships to the human condition. The course includes a study of the functions of various forms of art in which students are exposed to a variety of visual arts experiences to promote a deeper understanding of and appreciation for the role of the visual arts throughout human history and in contemporary society.

MUSC 111 - ~Introduction to Music (3)

This course provides training and experiences which will enable the student to acquire a historical-social-aesthetic perspective, to comprehend musical concepts, to discriminate quality levels, to select satisfying and stimulating musical experiences, and to empathize with the creators and performers of music.

ENGL 150 - ~Play Production (3)

This course will prepare a reading play as well as the main production in the spring. By the time of the production, this will entail: (1) casting the play as well as assigning other functions to individuals or teams, e.g. stage manager(s), set designer(s), set construction (tear down), costume, props, make-up, publicity, lights, sounds, etc., each student in the class taking a role, on stage or behind the scenes, in the production; (2) rehearsing the plays, which will entail lessons in acting and all other facets of play production; (3) performing the plays; (4) discussing and critiquing the experience; and (5) writing an essay on some facet of the production.

BIOL 101 - ^General Biological Science I (4)

This is semester one of a two-semester general biology course which, with BIOL 102, satisfies the Liberal Arts science requirement. This is an integrated lecture and laboratory course dealing with both plants and animals, related to our environment from molecule to biosphere. This course focuses on molecular and cellular biology, patterns of inheritance and genetics, biotechnology, and mechanisms of evolution.

BIOL 102 - ~General Biological Science II (4)

This is semester two of a two-semester general biology course which, with BIOL 101, satisfies the Liberal Arts science requirement. This is an integrated lecture and laboratory course dealing with both plants and animals, related to our environment from molecule to biosphere. This course focuses on plant and animal structure and function, the dynamics of populations, communities and ecosystems, and human impact on the biosphere.

Prerequisite(s): BIOL 101 - ^General Biological Science I (4)

PHYS 103 - ~General Physical Science I (4)

This is an introductory survey course which explores the major concepts in physics and chemistry. Topics covered will include motion, matter and energy, atomic models, nuclear structure, waves, and electricity. A combination of conceptual framework, practical applications, and problem solving will be utilized in the integrated laboratory and lecture course.

PHYS 104 - ~General Physical Science II (4)

This is an introductory survey course which explores the major concepts in geology, astronomy, and meteorology. Topics covered will include rocks and minerals, weathering and erosion, surface and groundwater, geologic time, plate tectonics, earthquakes, volcanoes, and mountains; light and telescopes, the solar system, stars, nebulae, and galaxies; the origin of the universe; the basics of meteorology, and the effects of weather and climate. A combination of the conceptual framework, practical applications, and problem-solving will be utilized in the integrated laboratory and lecture course.

COMM 202 - ~Fundamentals of Speech (3)

This course equips the student with the necessary tools to construct, deliver, and analyze public communication messages.

ECON 123 - ~Contemporary Economics (3)

This course introduces students to both macro and microeconomic concepts including the theory of the firm, consumer behavior, economic systems, and managerial economic principles that affect decisions in every venue of our lives.

Note: Not intended for students in majors that require ECON 205 - ~Principles of Macroeconomics (3) and ECON 206 - ~Principles of Microeconomics (3).

Note Not intended for A.S. Business Administration Students.

ECON 205 - ~Principles of Macroeconomics (3)

This class serves as an introduction to fundamental economic concepts including production possibilities and economic growth, market supply and demand analysis, money, banking, government, and monetary policies. Emphasis is placed upon fluctuations in national income, employment, and price level. Overall, the impact of scarcity and human decision making will be imparted.

GEOG 105 - ~World Cultural Geography (3)

This course introduces students to fundamental issues and concepts that explain the dynamic and complex relationships between people and the environments they inhabit. Students will explore the ways in which geography affects human settlement, health, diets, language, religion, and overall social, political, and economic development.

ENGL 204 - ~Sur of American Lit (3)

This course is designed to familiarize students with the rich variety of literature produced in America-- from the Colonial through the Modern periods. Students are exposed to a range of writers and traditions that constitute the diverse and multicultural American experience. In addition to tests and quizzes, students are required to write and revise at least two critical essays or equivalent writings (one of which is 1,000-word computer drafted minimum); however, instructors are encouraged to assign significant amounts of writing beyond the required minimum in order to facilitate students' continued acquisition of critical thinking, reading, and writing skills.

Prerequisite(s): ENGL 102 - ~English Composition II (3)

ENGL 208 - ~Survey of World Literature I (3)

This course is designed to familiarize students with great works of world literature—both Western and Eastern traditions—representing Classical, Medieval, and Renaissance periods or non-Western chronological equivalents. Students are exposed to diverse literary traditions through discussion and through critical thinking and writing about significant literary works. In addition to essay tests and quizzes, students are required to write at least one formal, critical essay (1,000 –word computer drafted minimum); however, instructors are encouraged to assign significant amounts of writing beyond the required minimum in order to continue to develop students' critical thinking, reading, and writing skills.

Prerequisite(s): ENGL 102 - ~English Composition II (3)

GSPE 210 - Fitness for Life (3)

This course is designed to assist participants in developing a healthier lifestyle through appropriate exercise programs, nutrition and behaviors that contribute to optimal health and wellness.

LGST 100 - Intro to Law & Legal Systems (3)

This introductory course will provide students with information on the legal structure of American society. The emphasis is on how the law really works in everyday life. A vital feature of the course is an understanding of legal terminology and active inquiry by the students. The students will analyze authentic and fictional cases and examine common legal forms. The different topics will cover criminal, civil, juvenile, and consumer law. The goal of this course is to prepare the students with a functional knowledge of the everyday law and the Bill of Rights in the United States Constitution.

MATH 101 - ~Introduction to Mathematics (3)

During this course topics to be covered are sets, mathematical logic, mathematical systems, the real number system, systematic counting, probability, measurement, and consumer mathematics. History of mathematics, critical thinking skills, problem solving, and use of technology will be incorporated throughout the course.

Prerequisite(s): MATH 100 - Math Essentials (3) or proper placement on test scores

MATH 105 - ^Algebra (3)

Topics explored in this course include properties of the real numbers, operations on polynomials, rational and radical expressions, solutions of linear, quadratic, polynomial, radical and absolute value equations and inequalities. Coordinate geometry including distance, midpoint, lines, and circles will also be explored. Additional topics include systems of linear equations and their applications, analysis of functions, operations on functions, transformations of functions, and properties of linear, piecewise, quadratic, polynomial, rational, exponential and logarithmic functions.

Prerequisite(s): MATH 100A - Algebra Essentials (3) or proper placement on test scores

MATH 154 - ~Finite Mathematics (3)

This course introduces students to selected topics from finite mathematics. Mathematical models for the analysis of decision-making problems are examined. Topics include analyzing linear functions with applications, solving systems of linear equations using the Echelon and Gauss-Jordan methods, matrix operations and inverses, systems of linear inequalities, linear programming optimization by graphing and the simplex method, risk decisions using counting methods and probability. Additional topics may be chosen from financial mathematics, logic, or statistics.

Prerequisite(s): MATH 100A - Algebra Essentials (3) or proper placement on test scores

PHIL 111 - Phil of World Religions (3)

This course will introduce the study of religion from several disciplinary approaches, including psychology, sociology, philosophy, and history and gender studies.

PSYC 203 - ~Introduction to Psychology (3)

This course will introduce the student to basic psychological principals and to enable the student to examine current thinking about development, personality, sensation and perception, cognition, learning, psychological disorders, and their treatment, and influence.

Corerequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement

SOCI 203 - ~General Sociology (3)

This course introduces students to the core concepts and perspectives of sociology, the study of human social environments and of human interactions within those environments. The course will explore a number of sociological topics to develop a sociological imagination, an ability to understand the effects of group membership on behavior, attitudes, beliefs, and life chances.

Corerequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement

PSCI 100 - ~Introduction to Political Ideology (3)

This course provides an overview of major political ideologies that shaped the historical political landscape of the world and the United States and will give shape to the 21st century. An examination of liberalism, conservatism, nationalism, multiculturalism, feminism, and Islamism (along with many other 'isms') provide the student with a sense of history and structure.

PSCI 101 - ~American Federal Government (3)

This course involves the study of the functions and administration of government in the United States. The course is designed to provide an introduction to the structure, organization and functioning of the national government of the United States. It will examine the powers and relationships of the executive, legislative, and judicial branches of government with special emphasis given to the role that history, political parties, pressure groups, etc. play in influencing these relationships.

PSCI 102 - ~State & Local Government (3)

This survey course covers the history and operations of state and local government. Some of the topics include state & local politics, state constitutions, state legislation, state governors, the justice system, and financing of state and local government.

PSCI 201 - Intro to Int'l Relations (3)

Making sense of contemporary world affairs involves understanding the history of int'l relations (IR). The primary tool for examining the broader patterns in IR will be the three major theories of IR: Realism, Liberalism, and Neo-Marxism. Through these lenses, this course will examine the defining events of the 20th Century including World War I, the League of Nations, World War II, the UN, and the Cold War together with the contemporary phenomena of globalization, climate change, the rise of the BRICs, and modern int'l warfare/terrorism.

PSCI 210 - Intro to Comp Politics (3)

This course introduces the central concepts and debates in the field of comparative politics. Through the examination of various countries in Europe, Latin America, Asia, the Middle East, and Africa, it will explore topics including variations among industrialized democracies as well as the rise, fall, and transformations of former communist regimes

(e.g. the Soviet Union and China). The course will also look at the challenges of the developing world, including the legacy of colonialism, the different paths to democracy, and the problems of economic reform.

PSCI 220 - Intro to Political Theory (3)

This course offers an introduction to the field of political theory, focusing on three major themes – power and freedom, social justice, and democracy. It is designed to promote critical thinking about the ideas and philosophies that have shaped, and will continue to guide, contemporary political systems. The readings are selected from the texts of influential thinkers, such as Bentham's Theory of Legislation and Marx's Capital, but emphasize contemporary works, such as those of Michel Foucault, John Rawls, and Robert Dahl.

Prerequisite(s): ENGL 100R - Reading Essentials (3) or test scores

- Free Electives (3)

Subtotal Credit Hours Required 53

Psychology Concentration

ART 103 - ~Introduction to Visual Arts (3)

This is an introductory course designed to survey prehistoric to contemporary visual art forms, giving insight into their nature and their relationships to the human condition. The course includes a study of the functions of various forms of art in which students are exposed to a variety of visual arts experiences to promote a deeper understanding of and appreciation for the role of the visual arts throughout human history and in contemporary society.

MUSC 111 - ~Introduction to Music (3)

This course provides training and experiences which will enable the student to acquire a historical-social-aesthetic perspective, to comprehend musical concepts, to discriminate quality levels, to select satisfying and stimulating musical experiences, and to empathize with the creators and performers of music.

ENGL 215 - ~The Art of Literature (3)

This course explores the art of literature, specifically how a deeper understanding of form, genre, and style enhances our appreciation of literature and language and our understanding of artistic theory/aesthetics. Through a careful study of literature, students will understand the creative thinking of great writers and sharpen their own creative thinking skills.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

COMM 202 - ~Fundamentals of Speech (3)

This course equips the student with the necessary tools to construct, deliver, and analyze public communication messages.

BIOL 101 - ^General Biological Science I (4)

This is semester one of a two-semester general biology course which, with BIOL 102, satisfies the Liberal Arts science requirement. This is an integrated lecture and laboratory course dealing with both plants and animals, related to our environment from molecule to biosphere. This course focuses on molecular and cellular biology, patterns of inheritance and genetics, biotechnology, and mechanisms of evolution.

BIOL 102 - ~General Biological Science II (4)

This is semester two of a two-semester general biology course which, with BIOL 101, satisfies the Liberal Arts science requirement. This is an integrated lecture and laboratory course dealing with both plants and animals, related to our environment from molecule to biosphere. This course focuses on plant and animal structure and function, the dynamics of populations, communities and ecosystems, and human impact on the biosphere.

Prerequisite(s): BIOL 101 - ^General Biological Science I (4)

ECON 123 - ~Contemporary Economics (3)

This course introduces students to both macro and microeconomic concepts including the theory of the firm, consumer behavior, economic systems, and managerial economic principles that affect decisions in every venue of our lives.

Note: Not intended for students in majors that require ECON 205 - ~Principles of Macroeconomics (3) and ECON 206 - ~Principles of Microeconomics (3).

Note Not intended for A.S. Business Administration Students.

ENGL 204 - ~Sur of American Lit (3)

This course is designed to familiarize students with the rich variety of literature produced in America-- from the Colonial through the Modern periods. Students are exposed to a range of writers and traditions that constitute the diverse and multicultural American experience. In addition to tests and quizzes, students are required to write and revise at least two critical essays or equivalent writings (one of which is 1,000-word computer drafted minimum); however, instructors are encouraged to assign significant amounts of writing beyond the required minimum in order to facilitate students' continued acquisition of critical thinking, reading, and writing skills.

Prerequisite(s): ENGL 102 - ~English Composition II (3)

ENGL 208 - ~Survey of World Literature I (3)

This course is designed to familiarize students with great works of world literature—both Western and Eastern traditions—representing Classical, Medieval, and Renaissance periods or non-Western chronological equivalents. Students are exposed to diverse literary traditions through discussion and through critical thinking and writing about significant literary works. In addition to essay tests and quizzes, students are required to write at least one formal, critical essay (1,000 –word computer drafted minimum); however, instructors are encouraged to assign significant amounts of writing beyond the required minimum in order to continue to develop students' critical thinking, reading, and writing skills.

Prerequisite(s): ENGL 102 - ~English Composition II (3)

GSPE 210 - Fitness for Life (3)

This course is designed to assist participants in developing a healthier lifestyle through appropriate exercise programs, nutrition and behaviors that contribute to optimal health and wellness.

MATH 101 - ~Introduction to Mathematics (3)

During this course topics to be covered are sets, mathematical logic, mathematical systems, the real number system, systematic counting, probability, measurement, and consumer mathematics. History of mathematics, critical thinking skills, problem solving, and use of technology will be incorporated throughout the course.

Prerequisite(s): MATH 100 - Math Essentials (3) or proper placement on test scores

PSYC 203 - ~Introduction to Psychology (3)

This course will introduce the student to basic psychological principals and to enable the student to examine current thinking about development, personality, sensation and perception, cognition, learning, psychological disorders, and their treatment, and influence.

Corerequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement

PSYC 205 - Abnormal Psychology (3)

This course introduces students to both the science and the personal aspects of abnormal psychology through developing an understanding that abnormal psychology is about understanding the individual in society. This course will emphasize the use of case studies to present the most cutting edge information on abnormal psychology by covering methods and treatment in context. Material presented will integrate the biological, psychological, and social perspectives associated with abnormal psychological study.

Prerequisite(s): PSYC 203 - ~Introduction to Psychology (3)

PSYC 210 - Human Growth & Development (3)

This course explores the basic principles of human growth and development throughout the lifespan. Prenatal development, as well as physical, emotional, mental, and social changes in children, adolescents, and adults will be reviewed. The multiple factors that influence development and shape personality will be considered.

PSYC 240 - Social Psych of Substance Use (3)

This course is designed to introduce students to the social reality of substance abuse. The course will address the social and personal dynamics involved in the phenomena of substance use. In addition, this course will look at the issues surrounding substance use and its relationship to crime, rehabilitation, medicalization in our society, and various movements aimed at drugs.

Prerequisite(s): PSYC 203 - ~Introduction to Psychology (3) and SOCI 203 - ~General Sociology (3)

SOCI 203 - ~General Sociology (3)

This course introduces students to the core concepts and perspectives of sociology, the study of human social environments and of human interactions within those environments. The course will explore a number of sociological topics to develop a sociological imagination, an ability to understand the effects of group membership on behavior, attitudes, beliefs, and life chances.

Corerequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement

SOCI 205 - ~Social Problems (3)

This course provides an in-depth study of current social problems. Emphasis is on causes, consequences, and possible solutions to problems associated with major social institutions.

Prerequisite(s): SOCI 203 - ~General Sociology (3)

SPAN 101 - Spanish I (3)

Spanish I is an introductory course designed to expose beginning students to basic language skills. In this course, students develop the fundamentals of communication, listening and comprehension, speaking, and reading. Spanish culture is introduced as well as composition writing.

GRMN 101 - German I (3)

Students will be introduced to German by way of all four language skills: listening, speaking, reading, and writing. The course will concentrate on the cultures of the German-speaking world while practicing language skills.

SPAN 102 - Spanish II (3)

Spanish II builds upon the basic grammatical structures introduced in Spanish I and continues to develop skills such as pronunciation practice, listening comprehension, and "guided" composition. Correct speaking is emphasized. The study of Hispanic countries and cultures continues to be covered in the course.

Prerequisite(s): SPAN 101 - Spanish I (3)

GRMN 102 - German II (3)

Students will continue their study of German by way of all four language skills: listening, speaking, reading, and writing. In addition, the course will continue to concentrate on the cultures of the German-speaking world while practicing language skills.

Prerequisite(s): GRMN 101 - German I (3)

- Free Electives (3)

Subtotal Credit Hours Required 53

Sociology Concentration

ART 103 - ~Introduction to Visual Arts (3)

This is an introductory course designed to survey prehistoric to contemporary visual art forms, giving insight into their nature and their relationships to the human condition. The course includes a study of the functions of various forms of art in which students are exposed to a variety of visual arts experiences to promote a deeper understanding of and appreciation for the role of the visual arts throughout human history and in contemporary society.

MUSC 111 - ~Introduction to Music (3)

This course provides training and experiences which will enable the student to acquire a historical-social-aesthetic perspective, to comprehend musical concepts, to discriminate quality levels, to select satisfying and stimulating musical experiences, and to empathize with the creators and performers of music.

BIOL 101 - ^General Biological Science I (4)

This is semester one of a two-semester general biology course which, with BIOL 102, satisfies the Liberal Arts science requirement. This is an integrated lecture and laboratory course dealing with both plants and animals, related to our environment from molecule to biosphere. This course focuses on molecular and cellular biology, patterns of inheritance and genetics, biotechnology, and mechanisms of evolution.

BIOL 102 - ~General Biological Science II (4)

This is semester two of a two-semester general biology course which, with BIOL 101, satisfies the Liberal Arts science requirement. This is an integrated lecture and laboratory course dealing with both plants and animals, related to our environment from molecule to biosphere. This course focuses on plant and animal structure and function, the dynamics of populations, communities and ecosystems, and human impact on the biosphere.

Prerequisite(s): BIOL 101 - ^General Biological Science I (4)

PHYS 103 - ~General Physical Science I (4)

This is an introductory survey course which explores the major concepts in physics and chemistry. Topics covered will include motion, matter and energy, atomic models, nuclear structure, waves, and electricity. A combination of conceptual framework, practical applications, and problem solving will be utilized in the integrated laboratory and lecture course.

PHYS 104 - ~General Physical Science II (4)

This is an introductory survey course which explores the major concepts in geology, astronomy, and meteorology. Topics covered will include rocks and minerals, weathering and erosion, surface and groundwater, geologic time, plate tectonics, earthquakes, volcanoes, and mountains; light and telescopes, the solar system, stars, nebulae, and galaxies; the origin of the universe; the basics of meteorology, and the effects of weather and climate. A combination of the conceptual framework, practical applications, and problem-solving will be utilized in the integrated laboratory and lecture course.

CJST 200 - Intro Crim Justice Sys (3)

This course provides the students with a survey of law enforcement as well as the role, history, development, and constitutional aspects of law enforcement and public safety, as well as a review of agencies involved in the process of administration of justice.

Corerequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement scores

CJST 220 - Criminal Investigation (3)

This course examines the fundamental principles and theories of criminal investigation, with concentration on the following subjects: report writing; sources of information: witnesses, complainants, victims, observation, physical description, identification, interviews, interrogation, modus operandi, informants, surveillance, undercover techniques, crime scene search, collection, preservation, and processing of physical evidence; raids, arrest, search, seizure, and case

preparation.

Corequisite(s): CJST 200 - Intro Crim Justice Sys (3)

CJST 250 - Juvenile Justice System (3)

This course provides an overview of the juvenile justice system. Focus will be on the juvenile offender, the juvenile courts system, and the juvenile detention system.

Corequisite(s): CJST 200 - Intro Crim Justice Sys (3)

CJST 260 - The Correctional System (3)

This course covers the court and jury system, probation and parole, and correctional institutions including jails and the non-institutional treatment of offenders. In addition, legal procedures, which affect the liberties of inmates, clients, and the correctional staff within the institutional and community settings will be covered.

Corequisite(s): CJST 200 - Intro Crim Justice Sys (3)

ECON 205 - ~Principles of Macroeconomics (3)

This class serves as an introduction to fundamental economic concepts including production possibilities and economic growth, market supply and demand analysis, money, banking, government, and monetary policies. Emphasis is placed upon fluctuations in national income, employment, and price level. Overall, the impact of scarcity and human decision making will be imparted.

ENGL 204 - ~Sur of American Lit (3)

This course is designed to familiarize students with the rich variety of literature produced in America-- from the Colonial through the Modern periods. Students are exposed to a range of writers and traditions that constitute the diverse and multicultural American experience. In addition to tests and quizzes, students are required to write and revise at least two critical essays or equivalent writings (one of which is 1,000-word computer drafted minimum); however, instructors are encouraged to assign significant amounts of writing beyond the required minimum in order to facilitate students' continued acquisition of critical thinking, reading, and writing skills.

Prerequisite(s): ENGL 102 - ~English Composition II (3)

ENGL 208 - ~Survey of World Literature I (3)

This course is designed to familiarize students with great works of world literature—both Western and Eastern traditions—representing Classical, Medieval, and Renaissance periods or non-Western chronological equivalents. Students are exposed to diverse literary traditions through discussion and through critical thinking and writing about significant literary works. In addition to essay tests and quizzes, students are required to write at least one formal, critical essay (1,000 –word computer drafted minimum); however, instructors are encouraged to assign significant amounts of writing beyond the required minimum in order to continue to develop students' critical thinking, reading, and writing skills.

Prerequisite(s): ENGL 102 - ~English Composition II (3)

GSPE 210 - Fitness for Life (3)

This course is designed to assist participants in developing a healthier lifestyle through appropriate exercise programs, nutrition and behaviors that contribute to optimal health and wellness.

HIST 206 - American Women's History (3)

This course introduces students to the experience of women in American society from the colonial period to present. Women's struggle for social, economic, and political equality will be a major focus of the course, as well as class distinctions, race, and ethnicity. Other topics include gender roles, family, feminism, and women's art and literature.

HIST 225 - Gender & Sexuality in the U.S. (3)

This course examines the history and culture of those who identify as LGBTQ+ living within the borders of the United States. Each subpopulation will be examined through ancient history to the present day. The historical role of LGBTQ+ individuals throughout history will be surveyed to understand their contribution and exclusion. The major focus of the second half will be on the origins, development, and status of LGBTQ+ rights in the United States.

HIST 207 - African American History (3)

This course introduces students to the history of African Americans from the 16th century to present. Economic, political, and cultural influences on the black historical experience will be studied as well as historical factors that shape black cultural identity. Major topics include slavery in the New World, black migration, the Civil Rights Movement, race relations, black nationalism, and African American artists.

LGST 230 - Criminal Law and Procedure (3)

This course provides an overview of criminal law beginning with the arrest and investigation through the trial process. Case studies and historical cases in criminal law will be reviewed and analyzed. Other topics covered include legal terminology, rights of criminal defendants, and courtroom activities.

Corerequisite(s): LGST 100 - Intro to Law & Legal Systems (3) or CJST 200 - Intro Crim Justice Sys (3)

MATH 101 - ~Introduction to Mathematics (3)

During this course topics to be covered are sets, mathematical logic, mathematical systems, the real number system, systematic counting, probability, measurement, and consumer mathematics. History of mathematics, critical thinking skills, problem solving, and use of technology will be incorporated throughout the course.

Prerequisite(s): MATH 100 - Math Essentials (3) or proper placement on test scores

MATH 105 - ^Algebra (3)

Topics explored in this course include properties of the real numbers, operations on polynomials, rational and radical expressions, solutions of linear, quadratic, polynomial, radical and absolute value equations and inequalities. Coordinate geometry including distance, midpoint, lines, and circles will also be explored. Additional topics include systems of linear equations and their applications, analysis of functions, operations on functions, transformations of functions, and properties of linear, piecewise, quadratic, polynomial, rational, exponential and logarithmic functions.

Prerequisite(s): MATH 100A - Algebra Essentials (3) or proper placement on test scores

PSYC 203 - ~Introduction to Psychology (3)

This course will introduce the student to basic psychological principals and to enable the student to examine current thinking about development, personality, sensation and perception, cognition, learning, psychological disorders, and their treatment, and influence.

Corerequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement

PSYC 205 - Abnormal Psychology (3)

This course introduces students to both the science and the personal aspects of abnormal psychology through developing an understanding that abnormal psychology is about understanding the individual in society. This course will emphasize the use of case studies to present the most cutting edge information on abnormal psychology by covering methods and treatment in context. Material presented will integrate the biological, psychological, and social perspectives associated with abnormal psychological study.

Prerequisite(s): PSYC 203 - ~Introduction to Psychology (3)

SOCI 203 - ~General Sociology (3)

This course introduces students to the core concepts and perspectives of sociology, the study of human social environments and of human interactions within those environments. The course will explore a number of sociological topics to develop a sociological imagination, an ability to understand the effects of group membership on behavior, attitudes, beliefs, and life chances.

Corerequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement

SOCI 205 - ~Social Problems (3)

This course provides an in-depth study of current social problems. Emphasis is on causes, consequences, and possible solutions to problems associated with major social institutions.

Prerequisite(s): SOCI 203 - ~General Sociology (3)

Subtotal Credit Hours Required 53

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Associate of Science in Nursing

Nursing A.S.N.

PROGRAM OVERVIEW

The Associate of Science Degree in Nursing (ASN) is a 60 credit program that spans over 5 semesters designed to prepare the graduate to take the National Council Licensure Examination (NCLEX-RN) for registered nurses and to enter a career as a beginning practitioner of nursing. It is intended that the courses in nursing will provide the students with an awareness of the value and dignity of people and a view of the patient as an integrated, unique individual requiring nursing knowledge and skill.

Mission Statement

The mission of the Blue Ridge Community and Technical College Associate of Science in Nursing Program is to enhance the health status of the region by educating professional nurses for entry into practice as caring and competent nurse generalists.

End of Program Student Learning Outcomes

Upon completing the Associate of Science in Nursing Program, the graduate will:

1. Provide compassionate nursing care to patients regardless of different values, beliefs, cultures, and lifestyles.
2. Demonstrate appropriate verbal, non-verbal, therapeutic, and professional communication skills.
3. Use the nursing process to demonstrate proficiency in planning safe and effective patient care.
4. Provide nursing care according to legal, ethical and professional standards.

Accreditation

The associate nursing program at Blue Ridge Community and Technical College at 13650 Apple Harvest Drive located in Martinsburg, WV is accredited by the:

Accreditation Commission for Education in Nursing (ACEN).
3390 Peachtree Road NE, Suite 1400
Atlanta, GA 30326
(404) 975-5000

The most recent accreditation decision made by the ACEN Board of Commissioners for the associate nursing program is Continuing Accreditation with Conditions. View the public information disclosed by the ACEN regarding this program at <http://www.acenursing.us/accreditedprograms/programSearch.htm>

APPLICATION FOR ADMISSION TO THE NURSING PROGRAM

Students may apply to the Nursing program during the fall or spring semester. Click the Nursing Program Application (once available) for more information including:

- Application Requirements and Deadlines
- Decision Criteria and Process
- Fall Nursing Application 1.18.22
- BRCTC ASN Program Admission Requirements and Instructions

Transfer of Credit Policy

Students may transfer credits earned from other accredited post-secondary institutions towards general education core courses. Transfer credits are reviewed and articulated using official academic transcripts by Blue Ridge CTC's Registrar's Office. Nursing courses from other programs are not eligible for transfer towards the Blue Ridge nursing program.

Core Performance Standards

Because the Nursing Program seeks to provide a safe environment for nursing students and their patients, students will be required to demonstrate physical and emotional fitness to meet the essential requirements of the nursing program. Such essential requirements include freedom from communicable disease, the ability to perform certain physical tasks, and suitable emotional fitness. Any appraisal measures used to determine such physical and emotional fitness will be in compliance with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990, so as not to discriminate against any individual on the basis of handicap.

The essential requirements of the nursing program, with examples of activities required of students during their nursing education, are listed in the Essential Requirements of Nursing Programs document. This document is based on The Americans with Disabilities Act: Implications for Nursing Education. Southern Regional Education Board (March 1993), www.sreb.org.

COMPLETION REQUIREMENTS FOR NURSING MAJORS

Refer to the Nursing Student Handbook for policies related to:

- Completion requirements and progression
- Grading System
- Classroom requirements
- Clinical Requirements
- Professional conduct, and more

Licensure

Upon successful completion of the program, graduates are eligible to apply to any state Board of Nursing to take the NCLEX- RN examination. Each state has individual requirements of applicants for licensure for examination. The nursing law of West Virginia addresses criteria for application for licensure. The West Virginia RN Board has the power to deny the opportunity to procure licenses through testing if the applicant has willfully committed a felony under the laws of West Virginia.

As of July 1, 2020, the U.S. Department of Education has implemented (Regulation 34 CFR 668.43 (a) (5) (v)) which requires Blue Ridge CTC's Nursing Program to provide a list of all states where our curriculum meets state educational requirements for professional licensure. Please see list here that shows states where our students have sat for the National Council's Licensure Examination for Registered Nurses (NCLEX-RN). Students should contact the Board of Nursing in the state they would like to be initially licensed for more specific information or may click here to find professional nursing licensure requirements for any state and jurisdiction.

Career Options

Our growing population yields a high demand for skilled nurses. The Bureau of Labor Statistics estimates that career opportunities for nurses are expected to grow, giving nursing students peace of mind that they may secure jobs in settings including hospitals, clinical practices, nursing homes, home healthcare, or in military service.

Reportable Statistics

What was our license pass rate for 2020? * Number of people who sit for the NCLEX-RN for the first time divided by the number of first-time test-takers in a calendar year, expressed as a percentage. For example, if 22 out of 25 students pass the NCLEX-RN the first time they take it, then the passing rate would be 0.88, or 88 percent.	84.62%
What was our attrition rate for 2020? * Number of students who left the program in a calendar year divided by the number of participants at the beginning of the program, expressed as a percentage. For example, if 2 people left a program of 25 people then the attrition rate would be 0.08, or 8 percent.	8%
What was our graduation rate for 2020? * Number graduating/progressing to the next course, divided by the number of participants of the program in a calendar year, expressed as a percentage. If 23 graduates from a class of 25 the graduation rate would be 0.92, or 92 percent.	92%

Curriculum for an Associate of Science in Nursing Degree (ASN)

General Education Core

BIOL 120 - ^Human Anatomy & Physiology I (3)

This is course one in a two-course sequence that provides a detailed review of the human organism. It will provide a brief overview of the human body and the chemical basis for activities occurring within the body, a detailed review of the cell, tissues, the integumentary, skeletal, muscular, and nervous systems as well as an overview of the human senses.

Corequisite(s): BIOL 121 - ^Human Anatomy & Phys I Lab (1)

BIOL 121 - ^Human Anatomy & Phys I Lab (1)

This is a laboratory course in human anatomy and physiology to be taken concurrently with BIOL 120.

Corequisite(s): BIOL 120 - ^Human Anatomy & Physiology I (3)

BIOL 122 - ^Human Anatomy & Physiology II (3)

This is the second course in a two-course sequence that provides a detailed review of the human organism. This course provides a detailed review of cardiovascular, lymphatic, immune, respiratory, digestive, urinary, and reproductive systems.

Prerequisite(s): BIOL 120 - ^Human Anatomy & Physiology I (3) and BIOL 121 - ^Human Anatomy & Phys I Lab (1)

Corequisite(s): BIOL 123 - ^Human Anatomy & Phys II Lab (1)

BIOL 123 - ^Human Anatomy & Phys II Lab (1)

This is a laboratory course in human anatomy and physiology to be taken concurrently with BIOL 122.

Prerequisite(s): BIOL 120 - ^Human Anatomy & Physiology I (3) and BIOL 121 - ^Human Anatomy & Phys I Lab (1)

Corerequisite(s): BIOL 122 - ^Human Anatomy & Physiology II (3)

BIOL 220 - Microbiology (3)

This is a course for students in the health and life science to be taken concurrently with the 1-credit laboratory. The course will emphasize the impact of microorganisms on human health and disease, including identification and control pathogens, the mechanisms of pathogenicity and disease transmission, host resistance, and immunity. Other aspects of microbiology will also be considered, including basic microbial metabolic activities and their role in nutrient cycling and as experimental subjects; biotechnology and recombinant DNA will be introduced.

Prerequisite(s): CHEM 125 - ~Introduction to College Chemistry (4) or CHEM 127 - ~General, Organic & Biochem I (4)

Corerequisite(s): BIOL 221 - Microbiology Lab (1)

BIOL 221 - Microbiology Lab (1)

This is a laboratory course in microbiological identification and experimentation techniques to be taken concurrently with BIOL 220.

Prerequisite(s): CHEM 125 - ~Introduction to College Chemistry (4) or CHEM 127 - ~General, Organic & Biochem I (4)

Corerequisite(s): BIOL 220 - Microbiology (3)

CHEM 127 - ~General, Organic & Biochem I (4)

This course is designed as the first in a one year sequence of courses intended for nursing or other allied health students who intend to transfer to a four year academic institution which requires a two semester sequence course in General, Organic and Biochemistry (GOB). This course will include an overview of the Metric System, Scientific Notation, Temperature Scales, Density, Atoms, Structure, Isotopes, Electrons, Periodic Table, Chemical Formulae, Types of Chemical Reactions, Quantification of Chemical Reactions, Mass, Moles, Energy, Kinetic, Potential, Law of Conservation of Energy, Thermochemistry, Matter, pH, Fission, Fusion, Functional Groups and Names, and General Organic Reactions to Form Functional Groups. This course sequence could also provide an eight credit General Education Science sequence. The course consists of a lecture portion and a laboratory portion.

Prerequisite(s): MATH 100 - Math Essentials (3) or placement

ENGL 101 - ~English Composition I (3)

ENGL 101 is an introduction to college writing. This class emphasizes processes for drafting, revising, and editing. It develops a student's ability to read a passage, analyze its meaning, and write an intelligent response which shows not only an understanding of the passage but also a working knowledge of the writing and rhetorical strategies. Students will learn how to make effective arguments and how to locate, synthesize, and evaluate relevant information.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 101L - English Composition I Lab (3), or placement test scores

MATH 114 - ~Elem Probability & Statistics (3)

This course introduces the fundamental concepts of probability and statistics. Topics include descriptive statistics, random sampling methods, frequency distributions, measures of central tendency and variability, set theory, probability, permutations and combinations, random variables, probability and sampling distributions, expectation, central limit theorem, confidence intervals and hypothesis testing for means and proportions (one and two sample) and simple linear regression and correlation. Time permitting, one-way ANOVA and non-parametric techniques may be discussed. Appropriate application software will be utilized, and applications from a variety of disciplines will be presented.

Prerequisite(s): MATH 100A - Algebra Essentials (3) or proper placement on test scores

PSYC 203 - ~Introduction to Psychology (3)

This course will introduce the student to basic psychological principals and to enable the student to examine current thinking about development, personality, sensation and perception, cognition, learning, psychological disorders, and their treatment, and influence.

Corequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement

Subtotal Credit Hours Required 25

Nursing Core

NURS 111 - Introduction to Nursing (3)

This hands-on course is designed as an introduction to the skills used to provide functional nursing care across the lifespan. This course has a lab component for teaching and demonstrating skill proficiency.

Prerequisite(s): Must be a degree-seeking student enrolled in Medical Assisting, A.A.S. - Nursing Foundation, Healthcare Professions, A.A.S., or Nursing A.S.N.

Pre-requisite/Co-requisite(s): BIOL 120 - ^Human Anatomy & Physiology I (3) and BIOL 121 - ^Human Anatomy & Phys I Lab (1)

NURS 115 - Nursing Care I (6)

This course builds on the skills learned in NURS 111 - Introduction to Nursing (3) and introduces professional and patient concepts across the lifespan for providing nursing care. This course has a clinical component for application of acquired skills in patient care situations. Classroom: 3 hours per week; clinical: 4.5 clock hours per week. Clinical hours will be aggregated throughout the semester.

Prerequisite(s): NURS 111 - Introduction to Nursing (3) and acceptance into Nursing A.S.N.

NURS 135 - Nursing Care II (8)

This course continues to build on lifespan concepts of health and illness with related exemplars. The student will integrate conceptual learning with skills and knowledge learned in previous nursing courses. This course has a clinical component that provides for the application of learning to direct and simulated patient care experience. Classroom: 6 hours per week; Clinical: 9 hours per week. Clinical hours will be aggregated throughout the semester.

Prerequisite(s): NURS 115 - Nursing Care I (6) and admission to Nursing A.S.N.

NURS 215 - Nursing Care III (8)

This course continues to build on lifespan concepts of health and illness with related exemplars. The student will integrate conceptual learning with skills and knowledge learned in previous nursing courses. This course has a clinical component that provides for the application of learning to direct and simulated patient care experiences. Classroom: 5 hours per week; Clinical: 12 hours per week. Clinical hours will be aggregated throughout the semester.

NURS 240 - Nursing Care IV (10)

This course is designed to prepare the student to transition from the role of nursing student to a professional registered nurse. The student will be expected to apply and analyze concepts related to patient care, professionalism, and health care. The student will integrate interrelated concepts encompassing multiple health and illness concepts across the lifespan. Knowledge and skills learned in previous nursing courses will be utilized. This course has a clinical component that provides for application of learning to direct and simulated patient care experiences. Classroom: 7.5 hours per week; Clinical: 2.7 hours per week; and 120 hours of preceptor/capstone experience. Clinical hours will be aggregated throughout the semester.

Prerequisite(s): NURS 215 - Nursing Care III (8) and admission to Nursing A.S.N.

Subtotal Credit Hours Required 35

Suggested Course Progression

Pre-admit semester courses must be completed before starting the Nursing Program and must be enrolled or in progress before an application is submitted. General education classes may be taken before the suggested semester but must be completed by the semester listed in order to progress forward in the Nursing Program. However, nursing (NURS) classes must be taken in the order and semester listed below.

Pre-Admit Semester

BIOL 120 - ^Human Anatomy & Physiology I (3)

This is course one in a two-course sequence that provides a detailed review of the human organism. It will provide a brief overview of the human body and the chemical basis for activities occurring within the body, a detailed review of the cell, tissues, the integumentary, skeletal, muscular, and nervous systems as well as an overview of the human senses.

Corerequisite(s): BIOL 121 - ^Human Anatomy & Phys I Lab (1)

BIOL 121 - ^Human Anatomy & Phys I Lab (1)

This is a laboratory course in human anatomy and physiology to be taken concurrently with BIOL 120.

Corerequisite(s): BIOL 120 - ^Human Anatomy & Physiology I (3)

ENGL 101 - ~English Composition I (3)

ENGL 101 is an introduction to college writing. This class emphasizes processes for drafting, revising, and editing. It develops a student's ability to read a passage, analyze its meaning, and write an intelligent response which shows not

only an understanding of the passage but also a working knowledge of the writing and rhetorical strategies. Students will learn how to make effective arguments and how to locate, synthesize, and evaluate relevant information.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 101L - English Composition I Lab (3), or placement test scores

MATH 114 - ~Elem Probability & Statistics (3)

This course introduces the fundamental concepts of probability and statistics. Topics include descriptive statistics, random sampling methods, frequency distributions, measures of central tendency and variability, set theory, probability, permutations and combinations, random variables, probability and sampling distributions, expectation, central limit theorem, confidence intervals and hypothesis testing for means and proportions (one and two sample) and simple linear regression and correlation. Time permitting, one-way ANOVA and non-parametric techniques may be discussed. Appropriate application software will be utilized, and applications from a variety of disciplines will be presented.

Prerequisite(s): MATH 100A - Algebra Essentials (3) or proper placement on test scores

NURS 111 - Introduction to Nursing (3)

This hands-on course is designed as an introduction to the skills used to provide functional nursing care across the lifespan. This course has a lab component for teaching and demonstrating skill proficiency.

Prerequisite(s): Must be a degree-seeking student enrolled in Medical Assisting, A.A.S. - Nursing Foundation, Healthcare Professions, A.A.S., or Nursing A.S.N.

Pre-requisite/Co-requisite(s): BIOL 120 - ^Human Anatomy & Physiology I (3) and BIOL 121 - ^Human Anatomy & Phys I Lab (1)

First Semester

BIOL 122 - ^Human Anatomy & Physiology II (3)

This is the second course in a two-course sequence that provides a detailed review of the human organism. This course provides a detailed review of cardiovascular, lymphatic, immune, respiratory, digestive, urinary, and reproductive systems.

Prerequisite(s): BIOL 120 - ^Human Anatomy & Physiology I (3) and BIOL 121 - ^Human Anatomy & Phys I Lab (1)

Corequisite(s): BIOL 123 - ^Human Anatomy & Phys II Lab (1)

BIOL 123 - ^Human Anatomy & Phys II Lab (1)

This is a laboratory course in human anatomy and physiology to be taken concurrently with BIOL 122.

Prerequisite(s): BIOL 120 - ^Human Anatomy & Physiology I (3) and BIOL 121 - ^Human Anatomy & Phys I Lab (1)

Corequisite(s): BIOL 122 - ^Human Anatomy & Physiology II (3)

NURS 115 - Nursing Care I (6)

This course builds on the skills learned in NURS 111 - Introduction to Nursing (3) and introduces professional and patient concepts across the lifespan for providing nursing care. This course has a clinical component for application of acquired skills in patient care situations. Classroom: 3 hours per week; clinical: 4.5 clock hours per week. Clinical

hours will be aggregated throughout the semester.

Prerequisite(s): NURS 111 - Introduction to Nursing (3) and acceptance into Nursing A.S.N.

PSYC 203 - ~Introduction to Psychology (3)

This course will introduce the student to basic psychological principals and to enable the student to examine current thinking about development, personality, sensation and perception, cognition, learning, psychological disorders, and their treatment, and influence.

Corerequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement

Second Semester

CHEM 127 - ~General, Organic & Biochem I (4)

This course is designed as the first in a one year sequence of courses intended for nursing or other allied health students who intend to transfer to a four year academic institution which requires a two semester sequence course in General, Organic and Biochemistry (GOB). This course will include an overview of the Metric System, Scientific Notation, Temperature Scales, Density, Atoms, Structure, Isotopes, Electrons, Periodic Table, Chemical Formulae, Types of Chemical Reactions, Quantification of Chemical Reactions, Mass, Moles, Energy, Kinetic, Potential, Law of Conservation of Energy, Thermochemistry, Matter, pH, Fission, Fusion, Functional Groups and Names, and General Organic Reactions to Form Functional Groups. This course sequence could also provide an eight credit General Education Science sequence. The course consists of a lecture portion and a laboratory portion.

Prerequisite(s): MATH 100 - Math Essentials (3) or placement

NURS 135 - Nursing Care II (8)

This course continues to build on lifespan concepts of health and illness with related exemplars. The student will integrate conceptual learning with skills and knowledge learned in previous nursing courses. This course has a clinical component that provides for the application of learning to direct and simulated patient care experience. Classroom: 6 hours per week; Clinical: 9 hours per week. Clinical hours will be aggregated throughout the semester.

Prerequisite(s): NURS 115 - Nursing Care I (6) and admission to Nursing A.S.N.

Third Semester

BIOL 220 - Microbiology (3)

This is a course for students in the health and life science to be taken concurrently with the 1-credit laboratory. The course will emphasize the impact of microorganisms on human health and disease, including identification and control pathogens, the mechanisms of pathogenicity and disease transmission, host resistance, and immunity. Other aspects of microbiology will also be considered, including basic microbial metabolic activities and their role in nutrient cycling and as experimental subjects; biotechnology and recombinant DNA will be introduced.

Prerequisite(s): CHEM 125 - ~Introduction to College Chemistry (4) or CHEM 127 - ~General, Organic & Biochem I (4)

Corerequisite(s): BIOL 221 - Microbiology Lab (1)

BIOL 221 - Microbiology Lab (1)

This is a laboratory course in microbiological identification and experimentation techniques to be taken concurrently with BIOL 220.

Prerequisite(s): CHEM 125 - ~Introduction to College Chemistry (4) or CHEM 127 - ~General, Organic & Biochem I (4)

Corerequisite(s): BIOL 220 - Microbiology (3)

NURS 215 - Nursing Care III (8)

This course continues to build on lifespan concepts of health and illness with related exemplars. The student will integrate conceptual learning with skills and knowledge learned in previous nursing courses. This course has a clinical component that provides for the application of learning to direct and simulated patient care experiences. Classroom: 5 hours per week; Clinical: 12 hours per week. Clinical hours will be aggregated throughout the semester.

Fourth Semester

NURS 240 - Nursing Care IV (10)

This course is designed to prepare the student to transition from the role of nursing student to a professional registered nurse. The student will be expected to apply and analyze concepts related to patient care, professionalism, and health care. The student will integrate interrelated concepts encompassing multiple health and illness concepts across the lifespan. Knowledge and skills learned in previous nursing courses will be utilized. This course has a clinical component that provides for application of learning to direct and simulated patient care experiences. Classroom: 7.5 hours per week; Clinical: 2.7 hours per week; and 120 hours of preceptor/capstone experience. Clinical hours will be aggregated throughout the semester.

Prerequisite(s): NURS 215 - Nursing Care III (8) and admission to Nursing A.S.N.

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Certificate

Addiction Studies Certificate

Addiction disorders are plaguing our community more and more every day. Being able to recognize addiction disorders, understand basic treatments, and how someone can advocate for change can be very impactful on our community. This certificate will give the student the knowledge and tools to begin to make that impact. Topics covered in the certificate include, but are not limited to, addiction, psychopharmacology, advocacy, crisis intervention, and components of addiction counseling.

A graduate will be able to:

- Identify various addictions and basic treatments
- Evaluate the impact a drug has on a person's body and brain
- Apply various advocacy techniques to deal with community issues
- Describe various theories and treatment processes for addiction disorders
- Recognize stressors, challenges, and other factors that are likely to precipitate an addiction disorder and/or crisis
- Examine stress in self and clients and develop strategies for coping
- Evaluate biases, stereotypes, and assumptions in working with various populations and addiction disorders

Curriculum for a Certificate in Addiction Studies

General Education Core	12
Addiction Studies Core	18
Total Credit Hours Required	30

General Education Core

ENGL 101 - ~English Composition I (3)

ENGL 101 is an introduction to college writing. This class emphasizes processes for drafting, revising, and editing. It develops a student's ability to read a passage, analyze its meaning, and write an intelligent response which shows not only an understanding of the passage but also a working knowledge of the writing and rhetorical strategies. Students will learn how to make effective arguments and how to locate, synthesize, and evaluate relevant information.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 101L - English Composition I Lab (3), or placement test scores

- MATH 101 or Higher (3)

PSYC 203 - ~Introduction to Psychology (3)

This course will introduce the student to basic psychological principals and to enable the student to examine current thinking about development, personality, sensation and perception, cognition, learning, psychological disorders, and their treatment, and influence.

Corerequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement

SOCI 203 - ~General Sociology (3)

This course introduces students to the core concepts and perspectives of sociology, the study of human social environments and of human interactions within those environments. The course will explore a number of sociological topics to develop a sociological imagination, an ability to understand the effects of group membership on behavior, attitudes, beliefs, and life chances.

Corerequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement

Subtotal Credit Hours Required **12**

Addiction Studies Core

HSRV 101 - Intro to Social Work & HSRV (3)

Students will be introduced to human services and the major policies and practices used to understand human services as a profession. Students will study the evolution and history of human services and social welfare policy. Students will begin the process of self-awareness and growth in relation to helping others. The course explores the skills, ethics, values, and knowledge needed to work effectively as a culturally competent human service professional in a multidisciplinary setting.

Pre-requisite/Co-requisite(s): PSYC 203 - ~Introduction to Psychology (3) and SOCI 203 - ~General Sociology (3)

HSRV 230 - Community Org & Advocacy (3)

This course will develop an understanding of the history and values of community resources designed to meet the needs of at-risk populations. Students will learn key principles, strategies, and hands-on skills frequently used in human service advocacy. This course will explore ways through which groups advocate for themselves and help build organizations and develop communities. The course highlights strategies used in advocacy, and the challenges and dilemmas organizers face in the field. Emphasis will be on agency, legislative, legal and community advocacy. The course will connect students with local social service agencies/organizations and provide them with information about making appropriate referrals for services.

Prerequisite(s): HSRV 101 - Intro to Social Work & HSRV (3)

HSRV 250 - Crisis Intervention (3)

This course prepares students to give immediate help to people experiencing crises and introduces the basic theories and principles of crisis intervention. Emphasis is placed on identifying and demonstrating appropriate and differential techniques for intervening in various crisis situations. Material is presented on initial intervention, defusing and assessment, and resolution and/or referral, with emphasis on safety.

Prerequisite(s): HSRV 101 - Intro to Social Work & HSRV (3) or CJST 200 - Intro Crim Justice Sys (3)

HSRV 260 - Introduction to Addiction (3)

This course will present an overview of substance use disorders, addictive disorder, chemical dependency, and the addictive process. This course provides an introduction to the history, theories, current research and treatment practices, and the nature of successful recovery and prevention concepts. Students will also learn the influence of family history, culture, state and federal laws, ethical issues, and current treatment options.

Prerequisite(s): HSRV 101 - Intro to Social Work & HSRV (3)

HSRV 270 - Psychopharm of Addiction (3)

This course studies behavioral and cognitive effects of psychoactive drugs, including both illicit drugs and use of drugs in treating psychological disorders. Content includes psychology and physiology of addictions, information on drug use, misuse, abuse, and addiction, socially abused chemicals and historical background, pharmacology, psychological

and physiological effects, medical uses, dependence patterns and toxicity.

Corerequisite(s): HSRV 260 - Introduction to Addiction (3)

HSRV 280 - Addiction Counseling (3)

The course introduces students to the theories, concepts, and delivery of addiction counseling, including various therapies, motivational interviewing, harm reduction, addiction-specific assessments, 12-step programs, and group work. Additionally, the course will develop knowledge and skills in the relapse prevention of addiction.

Corerequisite(s): HSRV 260 - Introduction to Addiction (3)

Subtotal Credit Hours Required 18

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Agribusiness Certificate

The Agribusiness Certificate Program is geared for students seeking a challenging and exciting career in the agricultural industry. Over the course of the certificate program, you will learn concepts in business to include customer service, marketing, and business management. You will also choose between core classes in animal science or food production.

Program Overview

The Agribusiness Program supplies local agricultural businesses with employees who have training in basic business disciplines as well as animal science or food production. The certificate program will be the first step in a career in agriculture. After completion of the certificate, students can enter the agriculture workforce in entry-level positions. Positions may include agriculture retail, agricultural trade organizations, veterinary offices, produce markets, general farming businesses, and animal farming management.

Career Opportunities

Agribusiness students may find rewarding careers in veterinary offices, farmers' markets, farms, or animal science industries. Agribusiness students will have the opportunity to work in any state. Basic business and agriculture courses and training may allow certificate holders to be employed in a variety of industries and localities.

Program Outcomes

- Identify employment opportunities that match students' career goals and abilities.
- Apply customer service skills into agribusiness employment.
- Create a basic marketing plan that is unique to an agricultural business.

Curriculum for a Certificate in Agribusiness

General Education Core

Agribusiness Core

Total Credit Hours Required

General Education Core

ENGL 110 - ~Technical Writing & Communication (3)

This course is designed to prepare students to write technical reports and other technical documents. Emphasis is on audience, clarity, conciseness, and accuracy of expression. It covers research techniques, information design, writing style, and effective use of graphics.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

MATH 101 - ~Introduction to Mathematics (3)

During this course topics to be covered are sets, mathematical logic, mathematical systems, the real number system, systematic counting, probability, measurement, and consumer mathematics. History of mathematics, critical thinking skills, problem solving, and use of technology will be incorporated throughout the course.

Prerequisite(s): MATH 100 - Math Essentials (3) or proper placement on test scores

Subtotal Credit Hours Required

6

Agribusiness Core

Students can take any combination of Agribusiness Core Electives to total 24 credit hours. Below is a partial list of courses available; however, any course with a AGRB subject code will meet the criteria.

AGRB 101 - Agribusiness Introduction (3)

This course presents a basic introduction to Agribusiness and Agriculture. Students will gain basic understanding of various topics in Agribusiness.

AGRB 110 - Introduction to Animal Science (3)

Students will survey the major disciplines in animal and veterinary sciences. Emphasis will be on terminology and the study of breeds of livestock and identification.

AGRB 112 - Intro to Equestrian Science (3)

Students will focus on the basic understanding of equine science and management. Topics will include the history and future of equine, breeds, health and basic management.

AGRB 113 - Intro to Swine Production (3)

Students will focus on the basic understanding of swine science production and management. Topics will include breeding, health, and overall management.

AGRB 114 - Intro Poultry, Goats, & Llamas (3)

Students will study poultry, goats, and llamas. Emphasis will be on terminology, the study of breeds, and identification.

AGRB 115 - Intro to Cattle Production (3)

Students will focus on the basic understanding of cattle science, production and management. Topics will include breeding, health, and overall management.

AGRB 116 - Companion Animal Science (3)

Students will explore the basic physiology, nutrition, and genetics of companion animals. This course will also explore basic handling, training, behavior and health issues.

AGRB 120 - Intro to Food Production (3)

This course will provide training in food production management with emphasis on large and small-scale food preparation and kitchen operations.

AGRB 122 - Farm to Table & Microgardens (3)

Students will learn the basics of creating microgardens and the fundamentals to produce products almost anywhere. Students will also study how to take their product from the farm to the table.

AGRB 124 - Licensing and Food Safety (3)

Students will study the approved procedures for food safety to include handling of utensils and equipment, food protection, and hygiene. Study will also include discussions in state licensing guidelines.

AGRB 126 - Sustainable Agriculture (3)

Students will study techniques such as crop rotation, soil fertility, erosion prevention, and limiting pests. Larger and more productive harvests are the ultimate goal.

AGRB 128 - Intro to Crop Production (3)

Students will focus on the basic understanding of crop science, production, rotation, and protection. Topics will include types of crops, types of pesticides, and modern rotation practices.

AGRB 130 - Customer Service Excellence (3)

Students will experience what it means to give and receive excellent customer service. Tips, tricks, and techniques from the nation's best companies will be shared.

AGRB 140 - Agribusiness Marketing (3)

This course will introduce concepts in Agriculture marketing. Students will examine the links between producers and consumers and rapidly changing factors that affect the marketplace.

AGRB 150 - Agribusiness Management (3)

This course will provide an overview of the agribusiness decision-making processes. Financial statements and budgeting will be analyzed.

AGRB 160 - Intro to Farm Equipment (3)

Students will study and learn about basic farm equipment. Repair and safety techniques will be taught to assist the student with basic machine repairs.

AGRB 170 - Agricultural Govt Relations (3)

This course presents an introduction to government and the influence that governmental policies and regulations have on today's agriculture. Students will gain an understanding of government policies and regulations and the relationships with these entities and how they impact agriculture.

AGRB 180 - Landscape Design (3)

Students will learn how to design and layout the steps for planning a landscape. The primary focus of this course will be the fundamentals of landscape design and site analysis. Upon successful completion, students will be able to prepare a basic landscape design for future customers.

AGRB 181 - Intro to Landscape Plants (3)

Students will learn to identify landscape plants and expand knowledge to select the correct plant, site, and purpose. Students will understand that care and disease protection of plants are crucial in longevity designs.

AGRB 182 - Intro to Trees & Shrubs (3)

Students will learn to identify landscape trees and shrubs to expand knowledge and understanding of proper tree selections for site and purpose. Students will also understand proper planting and installation.

AGRB 183 - Landscape Accessories (3)

Students will learn about the "extras" that make landscape design unique to each customer. Topics include pond creation, patios, lighting, retaining walls, outdoor entertaining spaces, and water features. Students will learn how to incorporate these "extras" into landscape design projects.

AGRB 210 - Princ of Animal Science (3)

Students will survey the major disciplines in animal and veterinary science. Emphasis will be on terminology and the study of different breeds and identification.

AGRB 212 - Princ of Equine Science (3)

Students will focus on the understanding of equine science and management. Topics will include history and future of equine breeds, health and management.

Prerequisite(s): ENGL 101 - ~English Composition I (3) or ENGL 110 - ~Technical Writing & Communication (3)

AGRB 217 - Animal Nutrition (3)

Students will study, learn and practice basic animal nutrition for a variety of animal breeds. Course will include lecture and practical experience.

Prerequisite(s): MATH 101 - ~Introduction to Mathematics (3)

AGRB 226 - Princ of Sustainable Ag (3)

Students will study techniques such as crop rotation, limiting pests, soil fertility and erosion prevention. Larger and more productive harvests are the goal.

AGRB 228 - Princ of Crop Production (3)

Students will focus on crop science, production, rotation and protection of crops. Topics will include types of crops, types of pesticides and modern rotation principles.

AGRB 240 - Agribusiness Marketing (3)

This course will introduce concepts in agriculture marketing. Students will examine the links between producers and consumers and the rapidly changing factors that affect the marketplace.

AGRB 250 - Principles of AGRB Mgmt (3)

This course will provide an overview of the agribusiness decision-making processes. Financial statements and budgeting will be analyzed.

AGRB 270 - State and Local Government (3)

This course presents an introduction to state and local governments and the influence and impacts each entity has on the agriculture industry today. Students will gain an understanding of regulations, relationships, and differences in how state and local governments are operated and the independent influence of each on today's agriculture.

AGRB 280 - Advanced Landscape Design (3)

Students will learn to create complex landscape designs. Students will practice combining mixed concepts into a design and learn how to work within environmental constraints.

AGRB 281 - Pest Management (3)

Students will learn to identify pests, recognize and control diseases, weeds, and insect issues. Pesticide use and alternate methods will be discussed. Pesticide certification will be reviewed; however, students will not gain certification in this course.

AGRB 292 - Agribusiness Internship (1-4)

The course represents approved internship opportunities in Agribusiness.

Prerequisite(s): AGRB 101 - Agribusiness Introduction (3)

Subtotal Credit Hours Required

24

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Applied Laboratory Technician Certificate

The Applied Laboratory Technician Certificate program prepares students to work in a variety of high demand laboratory careers. Our graduates will be prepared to work in manufacturing facilities such as chemical, pharmaceutical, food, or wastewater treatment. At the facility, they would monitor production processes or act as quality control technicians.

Other duties of an Applied Laboratory Technicians may include adjusting process equipment to improve production efficiency and output or collecting samples from production batches and testing the samples for impurities and other defects. Applied Laboratory Technicians also test product packaging to make sure it is well designed, durable, and will have a limited impact on the environment.

After completing the Applied Laboratory Technician Certificate Program, the student will be able to do the following:

- Monitor chemical processes and test the quality of products to make sure that they meet standards and specifications.
- Demonstrate appropriate setup and maintenance of laboratory instruments and equipment.
- Prepare chemical solutions.
- Conduct chemical and physical experiments, tests, and analyses for a variety of purposes.
- Analyze the results of tests and analysis.

Curriculum for a Certificate in Applied Laboratory Technician

General Education Core

Applied Laboratory Technician Core

Restricted Electives

Total Credit Hours Required

General Education Core

ENGL 110 - ~Technical Writing & Communication (3)

This course is designed to prepare students to write technical reports and other technical documents. Emphasis is on audience, clarity, conciseness, and accuracy of expression. It covers research techniques, information design, writing style, and effective use of graphics.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

MATH 102 - Technical Mathematics (3)

This course focuses on computational fluency and applied problem solving with emphasis on the following topics: real numbers, ratios, percents, proportions, estimation, exponents, roots, scientific notation, applied algebra, measurement, applied geometry, electrical formulas and laws, basic statistics, basic trigonometry and vectors.

Prerequisite(s): MATH 100 - Math Essentials (3) or proper placement on test scores

Subtotal Credit Hours Required

6

Applied Laboratory Technician Core

LTEC 101 - Laboratory Technician I (4)

This course is the introductory course to chemistry concepts. This course will also introduce instrumentation, industrial processes and the science that is needed to be a successful Applied Laboratory Technician.

Corequisite(s): MATH 100 - Math Essentials (3) or placement

LTEC 102 - Laboratory Technician II (4)

This course will continue the discussion of chemistry concepts with a focus on molecular compounds, chemical reactions, acids & bases, and an introduction to organic chemistry concepts. A WorkKeys NCRC Certificate Examination will be conducted at the end of this course.

LTEC 111 - Laboratory Technician III (2)

This course presents a basic introduction to industrial safety health and environmental health concepts. Students will be able to discuss and recognize the various hazards that exist in a manufacturing environment. The students will discuss the remediation of spills and unsafe conditions. This course will provide OSHA 30 General Industry certification that will include OSHA's history.

LTEC 112 - Laboratory Technician IV (3)

Students will continue with basic laboratory principles and will be able to use various types of analytical equipment that an applied laboratory technician will operate in a manufacturing setting. The student will be able to identify various types of process equipment and describe what each piece of equipment does within the manufacturing process.

Restricted Electives

The students can pick any 11 credits with approval from their advisor. Any LTEC course can be used as an restricted elective.

CAS 111 - Information Literacy (3)

This course covers a variety of introductory computing knowledge including how personal computers work, software essentials, hardware components, operating systems and the most popular productivity applications including word processing, spreadsheet, database and presentation software. Students will also be introduced to the Internet and e-mail essentials, file management and digital electronics. This course aligns with the Internet and Computing Core Certification (IC3), which demonstrates that a student has a clear understanding of the knowledge and application of computers and technology in the modern world.

LTEC 140 - Process Quality (2)

This course will describe the concepts and tools that manufacturers use for quality control in a manufacturing setting. The students will be able to describe the different management systems that are used to develop a quality control program. The students will be able to develop and interpret quality control charts.

LTEC 141 - Analytical Instrumentation (3)

The students will further explore the different analytical testing methods that are used in the industry. The students will be able to complete testing on FT-IR, Spectrophotometer, HPLC, and GC-MS instruments.

LTEC 143 - Process Technology-Operation (3)

This course will discuss the following topics: procedure writing, communication, shift change, maintenance, and other topics that Applied Laboratory Technicians and Quality Control Technicians must understand.

LTEC 144 - Process Technology-Systems (3)

Applied Laboratory Technician students learn the many different systems that an applied laboratory technician will encounter including, but not limited to, water systems, electrical systems, and refrigeration systems.

LTEC 160 - Water Operator I (3)

This course prepares students to take the West Virginia Water Operator I test. The test is administered by the State of West Virginia by Environmental Engineering Division District Office.

LTEC 161 - Waste Water Operator I (3)

This course prepares students to take the West Virginia Waste Water Operator I test. The test is administered by the State of West Virginia by Environmental Engineering Division District Office.

LTEC 292 - Internship (1-4)

Students obtain practical experience in the chemical manufacturing industry, chemical laboratory, or water treatment industry. The student engages in on-the-site activities of a practical nature. Interns learn how to translate classroom theory and methods into professional skills. Activities are under the supervision of trained personnel. Application for the internship must be made to the Applied Laboratory Technician program manager.

Prerequisite(s): LTEC 101 - Laboratory Technician I (4) and LTEC 102 - Laboratory Technician II (4)

ENGL 100 - English Essentials (3)

This course is designed to introduce students to essential English skills ranging from writing in the rhetorical modes of narration and argument to creating a rudimentary media-based presentation on a short expository essay (in the form of process, definition, or persuasion). Students will draw on accompanying readings. Briefly, instructors will introduce Internet Research, and MLA style will be taught in some depth. In addition to these written skills practiced, students will study and be quizzed on correct grammar, punctuation, and usage.

MATH 100 - Math Essentials (3)

Students will learn how to perform operations on real numbers, the implications of exponents and the order of operations and how to evaluate algebraic expressions. The concepts of percents and their applications, introductory geometry, statistics, and problem-solving skills will all be incorporated. Students will solve equations in one variable, solve literal equations for a variable, and evaluate/graph inequalities. Students will translate and solve algebraic equations, and learn the skills required to solve application problems in one and two variables. Students will interpret and graph linear equations as well as solving and analyzing systems of equations. Students may also be introduced to operations on polynomials.

MECH 260 - Process Control & Instrumentation (3)

Process Controls cover a wide range of topics such as measurement methods, pressure measurement devices, temperature measurement devices, flow measurement devices, level measurement devices, pilot valves, pneumatic controls, electronic controls, and process controls. Students will learn to install, maintain, monitor and troubleshoot process control equipment.

Prerequisite(s): MECH 105 - Electricity & Commercial Wiring (1) or MECH 106 - Electricity & Electronics (2)

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Applied UAS Technologies Certificate

The Applied UAS (Unmanned Aerial Systems) Technologies Certificate is a workforce education program designed to give students skills to use a UAS in a professional setting. The program includes courses covering flight, flight planning, project planning, data collection, and data manipulation using a UAS. The program also includes an introduction to geographic information systems. Completing this certificate can lead to applications in many fields

including local and county governments, construction work, agriculture, GIS, emergency services, and urban development.

Program Outcomes

- Obtain employment as a drone operator or data collection technician.
- Operate UAS equipment and prepare small pilot flight plans.
- Interpret FAA part 107 legislation to prepare for remote pilot certification.

Curriculum for a Certificate in Applied UAS Technologies

General Education Core

Applied UAS Technologies Core

Total Credit Hours Required

General Education Core

ENGL 110 - ~Technical Writing & Communication (3)

This course is designed to prepare students to write technical reports and other technical documents. Emphasis is on audience, clarity, conciseness, and accuracy of expression. It covers research techniques, information design, writing style, and effective use of graphics.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

ENVT 101 - Environmental Science (3)

This is an introductory course in environmental science. Students will develop an understanding of the interrelationships between human activities and the environment. Emphasis is on the physical, chemical, and biological principles and processes as they relate to human-environment interactions, the role of energy in human and natural systems, environmental legislation and human behavior.

GEOL 101 - ~Geological Sciences (4)

This is a combined course in physical and historical geology dealing with the composition, structure, and history of planet Earth. Minerals, rocks, tectonic processes, and physical characteristics of the earth's surface will be emphasized in the physical component. Evolution, fossils, and the changing conditions and organisms throughout geologic time constitute the historical component. This class is comprised of three hours lecture and two hours lab per week.

MATH 114 - ~Elem Probability & Statistics (3)

This course introduces the fundamental concepts of probability and statistics. Topics include descriptive statistics, random sampling methods, frequency distributions, measures of central tendency and variability, set theory, probability, permutations and combinations, random variables, probability and sampling distributions, expectation, central limit theorem, confidence intervals and hypothesis testing for means and proportions (one and two sample) and simple linear regression and correlation. Time permitting, one-way ANOVA and non-parametric techniques may be

discussed. Appropriate application software will be utilized, and applications from a variety of disciplines will be presented.

Prerequisite(s): MATH 100A - Algebra Essentials (3) or proper placement on test scores

Subtotal Credit Hours Required

13

Applied UAS Technologies Core

UAS 101 - Intro to Drone Applications (2)

This course will introduce students to basic drone applications. This course will include the history of UAVs, careers in UAV technicians, and GIS technicians, and a brief introduction into coding and GIS/UAV based software.

UAS 102 - Drone Operations I (3)

This course provides a practical UAV application including UAV flight training, project planning, data creation, data management, and data processing. This course prepares students to take the FAA Remote Pilot Certification exam.

UAS 103 - Drone Operations II (3)

This course is a continuation of the applications side of UAS 102 - Drone Operations I (3). The class will also include how to properly maintain and repair UAVs and related electric motors.

Prerequisite(s): UAS 102 - Drone Operations I (3)

UAS 105 - Introduction to GIS (3)

This course will provide a basic introduction to the geographic information system (GIS) software, ArcGIS. Students will perform labs teaching them how to use the software to make basic maps. Introductory information into the history of GIS as well as the basic information surrounding how a GIS works will be covered.

UAS 201 - Private Pilot Ground School (3)

This course will focus on providing students with the information required for the Private Pilot License. This course covers the written material for the private pilot examination but does not include the private pilot exam or provide the flight hours needed to obtain the license. The course will cover aerodynamics, parts of the airplane, weather, and other factors that affect performance and flight operations.

UAS 240 - Drone Imaging (3)

This course will cover photography and videography elements to give students the ability to take professional quality pictures and videos using UAS. This course will also cover the skills needed to use UAS pictures and videos to inspect certain areas of interest such as construction sites, trash dumps, pollution dumping sites, and others. The course will also introduce students to structure from motion (SfM) which will teach them to build 3D models using UAS imagery.

Prerequisite(s): UAS 103 - Drone Operations II (3)

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Baking and Pastry Certificate

This economical, practical certificate program prepares you with the skills necessary to enter the foodservice industry as an entry to a mid-level position within the foodservice, hospitality and tourism industry through a certificate program.

Program Overview

Students will learn baking fundamentals, which include a wide variety of baking techniques. This along with courses that build on immersing the student in all aspects of culinary foundations such as safety and sanitation, origins of food, food history, food costing, product efficiency, sense of urgency, attention to detail and culinary artistry. Practical lab experiences will help to complete the well-rounded student for entry into the workforce. Students will be able to experience the flow of their product from creation to service in this degree program through our Bruin Café lab and other service opportunities.

To be eligible to earn a Blue Ridge Community and Technical College Certificate the student must be a current degree-seeking student or complete the application and admissions process to the College. Eligibility to earn and receive a Blue Ridge Community and Technical College Certificate does not interfere with the degree-seeking status of the student.

Program Outcomes

- Demonstrate an organized and sanitary workstation.
- Demonstrate accurate measuring and portioning.
- Identify and describe procedures and techniques for controlling food costs.
- Demonstrate accurately sized knife cuts.
- Demonstrate how to safely handle and operate knives and kitchen equipment.
- Practice team building and communication.
- Identify baking specific ingredients.
- Follow standardized recipes and production procedures.
- Identify and execute baking methods.
- Demonstrate professionalism (clean and complete uniform, on time, good attitude, respectful).

Career Opportunities

If you choose a certificate in Baking and Pastry, you will be prepared for entry to mid-level positions within the industry. You can seek positions within foodservice, hospitality, and tourism.

Curriculum for a Certificate in Baking and Pastry

General Education Core	6
Baking and Pastry Core	24
Total Credit Hours Required	30

General Education Core

ENGL 110 - ~Technical Writing & Communication (3)

This course is designed to prepare students to write technical reports and other technical documents. Emphasis is on audience, clarity, conciseness, and accuracy of expression. It covers research techniques, information design, writing style, and effective use of graphics.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

MATH 101 - ~Introduction to Mathematics (3)

During this course topics to be covered are sets, mathematical logic, mathematical systems, the real number system, systematic counting, probability, measurement, and consumer mathematics. History of mathematics, critical thinking skills, problem solving, and use of technology will be incorporated throughout the course.

Prerequisite(s): MATH 100 - Math Essentials (3) or proper placement on test scores

Subtotal Credit Hours Required 6

Baking and Pastry Core

CART 100 - Intro Culinary Food Service (2)

This course is a comprehensive overview of foodservice operational equipment, identification, and maintenance as well as an introduction to culinary terminology, theory and history and how food moves through an operation. This course will also familiarize the student with essential food handling, safety, and storage guidelines encountered within the industry. This course also provides an overview of the professionalism in the culinary industry and career opportunities leading to a career pathway to the Food Service Industry.

Prerequisite(s): Required major in Baking and Pastry Certificate, Baking and Pastry, A.A.S., Catering & Hospitality Management, A.A.S., Culinary Arts Certificate, Culinary Arts, A.A.S., Food Service Retail Management Certificate, or Food Service Retail Management, A.A.S. is required.

CART 115 - Safety/Sanitation in Food Serv (2)

The Safety and Sanitation in the Food Service Industry course follow the format of the National Restaurant Association Educational Foundation ServSafe® Program. The course is designed as an industry-based program that prepares students for careers in the restaurant and foodservice industry. The emphasis of this program is to educate the students about the responsibilities which a foodservice manager and food service worker have to the public in providing safe and sanitary food to the consumer.

Prerequisite(s): Required major in Baking and Pastry Certificate, Baking and Pastry, A.A.S., Catering & Hospitality Management, A.A.S., Culinary Arts Certificate, Culinary Arts, A.A.S., Food Service Retail Management Certificate, or Food Service Retail Management, A.A.S. is required.

CART 120 - Bruin Cafe Lecture (1)

This course teaches students the practice and implementation of management principles as they relate to retail food service.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2)
Corerequisite(s): CART 120L - Bruin Cafe Lab (3)

CART 120L - Bruin Cafe Lab (3)

This course continues the development of retail skills in a supervised laboratory setting. Specific skills are correlated to lecture content in CART 120 - Bruin Cafe Lecture (1).

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2)
Corerequisite(s): CART 120 - Bruin Cafe Lecture (1)

CART 170 - Bread Fundamentals (1)

This course provides an introduction to the principles and techniques of the art and craft of bread making. Topics include formulas and techniques associated with naturally leavened loaves, hearth breads, focaccia, flat breads, rolls and other breads utilizing a variety of grains. Upon completion, students should be able to prepare classical and specialty breads that meet or exceed the expectations of restaurant and retail establishments.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2)
Corerequisite(s): CART 170L - Bread Fundamentals Lab (3)

CART 170L - Bread Fundamentals Lab (3)

This course continues the development of Baking Fundamental skills in a supervised laboratory setting. Specific skills are correlated to lecture content in CART 170.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2)
Corerequisite(s): CART 170 - Bread Fundamentals (1)

CART 212 - Baking Skills & Development (4)

This course provides students the fundamental skills for basic baking. Students will produce simple yeast doughs, quick breads, pies, cakes, cookies and other baked goods found in bakeries, restaurants and food markets. Instruction included classification of ingredients and their functions, baking terminology, culinary and bakery tool, and equipment use and recipe conversions.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2)

CART 245 - Cooking Fundamentals I Lecture (1)

This course is concurrent with CART 100 - Intro Culinary Food Service (2) by engaging the student in a practical application of learned terminology, methods, and techniques. Students will engage in ingredient production and recipe

application. We will introduce knife handling skills, basic cooking skills, mise en place, plating, reinforcing food safety and sanitation practices, practical application of the chef's prep list, and industry terminology and standards.

Prerequisite(s): Required major in Baking and Pastry Certificate, Baking and Pastry, A.A.S., Catering & Hospitality Management, A.A.S., Culinary Arts Certificate, Culinary Arts, A.A.S., Food Service Retail Management Certificate, or Food Service Retail Management, A.A.S. is required.

Corequisite(s): CART 100 - Intro Culinary Food Service (2) and CART 245L - Cooking Fundamentals I Lab (2)

CART 245L - Cooking Fundamentals I Lab (2)

This course is the companion to CART 245 - Cooking Fundamentals I Lecture (1) and is concurrent with CART 100 - Intro Culinary Food Service (2) by engaging the student in a practical application of learned terminology, methods, and techniques. Students will engage in ingredient production and recipe application. We will introduce knife handling skills, basic cooking skills, mise en place, plating, reinforcing food safety and sanitation practices, practical application of the chef's prep list, and industry terminology and standards

Prerequisite(s): Required major in Baking and Pastry Certificate, Baking and Pastry, A.A.S., Catering & Hospitality Management, A.A.S., Culinary Arts Certificate, Culinary Arts, A.A.S., Food Service Retail Management Certificate, or Food Service Retail Management, A.A.S. is required.

Corequisite(s): CART 100 - Intro Culinary Food Service (2) and CART 245 - Cooking Fundamentals I Lecture (1)

CART 280 - Cake Design and Professional Decorating (4)

This course focuses on the basic and advanced techniques used in wedding cake design, assembly, and construction. Areas of study include stacked and tiered cakes, decorating with buttercream and rolled fondant. Advanced cake decorating techniques will be used to produce upscale cakes to potential consumers.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2) and CART 212 - Baking Skills & Development (4)

- Free Electives (1)

Subtotal Credit Hours Required

24

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Bookkeeping Certificate

The Bookkeeping Certificate is designed to develop the ideal skill set for an individual to become a bookkeeper – the financial custodians of business. Students will learn and apply basic business, accounting and computer principles used by most small businesses. The goals of the certificate program are to prepare graduates to:

- Demonstrate a basic understanding of fundamental accounting and business knowledge.
- Analyze various accounting transactions for the purpose of recording and reporting the effects on business operation.
- Demonstrate competency in using business and accounting information technology.

- Express the appropriate verbal, non-verbal, professional, and technological communication skills.

Curriculum for a Certificate in Bookkeeping

General Education Core	9
Technical Core	21
Total Credit Hours Required	30

General Education Core

CAS 111 - Information Literacy (3)

This course covers a variety of introductory computing knowledge including how personal computers work, software essentials, hardware components, operating systems and the most popular productivity applications including word processing, spreadsheet, database and presentation software. Students will also be introduced to the Internet and e-mail essentials, file management and digital electronics. This course aligns with the Internet and Computing Core Certification (IC3), which demonstrates that a student has a clear understanding of the knowledge and application of computers and technology in the modern world.

COMM 202 - ~Fundamentals of Speech (3)

This course equips the student with the necessary tools to construct, deliver, and analyze public communication messages.

COMM 205 - ~Professional Communications (3)

This course examines the process of communication and the challenges to and effective practices of communicating in a professional environment. Topics include listening skills and verbal, nonverbal, and written communications. The dynamics of communicating in a group, in a global society, and in culturally diverse environments is also investigated. Students apply a systematic approach to plan and create effective letters, memos, reports, presentations, electronic and other forms of business and professional communication.

MATH 101 - ~Introduction to Mathematics (3)

During this course topics to be covered are sets, mathematical logic, mathematical systems, the real number system, systematic counting, probability, measurement, and consumer mathematics. History of mathematics, critical thinking skills, problem solving, and use of technology will be incorporated throughout the course.

Prerequisite(s): MATH 100 - Math Essentials (3) or proper placement on test scores

Subtotal Credit Hours Required **9**

Technical Core

ACCT 180 - Personal Finance (3)

This course offers a study of personal financial management. Students are equipped with the tools to make informed decisions related to spending, saving, borrowing, and investing to achieve financial goals now and in the future.

Prerequisite(s): MATH 100 - Math Essentials (3) or placement

ACCT 201 - Principles of Accounting I (3)

This course is a study of the fundamental theory and principles of accounting concepts for reporting financial information to business users. The course stresses the relationship between the rules by which financial statements are prepared and the use of financial statement information for decision making. This course covers accounting terms, organization of accounts, the accounting cycle, working papers, and financial statements. This study continues in ACCT 202 - Principles of Accounting II (3).

Prerequisite(s): MATH 100 - Math Essentials (3) or placement

ACCT 220 - Payroll Accounting (3)

This course covers the underlying payroll theory, application, and compliance with various state and federal payroll regulations. Presents accounting systems and methods used in computing and recording payroll. Students will complete a comprehensive payroll simulation for a fictitious company's payroll activities for a full quarter, including payroll transactions, pay processing, and tax form completion.

Prerequisite(s): ACCT 201 - Principles of Accounting I (3)

ACCT 261 - Individual Taxation (3)

This course introduces students to the basic issues and concepts of individual taxation principles. Students observe federal tax laws as applied to the preparation of the Form 1040 and related schedules. Tax preparation software is utilized for case projects.

Prerequisite(s): ACCT 201 - Principles of Accounting I (3)

ACCT 280 - QuickBooks Accounting (3)

This course offers a study of the application of general purpose accounting software, Quick Books. In this course, the student will learn to create companies, enter and process data, generate reports and complete the accounting cycle for small businesses. Then the student will complete several comprehensive projects where they will create a new company, record transactions, and produce reports for various types of fictitious companies. The student will be required to take a national competency test, the Quick Books Certified User exam.

Prerequisite(s): ACCT 201 - Principles of Accounting I (3) and CAS 111 - Information Literacy (3)

ACCT 215 - Small Business Accounting (3)

This course offers an introduction to some basic accounting practices for small businesses with application using accounting software. In this course, the student will be developing an accounting system for a small business and then using the system to manage the finances of a small business. This course covers accounting terms, basic accounting concepts, the accounting cycle, and financial statements.

Prerequisite(s): MATH 100 - Math Essentials (3) or placement

BUSN 108 - Business Etiquette & Image (3)

This course provides students a hands-on opportunity to develop the professional image needed to succeed in business. Activities range from the handshake and making introductions to telephone etiquette and table manners. Topics also include professional dress, conduct at work, managing technology, networking, interviewing, and resume development.

CAS 213 - Excel Complete (3)

This course provides comprehensive training in the use of Microsoft® Office Excel®. It is directly aligned with the Microsoft® Office Specialist certification exam which serves to validate an individual's skills and knowledge of the Office software. Topics covered include creating and designing spreadsheets, using charts, graphics, formulas, protecting, sharing, and delivering spreadsheet presentations.

Prerequisite(s): CAS 111 - Information Literacy (3)

- Restricted Electives (3)

Subtotal Credit Hours Required 21

Restricted Electives

- Any ACCT course 201 or higher (3) - not used above

BUSN 205 - Business Ethics (3)

This course considers business actions and decisions in relation to moral principles and values. Beginning with an introduction to ethical theory and personal credo, students apply a systematic approach to ethical decision making. That approach is then applied to business situations involving employee relations, consumer affairs, finance, government, and international competition. The role and expectations of business in society, both locally and globally, are discussed.

CAS 100 - Introduction to Keyboarding (2)

Emphasis is placed on the development of speed and accuracy in the operation of the computer keyboard. Basic document production including letters, memos, reports, and tables are covered. This course is offered for those who seek to build basic keyboarding skills.

CAS 101 - Documents Processing (3)

This course is an intermediate keyboarding class emphasizing further development of typing speed and accuracy, as well as the proper formatting and editing of business documents.

Prerequisite(s): CAS 100 Keyboarding or successful completion of the Special Exam for Course Credit.

CAS 210 - Outlook Complete (3)

This course uses a case method, problem-solving approach to learning the full scope of the features of Microsoft Office Outlook. Skills covered include creating and managing messages, scheduling appointments and events, creating and managing contacts, sending and managing tasks, and logging personal notes.

Prerequisite(s): CAS 111 - Information Literacy (3)

CAS 211 - Word Complete (3)

This course provides comprehensive training in the use of Microsoft® Office Word®. It is directly aligned with the Microsoft® Office Specialist certification exam which serves to validate an individual's skills and knowledge of the Office software. Topics covered include: creating and designing documents; incorporating table, charts, graphics, pictures and other media to enhance a document; and sharing, securing and printing documents.

Prerequisite(s): CAS 111 - Information Literacy (3)

CAS 230 - Office Administration (3)

This course is designed to provide the student with concepts and procedures necessary to develop hands on skills for the digital office environment. Other areas of study include critical thinking, sound reasoning, ethical decision making, high productivity and efficient use of technical office tools.

Prerequisite(s): CAS 111 - Information Literacy (3)

LGST 212 - Business Law (3)

This course is an introduction to the American legal system and its impact on the business environment. Topics considered include contracts, employment law, antitrust law, torts, consumer protection, and the business organization. This study prepares students to identify and limit risk in business dealings.

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Business and Technology Certificate

Designed to speed entry into a business environment, this certificate degree program equips students with knowledge of the business environment, commonly used computer application software, and trends affecting business and society. Crafted to meet the needs of employers and students alike, this program hones computer literacy, communication, and office administration skills for entry into a new workplace, or continued success within a current business environment.

Program Overview

The Business and Technology Certificate combines general education and business courses for the purpose of serving students studying business, office technology, and information technology. This certificate prepares students with introductory knowledge of the business environment, commonly used office technology programs, and up and coming trends affecting business and society.

To be eligible to earn a Blue Ridge Community and Technical College Certificate the student must be a current degree-seeking student or complete the application and admissions process to the college. Eligibility to earn and receive a Blue Ridge Community and Technical College Certificate does not interfere with the degree-seeking status of the student.

Program Outcomes

- Communicate effectively with both verbal and written forms.
- Research and present technological concepts using productivity software.
- Employ business-centered and professional applications for document processing, spreadsheets, databases, and presentation design.
- Utilize business-centered and professional software to create digital and/or print publications.
- Complete project-based activities, which incorporate publication and document creation, design skills, electronic presentation skills, to prepare for the work environment.

Career Opportunities

Communication and computer literacy skills may open the door to a wide range of advancement opportunities in legal, corporate, non-profit, and government office settings.

Curriculum for a Certificate in Business and Technology

General Education Core	9
Technical Core	21
Total Credit Hours Required	30

General Education Core

CAS 111 - Information Literacy (3)

This course covers a variety of introductory computing knowledge including how personal computers work, software essentials, hardware components, operating systems and the most popular productivity applications including word processing, spreadsheet, database and presentation software. Students will also be introduced to the Internet and e-mail essentials, file management and digital electronics. This course aligns with the Internet and Computing Core Certification (IC3), which demonstrates that a student has a clear understanding of the knowledge and application of computers and technology in the modern world.

COMM 202 - ~Fundamentals of Speech (3)

This course equips the student with the necessary tools to construct, deliver, and analyze public communication messages.

ENGL 110 - ~Technical Writing & Communication (3)

This course is designed to prepare students to write technical reports and other technical documents. Emphasis is on audience, clarity, conciseness, and accuracy of expression. It covers research techniques, information design, writing style, and effective use of graphics.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

MATH 101 - ~Introduction to Mathematics (3)

During this course topics to be covered are sets, mathematical logic, mathematical systems, the real number system, systematic counting, probability, measurement, and consumer mathematics. History of mathematics, critical thinking skills, problem solving, and use of technology will be incorporated throughout the course.

Prerequisite(s): MATH 100 - Math Essentials (3) or proper placement on test scores

Subtotal Credit Hours Required 9

Technical Core

BUSN 205 - Business Ethics (3)

This course considers business actions and decisions in relation to moral principles and values. Beginning with an introduction to ethical theory and personal credo, students apply a systematic approach to ethical decision making. That approach is then applied to business situations involving employee relations, consumer affairs, finance, government, and international competition. The role and expectations of business in society, both locally and globally, are discussed.

IT 105 - Computer Ethics (3)

This course is designed to educate existing and future Information Technology professionals on the tremendous impact ethical issues have on the use of information technology in the modern business world. The topics covered include an overview of ethics, ethics for IT professionals and IT users, computer internet and crime, privacy, freedom of expression, intellectual property, software development, and employer/employee Issues. Individual case examinations will be presented to more closely represent real-life examples of each of these topics.

- Practicum-Completion of CAS 192, CNET 192, CYBR 192, DBM 192, DMS 192, or IT 191 (1-2)
- Restricted Electives in any ACCT, BUSN, CAS, CGEN, CNET, CYBR, CJST, DMS, DBM, ECON, IT, MDIA, or SDE (16-17)

Subtotal Credit Hours Required 21

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Business Operations Certificate

This certificate degree program offers students an overview of business operations and its legal, ethical, and regulatory environments. Student exposure can be in basic accounting and customer service functions, nonprofit management or marketing and sales. Verbal and written communication skills are the basis of this program to help make students even more competitive in the job market.

Program Goals

The Business Operations Certificate is designed to lay a foundation of basic business principles required for success in the student's personal or career objectives. This 30 credit program can lead the student to finish the Associate of Applied Science in Business and beyond to a baccalaureate program.

Graduates will be able to:

- Communicate in a professional manner through both online and in-person communication.
- Evaluate both professional conduct and corporate conduct for ethical issues.
- Apply classroom skills to the real world through experience in the field.

Curriculum for a Certificate in Business Operations

General Education Core	9
Business Core	21
Total Credit Hours Required	30

General Education Core

COMM 202 - ~Fundamentals of Speech (3)

This course equips the student with the necessary tools to construct, deliver, and analyze public communication messages.

COMM 205 - ~Professional Communications (3)

This course examines the process of communication and the challenges to and effective practices of communicating in a professional environment. Topics include listening skills and verbal, nonverbal, and written communications. The dynamics of communicating in a group, in a global society, and in culturally diverse environments is also investigated. Students apply a systematic approach to plan and create effective letters, memos, reports, presentations, electronic and other forms of business and professional communication.

ENGL 101 - ~English Composition I (3)

ENGL 101 is an introduction to college writing. This class emphasizes processes for drafting, revising, and editing. It develops a student's ability to read a passage, analyze its meaning, and write an intelligent response which shows not only an understanding of the passage but also a working knowledge of the writing and rhetorical strategies. Students will learn how to make effective arguments and how to locate, synthesize, and evaluate relevant information.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 101L - English Composition I Lab (3), or placement test scores

- MATH 101 or higher (3)

Subtotal Credit Hours Required **9**

Business Core

AGRB 101 - Agribusiness Introduction (3)

This course presents a basic introduction to Agribusiness and Agriculture. Students will gain basic understanding of various topics in Agribusiness.

BUSN 101 - Introduction to Business (3)

This course provides an overview of the complex building blocks of business including administration, management, finance, labor, marketing, law, and ethics. These aspects are considered in reference to local and global markets, e-commerce, and evolving technology and trends.

BUSN 201 - Principles of Management (3)

This course examines the basic functions of management – planning, organizing, coordinating, and controlling - in a business organization. Students study management theory and practice in order to identify their own management style and appreciate the complex nature of management. The impact of social responsibility, corporate culture, and technological advances on management are also considered.

BUSN 213 - Small Business Fundamentals (3)

This course examines the opportunities and challenges of starting a small business. Various business entities will be explored as ways to start a new business. Other topics covered include financing a new business, partnerships, liability and risk, and franchising with a major emphasis on starting and growing the business.

ACCT 201 - Principles of Accounting I (3)

This course is a study of the fundamental theory and principles of accounting concepts for reporting financial information to business users. The course stresses the relationship between the rules by which financial statements are prepared and the use of financial statement information for decision making. This course covers accounting terms, organization of accounts, the accounting cycle, working papers, and financial statements. This study continues in ACCT 202 - Principles of Accounting II (3).

Prerequisite(s): MATH 100 - Math Essentials (3) or placement

BUSN 125 - Customer Service Management (3)

This course goes beyond just talking about service to analyzing the strategies that enable a business to attract, satisfy, and retain customers profitably. The focus is not identifying service problems but solving them. Students discover the importance of management, communication, and training and demonstrate meeting customers' needs.

BUSN 165 - Consumer Behavior (3)

This course studies the complex nature of buying decisions and how attitudes and perceptions, social class and family status, and technology and marketing influence those decisions. Consumers are considered as an individual and as members of groups making decisions on sales, advertising, and new product development. Students learn to be more effective marketing managers as well as more savvy consumers.

BUSN 175 - Human Resource Management I (3)

This course covers the components of human resource management from organizational assessment to manpower planning including recruitment and selection, training and development, and evaluation and compensation. The impact of employment laws, ethical considerations, global competition, and rapid technological advances on small and large organizations are also considered.

FINC 201 - Principles of Finance I (3)

This course exposes students to corporate finance. Other items covered include risk exposure and the U.S. financial system. Topics touched on will be Time Value of Money and risk.

Pre-requisite/Co-requisite(s): ACCT 201 - Principles of Accounting I (3) and ECON 205 - ~Principles of Macroeconomics (3)

BUSN 205 - Business Ethics (3)

This course considers business actions and decisions in relation to moral principles and values. Beginning with an introduction to ethical theory and personal credo, students apply a systematic approach to ethical decision making. That approach is then applied to business situations involving employee relations, consumer affairs, finance, government, and international competition. The role and expectations of business in society, both locally and globally, are discussed.

PHIL 205 - Introduction to Ethics (3)

The goals for Introduction to Ethics are to familiarize students with major traditional theories, thinkers, and concepts in ethics and to build students' skills in analyzing and solving ethical problems, defending views both orally and in writing. The study of ethics will enable students to understand, criticize, and construct philosophical arguments. This course will introduce students to questions about right and wrong that have puzzled and provoked thinkers for hundreds of years.

Prerequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement

LGST 212 - Business Law (3)

This course is an introduction to the American legal system and its impact on the business environment. Topics considered include contracts, employment law, antitrust law, torts, consumer protection, and the business organization. This study prepares students to identify and limit risk in business dealings.

- Any ACCT, AGRB, BUSN, ECON, or FINC course (9)

Subtotal Credit Hours Required 21

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Cisco Certified Network Associate (CCNA) Certificate

The Information Technology field is experiencing explosive growth and Cisco Certified professionals are needed throughout the region. This program will provide students with the essential knowledge to install, configure, and operate simple LANs, WLANs, and WANs and prepare for the Cisco™ Certified Network Associate (CCNA) certification exam.

Program Overview

The Cisco Certified Network Associate program has been created to address the needs of businesses and organizations within the local West Virginia community. Information Technology is a growing field in this area and the need for certified technicians is growing at a rapid rate. This program will address this need at a local level and allow for resident businesses and organizations to hire from a local pool of talent as opposed to hiring outside of the local community to address their needs. This program will provide the student with the essential knowledge to install, configure, and operate simple routed LANs, WLANs, and WANs and prepare for the Cisco™ Certified Network Associate (CCNA) certification. Switched LAN Emulation networks made up of Cisco™ equipment will also be taught. The program is a focused coverage of Cisco™ router configuration procedures, which will be mapped to exam objectives for the Cisco CCNA certification exams.

Students seeking a rapid path to employment may enroll in the Cisco Certified Network Associate Certification Program, which will provide the fundamental knowledge and skills required for employment in the Networking portion of the Information Technology field. Those seeking specific technical knowledge and a broader, more marketable understanding of the networking environment can pursue the Cisco Certified Network Associate Certificate option. Both programs are instructed by highly trained and credentialed faculty and incorporate technical modules, hands-on laboratories, and equipment training.

Students in the Cisco Certified Network Associate program are subject to Blue Ridge Community and Technical College's requirements for admission, basic skills testing, and appropriate course placement, including developmental education courses, which may not count toward completion of the program. Blue Ridge Community and Technical College requirements regarding academic standards and student conduct also apply.

Program Outcomes

- Develop the necessary troubleshooting skills to restore network operations.
- Demonstrate the necessary skills to configure small business networks.
- Construct and design a business network through a capstone project.
- Develop the necessary communication skills to be able to coordinate and work on a team project, learn how to troubleshoot logical and design errors along with technical errors, and be able to provide clear and effective documentation of a project to aid future work such as maintenance and upgrades.
- Prepare and take the Cisco™ Certified Network Associate (CCNA) certification exam.

Career Opportunities

Blue Ridge Community and Technical College provides the knowledge to gain entry-level jobs in the IT field. The program is an excellent starting point for students who are uncertain of their specific IT paths but are considering a degree in computer network engineering.

Curriculum for a Certificate in Cisco Certified Network Associate

CCNA Core	24
Total Credit Hours Required	30

General Education

COMM 202 - ~Fundamentals of Speech (3)

This course equips the student with the necessary tools to construct, deliver, and analyze public communication messages.

COMM 205 - ~Professional Communications (3)

This course examines the process of communication and the challenges to and effective practices of communicating in a professional environment. Topics include listening skills and verbal, nonverbal, and written communications. The dynamics of communicating in a group, in a global society, and in culturally diverse environments is also investigated. Students apply a systematic approach to plan and create effective letters, memos, reports, presentations, electronic and other forms of business and professional communication.

ENGL 101 - ~English Composition I (3)

ENGL 101 is an introduction to college writing. This class emphasizes processes for drafting, revising, and editing. It develops a student's ability to read a passage, analyze its meaning, and write an intelligent response which shows not only an understanding of the passage but also a working knowledge of the writing and rhetorical strategies. Students will learn how to make effective arguments and how to locate, synthesize, and evaluate relevant information.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 101L - English Composition I Lab (3), or placement test scores

ENGL 102 - ~English Composition II (3)

ENGL 102 is a continuation of English Composition I that provides experience in analyzing and writing arguments and persuasive prose. A central feature of the course is library research that is intended to develop familiarity with reference sources and skill in summarizing the diverse points of view of multiple sources. Requires students to locate, evaluate, integrate, and document sources effectively.

Prerequisite(s): ENGL 101 - ~English Composition I (3)

ENGL 110 - ~Technical Writing & Communication (3)

This course is designed to prepare students to write technical reports and other technical documents. Emphasis is on audience, clarity, conciseness, and accuracy of expression. It covers research techniques, information design, writing style, and effective use of graphics.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

MATH 105 - ^Algebra (3)

Topics explored in this course include properties of the real numbers, operations on polynomials, rational and radical expressions, solutions of linear, quadratic, polynomial, radical and absolute value equations and inequalities. Coordinate geometry including distance, midpoint, lines, and circles will also be explored. Additional topics include systems of linear equations and their applications, analysis of functions, operations on functions, transformations of functions, and properties of linear, piecewise, quadratic, polynomial, rational, exponential and logarithmic functions.

Prerequisite(s): MATH 100A - Algebra Essentials (3) or proper placement on test scores

MATH 106 - Trigonometry (3)

Topics explored in this course include the study of angles in radians and degrees and evaluating trigonometric functions using the right triangle and a unit circle approaches. Other topics to be explored include verifying trigonometric identities, solving trigonometric equations, solving applied problems using right triangles and oblique triangles, analyzing the graphs and characteristics of trigonometric and inverse trigonometric functions, performing composition and transformations on trigonometric functions, and evaluating inverse trigonometric functions. Time permitting topics include polar coordinates, complex numbers, deMoivre's Theorem, and vectors.

Prerequisite(s): MATH 105 - Algebra (3) or proper placement on test scores

Subtotal Credit Hours Required 6

CCNA Core

CNET 111 - Networking Fundamentals (3)

This course is designed to provide a detailed overview of the foundational concepts involved in networking and telecommunications. The OSI model will be examined in detail. Specific protocols and their operations will be examined. Methods of providing telecommunications and the technologies involved will be covered, as well as networking hardware, cabling, documentation, troubleshooting, implementations, planning, and an introduction of subnetting of networks and telecommunications systems.

CNET 131 - Introduction to Networks (4)

This is the first course in a sequence that leads to the Cisco Certified Network Associate (CCNA) certification. The course covers network design based on the OSI Model as well as cable management, the functionality of networks, and the standards of network architecture. Through the duration of this course, students will engage in lab activities that emphasize the use of network tools and be exposed to applications needed for programming a network. Students will develop a base understanding of networking concepts preparing them for future courses. Course sequence mapped to CCNA certification: CNET 131, CNET 211, CNET 221.

Prerequisite(s): CNET 111 - Networking Fundamentals (3)

CNET 211 - Switch, Route & Wireless Essen (5)

This is the second course in a sequence leading to the Cisco Certified Network Associate (CCNA) Certification. This course covers local area network design and implementation. Specific topics include basic routing, switching, and wireless protocols. Students will engage in hands-on labs which will teach them the skills and troubleshooting techniques needed in the field. Upon learning these skills and protocols, students will complete a capstone project illustrating a Small Business network. Course sequence mapped to CCNA certification: CNET 131, CNET 211, CNET

221.

Prerequisite(s): CNET 131 - Introduction to Networks (4)

CNET 221 - Enterprise, Networking, Security (6)

This is the third and final course in a sequence leading to the Cisco Certified Network Associate (CCNA) certification. This course covers enterprise tools and techniques. Specific topics include basic security and automation. Students will also get exposed to more advanced networking tools used in the field. Throughout this course, students will begin to prepare and study for the CCNA exam. Upon completion of the required material, students will take the CCNA 200-301 exam. Course sequence mapped to CCNA certification: CNET 131, CNET 211, CNET 221.

Prerequisite(s): CNET 211 - Switch, Route & Wireless Essentials (5)

CYBR 101 - Intro to CyberSecurity (3)

This course provides an overview of the field of cybersecurity. It covers core cybersecurity topics including computer system architectures, critical infrastructures, cyber threats and vulnerabilities, cryptography, information assurance, network security, digital forensics, and risk assessment and management. Topics such as industrial espionage, hacking, and cyber terrorism and information warfare will be discussed.

CYBR 160 - Information Security Fundamentals (3)

This course offers in-depth coverage of the current risks and threats to an organization's data, combined with a structured way of addressing the safeguarding of these critical electronic assets. The course provides a foundation for those new to Information Security as well as those responsible for protecting network services, devices, traffic, and data. Additionally, the course provides the broad-based knowledge necessary to prepare students for further study in other specialized security fields.

Prerequisite(s): CYBR 101 - Intro to CyberSecurity (3) and CNET 111 - Networking Fundamentals (3)

Subtotal Credit Hours Required 24

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Cisco Certified Network Professional (CCNP) Certificate

The Cisco Certified Network Professional program has been created to address the expanding technology needs of businesses and organizations within the local West Virginia community. Designed to create a talent pool within our region, Blue Ridge Community and Technical College will equip students with the essential knowledge to install, configure, operate, troubleshoot, and manage advanced routing protocols; campus-wide enterprise networks; advanced switching technologies; network security; and Quality of Service (QoS).

Program Overview

Information Technology is a growing field in this area and the need for certified technicians is growing at a rapid rate. This program will address this need at a local level and allow for resident businesses and organizations to hire from a local pool of talent as opposed to hiring outside of the local community to address their needs.

Students seeking a rapid path to employment may enroll in the Cisco Certified Network Professional Certificate program. Those students seeking specific technical knowledge and a broader, more marketable understanding of networking can pursue the Cisco Networking Certificate option. Additionally, students may enroll in the A.A.S. degree, Computer Network Engineering Technologies in order to further augment their potential profitability. All programs are instructed by highly trained and credentialed faculty and incorporate technical modules, hands-on laboratories, and equipment training.

Students in any of the Cisco programs are subject to Blue Ridge Community and Technical College's requirements for admission, basic skills testing, and appropriate course placement, including developmental education courses, which may not count toward the completion of the program. Blue Ridge Community and Technical College requirements regarding academic standards and student conduct also apply.

Program Outcomes

- Understand and demonstrate the advanced routing protocols used by Internet Service Providers (ISPs).
- Exhibit an understanding of Advanced Layer 3 Switching through a final project.
- Illustrate the necessary troubleshooting skills used by advanced networking technicians.
- Develop the necessary communication skills to be able to coordinate and work on a team project, learn how to troubleshoot logical and design errors along with technical errors, and be able to provide clear and effective documentation of a project to aid future work such as maintenance and upgrades.

Career Opportunities

The Blue Ridge Community and Technical College Cisco certified network professional plan of study is designed to speed the graduate transition into an entry-level position in networking. Students seeking a broader, more marketable understanding of networking may pursue the Cisco networking certificate option, or enroll in our degree program in computer network engineering technologies to strengthen earning power.

Curriculum for a Certificate in Cisco Certified Network Professional

General Education	6
CCNP Core	24
Total Credit Hours Required	30

General Education Core

ENGL 110 - ~Technical Writing & Communication (3)

This course is designed to prepare students to write technical reports and other technical documents. Emphasis is on audience, clarity, conciseness, and accuracy of expression. It covers research techniques, information design, writing style, and effective use of graphics.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

MATH 105 - ^Algebra (3)

Topics explored in this course include properties of the real numbers, operations on polynomials, rational and radical expressions, solutions of linear, quadratic, polynomial, radical and absolute value equations and inequalities. Coordinate geometry including distance, midpoint, lines, and circles will also be explored. Additional topics include systems of linear equations and their applications, analysis of functions, operations on functions, transformations of functions, and properties of linear, piecewise, quadratic, polynomial, rational, exponential and logarithmic functions.

Prerequisite(s): MATH 100A - Algebra Essentials (3) or proper placement on test scores

Subtotal Credit Hours Required 6

CCNP Core

CNET 221 - Enterprise, Networking, Security (6)

This is the third and final course in a sequence leading to the Cisco Certified Network Associate (CCNA) certification. This course covers enterprise tools and techniques. Specific topics include basic security and automation. Students will also get exposed to more advanced networking tools used in the field. Throughout this course, students will begin to prepare and study for the CCNA exam. Upon completion of the required material, students will take the CCNA 200-301 exam. Course sequence mapped to CCNA certification: CNET 131, CNET 211, CNET 221.

Prerequisite(s): CNET 211 - Switch, Route & Wireless Essen (5)

CNET 265 - Advanced Routing (6)

This is the first course in a sequence leading to the Cisco Certified Network Professional (CCNP) certification. This course covers advanced routing protocols and configurations for use in the enterprise network as well as IPv6 transitioning strategies. Students will engage in challenging hands-on lab activities including skill building and troubleshooting practice. Course sequence mapped to CCNP: CNET 265, CNET 266 - Advanced Switching (4), CNET 267 - Advanced Troubleshooting (4).

Prerequisite(s): CNET 221 - Enterprise, Networking, Security (6)

CNET 266 - Advanced Switching (4)

This is the second course in a sequence leading to the Cisco Certified Network Professional (CCNP) certification. This course covers layer three switching, advanced switching techniques, as well as, implementing wireless and voice into the switched network. Students will engage in challenging hands-on lab activities including skill building and troubleshooting practice. Course sequence mapped to CCNP certification: CNET 265, CNET 266, CNET 267.

Prerequisite(s): CNET 211 - Switch, Route & Wireless Essen (5)

Corequisite(s): CNET 221 - Enterprise, Networking, Security (6)

CNET 267 - Advanced Troubleshooting (4)

This is the third course in a sequence leading to the Cisco Certified Network Professional (CCNP) certification. This course covers a wide variety of troubleshooting techniques in order to maintain networks as well as methodologies for working with larger enterprise networks and their advanced configurations. Students will engage in challenging hands-on lab activities including skill building and troubleshooting practice. Course sequence mapped to CCNP certification: CNET 265, CNET 266, CNET 267.

Prerequisite(s): CNET 265 - Advanced Routing (6) and CNET 266 - Advanced Switching (4)

- Restricted Electives in BUSN, CAS, CNET, CJST, CYBR, or IT (4)

Subtotal Credit Hours Required 24

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Communication Studies

This certificate provides the foundation for understanding the communication process used in both professional and personal environments. The student is introduced to techniques including non-verbal, professional, interpersonal, intercultural, persuasive, and social media communication. Alone, this Certificate enhances the communicator's ability to effectively and appropriately express ideas and share information. Combined with the Liberal Arts degree requirements, this Certificate leads to an Associate of Arts Degree in Liberal Arts with a concentration in Communication Studies.

Program Outcomes for Communication Studies Certificate:

- Provide the foundation for student's understanding of the communication process used in both professional and personal situations.
- Introduce student to techniques for improving non-verbal, professional, interpersonal, intercultural, persuasive, and social media communication.
- Enhance student's ability to effectively and appropriately express ideas and share information relevant to the audience, purpose, and situation.

Curriculum for a Certificate in Communication Studies

General Education Core	6
Communication Studies Core	24
Total Credit Hours Required	30

General Education Core

COMM 202 - ~Fundamentals of Speech (3)

This course equips the student with the necessary tools to construct, deliver, and analyze public communication messages.

COMM 205 - ~Professional Communications (3)

This course examines the process of communication and the challenges to and effective practices of communicating in a professional environment. Topics include listening skills and verbal, nonverbal, and written communications. The dynamics of communicating in a group, in a global society, and in culturally diverse environments is also investigated. Students apply a systematic approach to plan and create effective letters, memos, reports, presentations, electronic and other forms of business and professional communication.

ENGL 101 - ~English Composition I (3)

ENGL 101 is an introduction to college writing. This class emphasizes processes for drafting, revising, and editing. It develops a student's ability to read a passage, analyze its meaning, and write an intelligent response which shows not only an understanding of the passage but also a working knowledge of the writing and rhetorical strategies. Students will learn how to make effective arguments and how to locate, synthesize, and evaluate relevant information.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 101L - English Composition I Lab (3), or placement test scores

MATH 101 - ~Introduction to Mathematics (3)

During this course topics to be covered are sets, mathematical logic, mathematical systems, the real number system, systematic counting, probability, measurement, and consumer mathematics. History of mathematics, critical thinking skills, problem solving, and use of technology will be incorporated throughout the course.

Prerequisite(s): MATH 100 - Math Essentials (3) or proper placement on test scores

Subtotal Credit Hours Required 6

Communication Studies Core

Choose 6 credits (2 courses) from the list below:

COMM 203 - Ethical Communication (3)

This course examines the practice of ethical communication and the development of personal, ethical standards for communication in personal relationships, family, workplace environments, and society. Students will explore six ethical values of human communication, including trust, justice, freedom, care, integrity, and honor, and apply them to everyday communication situations. This course also addresses the issues of freedom and truth in digital communication as well as traditional approaches to ethical theory.

COMM 207 - Interpersonal Comm Workplace (3)

This course creates a thoughtful look at the key skills necessary for personal and managerial success today. The student will discover interpersonal communications using three frames understanding yourself, understanding and working with others, and understanding and working in teams. The course takes an experiential approach to exercises, cases, and other activities.

COMM 230 - Art & Science of Persuasion (3)

This course addresses the principles, techniques, and ethics of persuasion as producers and consumers of information in both personal and professional contexts. Topics include the use of ethos, pathos, and logos; the importance of

audience, purpose, and situational analysis; and the impact of language and listening skills on developing and responding to persuasive messages. Students will apply theories of persuasion and influence to real-world situations including interpersonal relationships, advertising campaigns, news media, television programs, film, and mediated communication, and become effective, ethical communicators as well as informed, analytical consumers.

Choose 6 credits (2 courses) from the list below:

COMM 201 - Nonverbal Communication (3)

This course explores the theories, definitions, and characteristics of nonverbal communication including gestures, movement, facial expressions, vocal behavior, proximity, and appearance and situational and/or cultural differences. In the context of communication theory and research, students examine the ways verbal communication and nonverbal communication intersect in everyday encounters and develop strategies to assure that nonverbal cues align with and/or enhance communication messages.

COMM 206 - Social Media Communication (3)

This course examines social media in the interpersonal, mass-mediated, educational, organizational, and political settings. Students will explore different forms of social media technologies in communication, including social networking sites, image sharing and messaging sites, social community and discussion sites, and social bookmarking sites. The course disassembles application of social media in a variety of settings to understand who is using social media, how they develop meaningful relationships, and how they use social media during major events.

COMM 220 - Intro to Intercultural Comm (3)

This course examines the practical application of theory and research in the area of intercultural communications. The course activities and assignments are designed to develop skills and strategies needed to deal effectively with challenges in a broad variety of interactional contexts involving intercultural communication. The course will cover topics including perception, convergence, communication, linguistic differences, ecological influences, dimensions of cultural organization and power, stereotyping, and intercultural challenges, adaptation, and culture shock.

- Free Electives: Any course numbered 101 or above (12)

Subtotal Credit Hours Required 24

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Computer Aided Design Certificate

Blue Ridge Community and Technical College can help you ascend to a career in design. As the only collegiate CAD/BIM program in the Eastern Panhandle, we help you understand principles of design and apply them to government and industry standards. Throughout the program, our expert instructors train you in the techniques and cutting-edge technologies embraced by the industry today.

Program Overview

The CAD/BIM program is a 30-hour training program in which students will use computer systems in the creation, modification, analysis or optimization of a design. Computer-Aided Design is the process of creating a technical drawing with the use of computer software. CAD software is used to increase the productivity of the designer, improve the quality of design, improve communications through documentation, and to create a database for manufacturing. Building Information Modeling is the creation of documents necessary for the design and construction of residential and commercial buildings, and all the systems within those buildings. Students will utilize state-of-the-art industry-recognized software. 3D modeling is emphasized, and equipment such as 3D printers, CNC machinery, laser engravers, and plasma cutters are included in the program to develop the link between design and production.

This certificate program is designed to be diverse, preparing students to enter a variety of CAD and CAD-related fields. Students trained in CAD/BIM may find jobs in architecture, mechanical design, surveying, civil design or geographic information systems.

Program Outcomes

- Demonstrate professionalism (on time, positive attitude, respectful).
- Practice teambuilding and effective communication.
- Identify tools and equipment used in Civil CAD and surveying.
- Understand drawings and graphics used in CAD and engineering projects.
- Develop a basic understanding of Civil CAD and Surveying.
- Develop an understanding of GIS.
- Demonstrate the safe operation of 3D modeling equipment.
- Develop parametric design solutions using 3D modeling software.
- Develop residential and commercial building models using 3D modeling software.

Career Opportunities

The knowledge and skills gained may help you secure entry-level employment on a design and construction team.

Curriculum for a Certificate in Computer Aided Drafting

General Education Core	9
Technical Core	21
Total Credit Hours Required	30

General Education Core

CAS 111 - Information Literacy (3)

This course covers a variety of introductory computing knowledge including how personal computers work, software essentials, hardware components, operating systems and the most popular productivity applications including word processing, spreadsheet, database and presentation software. Students will also be introduced to the Internet and e-mail essentials, file management and digital electronics. This course aligns with the Internet and Computing Core Certification (IC3), which demonstrates that a student has a clear understanding of the knowledge and application of computers and technology in the modern world.

ENGL 110 - ~Technical Writing & Communication (3)

This course is designed to prepare students to write technical reports and other technical documents. Emphasis is on audience, clarity, conciseness, and accuracy of expression. It covers research techniques, information design, writing style, and effective use of graphics.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

MATH 102 - Technical Mathematics (3)

This course focuses on computational fluency and applied problem solving with emphasis on the following topics: real numbers, ratios, percents, proportions, estimation, exponents, roots, scientific notation, applied algebra, measurement, applied geometry, electrical formulas and laws, basic statistics, basic trigonometry and vectors.

Prerequisite(s): MATH 100 - Math Essentials (3) or proper placement on test scores

MATH 105 - ^Algebra (3)

Topics explored in this course include properties of the real numbers, operations on polynomials, rational and radical expressions, solutions of linear, quadratic, polynomial, radical and absolute value equations and inequalities. Coordinate geometry including distance, midpoint, lines, and circles will also be explored. Additional topics include systems of linear equations and their applications, analysis of functions, operations on functions, transformations of functions, and properties of linear, piecewise, quadratic, polynomial, rational, exponential and logarithmic functions.

Prerequisite(s): MATH 100A - Algebra Essentials (3) or proper placement on test scores

Subtotal Credit Hours Required 9

Technical Core

CAD 102 - CAD Applications (2)

CAD Applications will be a continuation of CAD 101 - Intro to Engineering Graphics (2). This course will be a software based class that will prepare the student to produce accurate 2D and 3D drawings following ANSI standards. The class will focus on tools, editing, layers, dimensions and tolerances, and plotting to produce orthographic, section, auxiliary, isometric and oblique drawings. CAD 102L - CAD Applications Lab (2) is the laboratory portion of this class.

Corequisite(s): CAD 201L - 3D Modeling Lab (2)

CAD 102L - CAD Applications Lab (2)

This is the laboratory portion of CAD Applications and it will be a continuation of CAD 101- Introduction to Engineering Graphics. This course will be a software-based class that will prepare the student to produce accurate 2D and 3D drawings following ANSI standards. The class will focus on tools, editing, layers, dimensions and tolerances, and plotting to produce orthographic, section, auxiliary, isometric and oblique drawings.

Corerequisite(s): CAD 102 - CAD Applications (2)

CAD 106 - Intro to Civil CAD & Surveying (2)

Introduction to Civil CAD and Surveying will introduce the student to the use of the computer-aided design in a variety of civil engineering applications including property description, road layout, cut and fill calculations, and topography. Included will be an introduction to surveying, which will introduce the basics of accurately measuring distances, bearing, and topography to describe a property.

Corerequisite(s): CAD 106L - Intro to Civil CAD Lab (1)

CAD 106L - Intro to Civil CAD Lab (1)

This is the laboratory component of Introduction to Civil CAD and Surveying. This course will introduce the student to the use of the computer-aided design in a variety of civil engineering applications including property description, road layout, cut and fill calculations, and topography. Included will be an introduction to surveying, which will introduce the basics of accurately measuring distances, bearing, and topography to describe a property.

Corerequisite(s): CAD 106 - Intro to Civil CAD & Surveying (2)

CAD 108 - Geographic Information Systems (2)

Geographic Information Systems are a growing part of every aspect of technology and engineering. In this course the student will explore the building blocks of this complex worldwide system including elements of GIS, analysis of spatial information, real-world applications, map creation and analysis. Primary objective is to investigate interactive GIS application rather than develop expert users.

Prerequisite(s): CAD 106 - Intro to Civil CAD & Surveying (2)

CAD 201 - 3D Modeling (1)

In this course students will learn to use 3D modeling software to develop parametric design solutions for various engineering problems. Students will develop designs, learn and apply ANSI (American National Standards Institute) standards, explore finite element analysis, and develop working, assembly and presentation drawings.

Corerequisite(s): CAD 201L - 3D Modeling Lab (2)

CAD 201L - 3D Modeling Lab (2)

In this course, students will learn to use 3D modeling software to develop parametric design solutions for various engineering problems. During the lab component, students will develop designs, learn and apply ANSI (American National Standards Institute) standards, explore finite element analysis, and develop working, assembly and presentation drawings.

Corerequisite(s): CAD 201 - 3D Modeling (1)

CAD 205 - Building Information Modeling (1)

Building Information Modeling will introduce the student to the use of 3D modeling software to create architectural drawings and documentation. Students will develop residential and commercial models.

Corerequisite(s): CAD 205L - Building Info Modeling Lab (2)

CAD 205L - Building Info Modeling Lab (2)

This is the lab component of Building Information Modeling. This course will introduce the student to the use of 3D modeling software to create architectural drawings and documentation. Students will develop residential and commercial models as well as plot and landscaping plans.

Corerequisite(s): CAD 205 - Building Information Modeling (1)

CAD 292 - CAD Internship (1-4)

The CAD internship is a working relationship between the student, an employer and the instructor, whereby the student will serve a predetermined number of hours working for a local firm as a CAD operator, surveying technician, GIS technician or other related career field.

- Restricted Electives in CAD or MECH (4)

MET 200 - Introduction to CAM (2)

This course is a study of the basic concepts of automation. These concepts include machine language computer programming, computer process monitoring, process-computer interfaces, and automation problem-solving. The laboratory will consist of team problem-solving in automation and operation of computer-aided manufacturing systems.

Pre-requisite/Co-requisite(s): MATH 100A - Algebra Essentials (3), MATH 102 - Technical Mathematics (3), or placement

Subtotal Credit Hours Required 21

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Computer Application Specialist Certificate

The Computer Applications Certificate combines traditional, professional and business communication with computer applications. Certifications such as Microsoft Word, Excel, and Windows work well with the electives in this certificate program.

Program Outcomes

- Complete hands-on activities that help develop computer application fluency and fundamental technical skills.
- Employ business-centered and professional applications for document processing, spreadsheets, databases, and presentation design.

- Complete project-based activities, which incorporate publication and document creation, design skills, electronic presentation skills, to prepare for the work environment.
- Utilize business-centered and professional software to create digital and/or print publications.

To be eligible to earn a Blue Ridge Community and Technical College Certificate the student must be a current degree-seeking student or complete the application and admissions process to the College. Eligibility to earn and receive a Blue Ridge Community and Technical College Certificate does not interfere with the degree-seeking status of the student.

Curriculum for a Certificate in Computer Application Specialist

General Education Core	6
Technical Core	24
Total Credit Hours Required	30

General Education Core

COMM 202 - ~Fundamentals of Speech (3)

This course equips the student with the necessary tools to construct, deliver, and analyze public communication messages.

ENGL 110 - ~Technical Writing & Communication (3)

This course is designed to prepare students to write technical reports and other technical documents. Emphasis is on audience, clarity, conciseness, and accuracy of expression. It covers research techniques, information design, writing style, and effective use of graphics.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

MATH 101 - ~Introduction to Mathematics (3)

During this course topics to be covered are sets, mathematical logic, mathematical systems, the real number system, systematic counting, probability, measurement, and consumer mathematics. History of mathematics, critical thinking skills, problem solving, and use of technology will be incorporated throughout the course.

Prerequisite(s): MATH 100 - Math Essentials (3) or proper placement on test scores

Subtotal Credit Hours Required **6**

Technical Core

BUSN 101 - Introduction to Business (3)

This course provides an overview of the complex building blocks of business including administration, management, finance, labor, marketing, law, and ethics. These aspects are considered in reference to local and global markets, e-commerce, and evolving technology and trends.

CAS 192 - Computer Apps Practicum (1)

This course will cover testing methodologies and study techniques to assist in preparing students for the Internet and Computing Core (IC3) certification exam.

Prerequisite(s): CAS 111 - Information Literacy (3)

CAS 211 - Word Complete (3)

This course provides comprehensive training in the use of Microsoft® Office Word®. It is directly aligned with the Microsoft® Office Specialist certification exam which serves to validate an individual's skills and knowledge of the Office software. Topics covered include: creating and designing documents; incorporating table, charts, graphics, pictures and other media to enhance a document; and sharing, securing and printing documents.

Prerequisite(s): CAS 111 - Information Literacy (3)

CAS 213 - Excel Complete (3)

This course provides comprehensive training in the use of Microsoft® Office Excel®. It is directly aligned with the Microsoft® Office Specialist certification exam which serves to validate an individual's skills and knowledge of the Office software. Topics covered include creating and designing spreadsheets, using charts, graphics, formulas, protecting, sharing, and delivering spreadsheet presentations.

Prerequisite(s): CAS 111 - Information Literacy (3)

CAS 215 - Windows Complete (3)

This course provides comprehensive training in the use of Microsoft® Office Windows®. It is directly aligned with the Microsoft® Office Specialist certification exam which serves to validate an individual's skills and knowledge of the Office software. Topics covered include organizing files and folders, personalizing the Windows workspace, searching for files and folders, managing system resources, using Windows and the Internet, and managing a networked environment.

Prerequisite(s): CAS 111 - Information Literacy (3)

BUSN 205 - Business Ethics (3)

This course considers business actions and decisions in relation to moral principles and values. Beginning with an introduction to ethical theory and personal credo, students apply a systematic approach to ethical decision making. That approach is then applied to business situations involving employee relations, consumer affairs, finance, government, and international competition. The role and expectations of business in society, both locally and globally, are discussed.

IT 105 - Computer Ethics (3)

This course is designed to educate existing and future Information Technology professionals on the tremendous impact ethical issues have on the use of information technology in the modern business world. The topics covered include an

overview of ethics, ethics for IT professionals and IT users, computer internet and crime, privacy, freedom of expression, intellectual property, software development, and employer/employee Issues. Individual case examinations will be presented to more closely represent real-life examples of each of these topics.

- Restricted Electives in any ACCT, BUSN, CAS, CNET, CYBR, ECON, IT, or MDIA (8)

Subtotal Credit Hours Required **24**

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Culinary Arts Certificate

This economical, practical certificate program prepares you with the skills necessary to enter the foodservice industry as an entry to a mid-level position within the foodservice, hospitality and tourism industry through a certificate program.

Program Overview

Students will learn classical cooking techniques, which include a wide variety of regional cuisines, along with courses that build on immersing the student into all aspects of culinary foundations such as safety and sanitation, food costing, product efficiency, sense of urgency, attention to detail and culinary artistry. Practical lab experiences will help to complete the well-rounded student for entry into the workforce. Students will be able to experience the flow of their product from creation to service in this degree program through our Bruin Café lab and other service opportunities.

Program Outcomes

- Demonstrate an organized and sanitary workstation.
- Demonstrate accurate measuring and portioning.
- Identify and describe procedures and techniques for controlling food costs.
- Demonstrate accurately sized knife cuts.
- Demonstrate how to safely handle and operate knives and kitchen equipment.
- Practice team building and communication.
- Identify ingredients.
- Follow standardized recipes and production procedures.
- Identify and execute cooking methods.
- Demonstrate professionalism (clean and complete uniform, on time, good attitude, respectful).

Career Opportunities

If you choose a certificate in Culinary Arts, you will be prepared for entry to mid-level positions within the industry. You can seek positions within foodservice, hospitality, and tourism.

Curriculum for a Certificate in Culinary Arts

Culinary Arts Core	24
Total Credit Hours Required	30

General Education Core

ENGL 110 - ~Technical Writing & Communication (3)

This course is designed to prepare students to write technical reports and other technical documents. Emphasis is on audience, clarity, conciseness, and accuracy of expression. It covers research techniques, information design, writing style, and effective use of graphics.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

MATH 101 - ~Introduction to Mathematics (3)

During this course topics to be covered are sets, mathematical logic, mathematical systems, the real number system, systematic counting, probability, measurement, and consumer mathematics. History of mathematics, critical thinking skills, problem solving, and use of technology will be incorporated throughout the course.

Prerequisite(s): MATH 100 - Math Essentials (3) or proper placement on test scores

Subtotal Credit Hours Required 6

Culinary Arts Core

CART 100 - Intro Culinary Food Service (2)

This course is a comprehensive overview of foodservice operational equipment, identification, and maintenance as well as an introduction to culinary terminology, theory and history and how food moves through an operation. This course will also familiarize the student with essential food handling, safety, and storage guidelines encountered within the industry. This course also provides an overview of the professionalism in the culinary industry and career opportunities leading to a career pathway to the Food Service Industry.

Prerequisite(s): Required major in Baking and Pastry Certificate, Baking and Pastry, A.A.S., Catering & Hospitality Management, A.A.S., Culinary Arts Certificate, Culinary Arts, A.A.S., Food Service Retail Management Certificate, or Food Service Retail Management, A.A.S. is required.

CART 115 - Safety/Sanitation in Food Serv (2)

The Safety and Sanitation in the Food Service Industry course follow the format of the National Restaurant Association Educational Foundation ServSafe® Program. The course is designed as an industry-based program that prepares students for careers in the restaurant and foodservice industry. The emphasis of this program is to educate the students about the responsibilities which a foodservice manager and food service worker have to the public in providing safe and sanitary food to the consumer.

Prerequisite(s): Required major in Baking and Pastry Certificate, Baking and Pastry, A.A.S., Catering & Hospitality Management, A.A.S., Culinary Arts Certificate, Culinary Arts, A.A.S., Food Service Retail Management Certificate, or Food Service Retail Management, A.A.S. is required.

CART 120 - Bruin Cafe Lecture (1)

This course teaches students the practice and implementation of management principles as they relate to retail food service.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2)
Corerequisite(s): CART 120L - Bruin Cafe Lab (3)

CART 120L - Bruin Cafe Lab (3)

This course continues the development of retail skills in a supervised laboratory setting. Specific skills are correlated to lecture content in CART 120 - Bruin Cafe Lecture (1).

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2)
Corerequisite(s): CART 120 - Bruin Cafe Lecture (1)

CART 200 - International Cuisines Lecture (1)

In this course, students will learn the impact of religions and cultures on cuisines throughout the world. This course introduces students to ingredients, cooking methods, and presentations specific to international cuisines.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2), CART 245 - Cooking Fundamentals I Lecture (1), CART 245L - Cooking Fundamentals I Lab (2), CART 246 - Cooking Fundamentals II (1), and CART 246L - Cooking Fundamentals II Lab (2)
Corerequisite(s): CART 200L - International Cuisines Lab (2)

CART 200L - International Cuisines Lab (2)

This lab course allows students to practice to improve skills, knowledge, and abilities using basic cooking techniques specific to cultural and regional cuisines.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2), CART 245 - Cooking Fundamentals I Lecture (1), CART 245L - Cooking Fundamentals I Lab (2), CART 246 - Cooking Fundamentals II (1), and CART 246L - Cooking Fundamentals II Lab (2)
Corerequisite(s): CART 200 - International Cuisines Lecture (1)

CART 201 - Stocks, Soups, and Sauces (1)

This course provides the lecture format to the principles and techniques of basic stocks, Mother (leading) sauces, and soups along with varied thickening agents. Special emphasis will be placed on preparation, sanitation, and the presentation.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2), CART 245 - Cooking Fundamentals I Lecture (1), and CART 245L - Cooking Fundamentals I Lab (2)

CART 201L - Stock, Soups & Sauces Lab (2)

This course provides a hands-on lab format to the principles and techniques of basic stocks, Mother (leading) sauces, and soups along with varied thickening agents. Special emphasis will be placed on preparation, sanitation, and the presentation.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2), CART 245L - Cooking Fundamentals I Lab (2), and CART 245 - Cooking Fundamentals I Lecture (1)

CART 212 - Baking Skills & Development (4)

This course provides students the fundamental skills for basic baking. Students will produce simple yeast doughs, quick breads, pies, cakes, cookies and other baked goods found in bakeries, restaurants and food markets. Instruction included classification of ingredients and their functions, baking terminology, culinary and bakery tool, and equipment use and recipe conversions.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2)

CART 245 - Cooking Fundamentals I Lecture (1)

This course is concurrent with CART 100 - Intro Culinary Food Service (2) by engaging the student in a practical application of learned terminology, methods, and techniques. Students will engage in ingredient production and recipe application. We will introduce knife handling skills, basic cooking skills, mise en place, plating, reinforcing food safety and sanitation practices, practical application of the chef's prep list, and industry terminology and standards.

Prerequisite(s): Required major in Baking and Pastry Certificate, Baking and Pastry, A.A.S., Catering & Hospitality Management, A.A.S., Culinary Arts Certificate, Culinary Arts, A.A.S., Food Service Retail Management Certificate, or Food Service Retail Management, A.A.S. is required.

Corequisite(s): CART 100 - Intro Culinary Food Service (2) and CART 245L - Cooking Fundamentals I Lab (2)

CART 245L - Cooking Fundamentals I Lab (2)

This course is the companion to CART 245 - Cooking Fundamentals I Lecture (1) and is concurrent with CART 100 - Intro Culinary Food Service (2) by engaging the student in a practical application of learned terminology, methods, and techniques. Students will engage in ingredient production and recipe application. We will introduce knife handling skills, basic cooking skills, mise en place, plating, reinforcing food safety and sanitation practices, practical application of the chef's prep list, and industry terminology and standards

Prerequisite(s): Required major in Baking and Pastry Certificate, Baking and Pastry, A.A.S., Catering & Hospitality Management, A.A.S., Culinary Arts Certificate, Culinary Arts, A.A.S., Food Service Retail Management Certificate, or Food Service Retail Management, A.A.S. is required.

Corequisite(s): CART 100 - Intro Culinary Food Service (2) and CART 245 - Cooking Fundamentals I Lecture (1)

CART 246 - Cooking Fundamentals II (1)

This course focuses on expanding the knowledge, skills, cooking techniques and principles learned in CART 245 - Cooking Fundamentals I Lecture (1) and CART 245L - Cooking Fundamentals I Lab (2). Special influences are put on knife skills, advanced cooking techniques, portioning and presentation, safety and sanitation. Students will learn to create balanced and eye appealing meals.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2), CART 245 - Cooking Fundamentals I Lecture (1), and CART 245L - Cooking Fundamentals I Lab (2)

Corequisite(s): CART 246L - Cooking Fundamentals II Lab (2)

CART 246L - Cooking Fundamentals II Lab (2)

This course continues the development of Cooking Fundamentals II skills in a supervised laboratory setting. Specific skills are correlated to lecture content in CART 246 - Cooking Fundamentals II (1).

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2), CART 245 - Cooking Fundamentals I Lecture (1), and CART 245L - Cooking Fundamentals I Lab (2)

Corerequisite(s): CART 246 - Cooking Fundamentals II (1)

Subtotal Credit Hours Required 24

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Digital Media Specialist Certificate

Blue Ridge Community and Technical College delivers the Digital Media Specialist Certificate program through courses that are designed to introduce students to web design and graphic design. These courses, in conjunction with other foundational courses, give students the technical and creative aptitude for a career in digital media.

Courses taken after the completion of the foundational courses and core courses in web design and graphic design will prepare students for certifications such as Adobe Photoshop ACA Certification, Adobe InDesign ACA Certification, Adobe Illustrator ACA Certification, and Microsoft Technology Associate HTML Application Development Fundamentals Certification.

Program Outcomes

- Complete hands-on activities that help develop computer application fluency and fundamental technical skills.
- Employ business-centered and professional applications for graphic design and web design.
- Complete project-based activities, which incorporate publication and document creation, design skills, electronic presentation skills, and web design skills to prepare for the work environment.
- Utilize essential web design software, graphic design software and animate software to create digital and/or print publications.

Curriculum for a Certificate in Digital Media Specialist

General Education Core

Technical Core

Total Credit Hours Required

General Education Core

ENGL 101 - ~English Composition I (3)

ENGL 101 is an introduction to college writing. This class emphasizes processes for drafting, revising, and editing. It develops a student's ability to read a passage, analyze its meaning, and write an intelligent response which shows not only an understanding of the passage but also a working knowledge of the writing and rhetorical strategies. Students will learn how to make effective arguments and how to locate, synthesize, and evaluate relevant information.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 101L - English Composition I Lab (3), or placement test scores

ENGL 110 - ~Technical Writing & Communication (3)

This course is designed to prepare students to write technical reports and other technical documents. Emphasis is on audience, clarity, conciseness, and accuracy of expression. It covers research techniques, information design, writing style, and effective use of graphics.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

MATH 101 - ~Introduction to Mathematics (3)

During this course topics to be covered are sets, mathematical logic, mathematical systems, the real number system, systematic counting, probability, measurement, and consumer mathematics. History of mathematics, critical thinking skills, problem solving, and use of technology will be incorporated throughout the course.

Prerequisite(s): MATH 100 - Math Essentials (3) or proper placement on test scores

Subtotal Credit Hours Required

6

Technical Core

CAS 217 - Data File Management (3)

In this course, students will use software tools to collaborate and share ideas and engage with people. They will discover incentive ways to work together using the Internet and other file transfer options. Topics covered include organizing and connecting information, people, and projects, and creating new experiences using Microsoft Share Point and other data file management applications.

Prerequisite(s): CAS 111 - Information Literacy (3)

MDIA 102 - Intro to Adobe Photoshop (3)

The course will introduce students to working with photographs and drawings focusing on website graphics. Basics of the digital image, photo collage, banner graphics, and simple animation for websites will also be covered. Topics to be covered include file formats, scanning, digital retouching, image selections and masking, layering, vector graphics, creating symbols, working with a timeline and creating an interactive file.

MDIA 104 - Web Page Design (3)

In this course, students learn how to code web pages from scratch using HTML, XHTML, and XML incorporating Java Scripting. Students will explore basic and advanced tags by creating web pages utilizing tables, frames, audio, video, and Java scripting.

MDIA 107 - Into to Illustrator/InDesign (3)

This course covers introductory knowledge of Adobe Illustrator and Adobe InDesign. Students will focus on the basic techniques that they need to get started with Illustrator and InDesign. Students will focus on the workspace, tools, and techniques.

MDIA 192 - Media Practicum (1)

The course will cover testing methodologies and study techniques to assist in preparing students for the ACA (Adobe Certified Associate) Exam for Adobe Photoshop.

Prerequisite(s): MDIA 102 - Intro to Adobe Photoshop (3) and MDIA 203 - Advanced Photoshop & Animate (3)

SDE 188 - Intro to Programming Logic (3)

This course introduces the basic concepts of programming logic. Students will examine the basic constructs of selection, sequence, and repetition, abstract data structures of records, arrays, and linked lists, and file access methods.

Corerequisite(s): MATH 100 - Math Essentials (3) or appropriate test scores

- Restricted Electives in ART 103, ART 115, ART 205, BUSN 101, BUSN 125, BUSN 231, BUSN 245, CAS 211, CAS 214, MDIA 109, MDIA 121, MDIA 201, MDIA 202, SDE 193, SDE 194, SDE 195 (8)

Subtotal Credit Hours Required

24

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Early Childhood Specialist Certificate

The Early Childhood Specialist Certificate Program prepares individuals to work with children from infancy through age six in diverse learning environments. Coursework includes child growth and development; physical/ nutritional needs of children; care and guidance of children; and communication skills with parents and children. Students will foster the cognitive/language, physical/motor, social/emotional, and creative development of young children. The courses in this program are not intended for transfer to a Bachelor's Degree in Early Childhood Education.

Throughout the program, there is considerable emphasis placed on developing professional interaction styles consistent with fostering positive staff relationships, communication, and collaboration with parents, knowledge of community resources, and multicultural awareness of the diverse populations with whom the student will work.

Program Outcomes

- Complete WV State qualifications to be employed in a childcare center for ages birth to 6 years of age or other employment opportunities in child care centers, preschools, family childcare, and other related programs.
- Qualify for employment in a preschool child care center under the supervision of a qualified early childhood teacher.
- Communicate in an early childcare setting professionally and effectively with parents, staff members, and community resources.
- Complete state requirements for the WV Department of Education to function in a public school setting as a teacher's aide (permanent authorization per county).
- Operate effectively in diverse childcare and learning environments.

Career Opportunities

Employment opportunities include preschools, childcare centers, family childcare, and/or other programs for young children. Because you do not have to follow a set course sequence, you can choose classes that best fit your schedule and specific interests.

The following ECED courses are verified to meet community program requirements for permanent authorization by the West Virginia Department of Education and as required by each county for teacher's aides:

- ECED 103 - Early Language and Literacy (3)
- ECED 105 - Child Development (3)
- ECED 107 - Early Childhood Curriculum (3)
- ECED 165 - Assessment of Young Children (3)
- ECED 206 - Family/Community Engagement (3)
- ECED 220 - Early Childhood Inclusion (3)

Curriculum for a Certificate in Early Childhood

General Education Core	6
Early Childhood Core	24
Total Credit Hours Required	30

General Education Core

ENGL 110 - ~Technical Writing & Communication (3)

This course is designed to prepare students to write technical reports and other technical documents. Emphasis is on audience, clarity, conciseness, and accuracy of expression. It covers research techniques, information design, writing style, and effective use of graphics.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

MATH 101 - ~Introduction to Mathematics (3)

During this course topics to be covered are sets, mathematical logic, mathematical systems, the real number system, systematic counting, probability, measurement, and consumer mathematics. History of mathematics, critical thinking skills, problem solving, and use of technology will be incorporated throughout the course.

Prerequisite(s): MATH 100 - Math Essentials (3) or proper placement on test scores

Subtotal Credit Hours Required 6

Early Childhood Core

Choose 24 credits with approval from advisor:

APTR 101 - ACDS:Intr Child Developmnt I (5)

This course introduces students to the foundations of early childhood professions principles and practices including basic child and classroom observations. The course highlights health, safety, and nutrition relating to early childhood and WV licensing laws that pertain to these areas. Students can identify cognitive, emotional, and social appropriate development.

APTR 102 - ACDS:Planning for Whole Child (5)

This course emphasizes respecting cultural diversity among children and families. Students explore how to enhance cognitive development in young children and how to support emotional development. Students begin classroom management and learn the value of print-rich classrooms. Observation skill practice continues.

APTR 103 - ACDS:Facilitation of Learning (5)

This course emphasizes family and community engagement skills including verbal and non-verbal communication. Child development continues with a focus on language, literacy, mathematics, science, and arts inquiry. Students learn to prepare a lesson plan and can define the currently popular approaches to learning. Students learn challenging behavior management.

APTR 104 - ACDS:Becoming Independent (5)

This course prepares early childhood professionals to advocate for children and their families and the profession. Students learn the WV licensing law and WV afterschool program standards. Students learn to identify students with exceptionalities and disabilities.

ECED 101 - Found of Early Childhood Ed (3)

The course focuses on the history of early childhood education including the contributions of Froebel, Montessori Steiner, and Reggio Emilia. Coursework will concentrate on a diversity of programs and childcare settings: child care, Headstart, kindergarten, nursery, profit and non-profit. This course will include perspectives from the past, theories, and approaches to care, development and education of young children.

ECED 103 - Early Language and Literacy (3)

This course examines quality literature appropriate for children from infancy to age eight. Appropriate literacy experiences of reading, writing, and language are practiced in the student's communities. Students will also examine methods of presentation and the creation of literature based settings.

ECED 105 - Child Development (3)

This course explores knowing and understanding young children's characteristics and needs; the multiple influences on development and learning, and how to use this developmental knowledge to create healthy, respectful, supportive and challenging learning environments. The principles of child development are emphasized including language acquisition, creative expression, physical, cognitive and social/emotional development.

ECED 106 - Health, Nutrition and Safety (3)

This course provides a variety of health, nutrition and safety concepts that will enable the individual to implement preventive health and safety practices in the early childcare setting. Students will develop menus for meals and snacks which are nutritious, appealing, and age-appropriate for young children. Recognition and treatment of child abuse victims will be addressed.

ECED 107 - Early Childhood Curriculum (3)

This course provides the student with an introduction to methods and materials to assist young children in the learning process. Emphasis will be placed on arrangement of indoor/outdoor space, reading, music and movement, dramatic play, math, social studies, and art centers. Students will locate, plan, implement and evaluate creative learning activities using a variety of methods and materials.

ECED 165 - Assessment of Young Children (3)

This course will cover formal and informal assessment strategies appropriate for children birth through age eight. Assessment for children's cognitive, social, physical and motor development for curriculum planning will be addressed as well as identifying children with developmental needs.

ECED 206 - Family/Community Engagement (3)

This course addresses the role of the family and community in the physical, cognitive, social and emotional growth of the child in a diverse society. The areas of professionalism, program management, advocacy, family development and the structure of the family will be the main topics. Building partnerships with families of the children with special needs will also be included.

ECED 220 - Early Childhood Inclusion (3)

This course prepares learners to understand their roles, including the history and legal implications, and the nature of students with special needs. Techniques for creating an educational environment where all students have equal opportunity to develop academically and socially are specifically addressed.

Subtotal Credit Hours Required 24

NOTE: APTR courses are taken in approved West Virginia High Schools

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Electric Distribution Engineering Technology Certificate

Students looking for a fast-track to a highly skilled job should consider a career as a lineworker. The program, which is endorsed by the Utility Workers Union of America Local 102, provides hands-on laboratories, such as pole training and equipment labs, preparing students to enter the workforce upon completion of the program.

Program Overview

The Electric Distribution Engineering Technology program was created through a partnership between Blue Ridge Community and Technical College and Allegheny Energy, providing educational opportunities for a field that has typically been limited to internal apprenticeship opportunities. Through this program, endorsed by the Utility Workers Union of America (UWUA) Local 102, students will learn the skills necessary to become lineworkers.

The Electric Lineworker Program is designed to provide the technical skills required for new utility workers. Traditional academic instruction gives students an understanding of the technology fueling today's electrical utilities, while hands-on laboratories, such as pole training areas and equipment labs, ensure that students are prepared for the job on day one.

Students in the Electric Distribution Engineering Technology program are subject to Blue Ridge Community and Technical College's requirements for admission, basic skills testing, and appropriate course placement, including developmental education courses, which may not count toward completion of the program. Blue Ridge Community and Technical College requirements regarding academic standards, student conduct, and graduation procedures also apply.

Program Outcomes

- Demonstrate professionalism (clean and complete uniform, on time, positive attitude, respectful).
- Conduct thorough pre-job briefings including hazard recognition.
- Identify safety equipment.
- Practice team building and effective communication.
- Identify and describe procedures for safely operating a bucket truck and digger derrick.
- Identify and demonstrate procedures for safely climbing poles.
- Identify electrical distribution materials, tools, equipment, and activities.
- Demonstrate how to safely auger a hole and erect a wooden utility pole.
- Understand basic electrical theory as it relates to power distribution (single phase and 3 phase AC circuits, transformers, and conductors).
- Demonstrate the ability to correctly read and interpret power systems layout drawings.

Career Opportunities

Upon obtaining your certificate, you will be ready to embark upon a career as a lineworker. Lineworkers maintain an astounding 99% hire rate and earn an average of \$30,000 to \$50,000 per year.

Note: All salary estimations are based on the current position and educational trends. Blue Ridge Community and Technical College cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Curriculum for a Certificate in Electric Distribution Engineering Technology

General Education Core	7
EDET Technical Core	23
Total Credit Hours Required	30

General Education Core

ENGL 111 - Applied Technical Writing (4)

Students explore techniques for improving the effectiveness of writing and communication common in the industries of Advanced Manufacturing and Energy. Students have the opportunity to improve their ability to write and communicate through critical thinking, writing, revising, and editing while exploring practical career scenarios.

Prerequisite(s): Must be enrolled in one of the following programs as a degree seeking student: Electric Distribution Engineering Technology Certificate, Electric Distribution Engineering Technology, A.A.S., Electric Utility Technology, A.A.S., Machine Operator/Mechatronics Assistant Certificate, and Mechatronics, A.A.S.

MATH 102 - Technical Mathematics (3)

This course focuses on computational fluency and applied problem solving with emphasis on the following topics: real numbers, ratios, percents, proportions, estimation, exponents, roots, scientific notation, applied algebra, measurement, applied geometry, electrical formulas and laws, basic statistics, basic trigonometry and vectors.

Prerequisite(s): MATH 100 - Math Essentials (3) or proper placement on test scores

Subtotal Credit Hours Required 7

EDET Technical Core

EDET 101 - Intro to Line Worker (2)

Intro to Line Worker is the first class in both the AAS and Certificate Line Worker Programs. It is intended to provide students with a basic awareness and function as gatekeeper for those seeking entry into the program (and career.) Some major focus areas are career awareness, wood pole climbing evaluation, claustrophobia evaluation, and industry skills (Edison Cast) testing.

Prerequisite(s): Current major declared of Electric Distribution Engineering Technology, A.A.S. or Electric Distribution Engineering Technology Certificate

EDET 102 - Fundamentals of Electric Power Distribution (2)

Fundamentals of Electric Power Distribution provides students with an overview of how electric power is distributed from generation to industrial and residential customers. The class will also introduce students to industry terminology and materials.

Prerequisite(s): Current major declared of Electric Distribution Engineering Technology, A.A.S. or Electric Distribution Engineering Technology Certificate

Pre-requisite/Co-requisite(s): EDET 101 - Intro to Line Worker (2)

EDET 103 - Heavy Equipment Familiarization (2)

Heavy Equipment Familiarization is designed to introduce students to different types of heavy equipment vehicles used in utility work. Basic operation of the most commonly used equipment vehicles will be demonstrated and practiced by students.

Prerequisite(s): Current major declared of Electric Distribution Engineering Technology, A.A.S., Electric Distribution Engineering Technology Certificate, Heavy Equipment Technician, A.A.S., or Mechatronics, A.A.S.

Pre-requisite/Co-requisite(s): EDET 101 - Intro to Line Worker (2)

EDET 120 - Adv Pole Working Workshop (1)

Advanced Pole Working is designed to teach practical skills and techniques used in constructing electric distribution systems while emphasizing the safe use of tools and equipment.

Prerequisite(s): Current major declared of Electric Distribution Engineering Technology, A.A.S. or Electric Distribution Engineering Technology Certificate

Pre-requisite/Co-requisite(s): EDET 102 - Fundamentals of Electric Power Distribution (2)

EDET 121 - Safety for Electrical Line Workers (2)

Safety for Electrical Line Workers is designed to introduce students to the necessary skills to safely work on electric distribution systems. Some major areas of studies include applying safe grounding practices, correctly using personal protective equipment, safely setting up traffic control work zone, pole top rescue, aerial lift rescue, and confined space rescue. Upon successful completion of this course, a 10 hour OSHA card will be earned.

Prerequisite(s): EDET 102 - Fundamentals of Electric Power Distribution (2) and current major declared of Electric Distribution Engineering Technology, A.A.S. or Electric Distribution Engineering Technology Certificate

EDET 130 - Underground Line Maintenance (2)

Underground Line Maintenance teaches practical underground distribution maintenance techniques while emphasizing the safe use of tools and equipment. Focus areas include the use of live-line tools and installing and repairing underground cables and equipment.

Prerequisite(s): Current major declared of Electric Distribution Engineering Technology, A.A.S. or Electric Distribution Engineering Technology Certificate

Pre-requisite/Co-requisite(s): EDET 120 - Adv Pole Working Workshop (1) and EDET 121 - Safety for Electrical Line Workers (2)

EDET 131 - Substation Basics (2)

Substation Basics teaches the purpose and operations of a substation. Particular attention is spent on how to safely enter and perform various tasks at a substation.

Prerequisite(s): Current major declared of Electric Distribution Engineering Technology, A.A.S. or Electric Distribution Engineering Technology Certificate

Pre-requisite/Co-requisite(s): EDET 120 - Adv Pole Working Workshop (1) and EDET 121 - Safety for Electrical Line Workers (2)

EDET 140 - Overhead Line Maintenance (1)

Overhead Line Maintenance teaches practical distribution line maintenance techniques with an emphasis on the safe use of tools and equipment. Focus areas include the use of live-line tools, safe rigging practices, troubleshooting (including switching & testing voltages), and replacing/repairing electrical equipment.

Prerequisite(s): Current major declared of Electric Distribution Engineering Technology, A.A.S. or Electric Distribution Engineering Technology Certificate

Pre-requisite/Co-requisite(s): EDET 120 - Adv Pole Working Workshop (1) and EDET 121 - Safety for Electrical Line Workers (2)

EDET 150 - Fundamentals of Electricity (4)

Fundamentals of Electricity provides students with an overview of the ways in which power is distributed from generation to industrial and residential customers. Students will be introduced to essential industry terminology and materials. Following this course, students will understand and be able to analyze Ohm's Law, Magnetism, DC Series & Parallel Circuits, Basic AC Series & Parallel Circuits, Inductance, Reactance, Capacitance, Poly-phase and 3 Phase Circuits, and Basic "Y" single- phase transform bank connections.

Prerequisite(s): Current degree seeking student with a major of Electric Utility Technology, A.A.S. and preemployment screening by First Energy or a degree seeking student in Electric Distribution Engineering Technology Certificate or Electric Distribution Engineering Technology, A.A.S.

EDET 180 - Building Better Relationships (2)

This class prepares participants to create better work relationships by becoming a "conscious communicator". It includes taking a workplace personality identifier test. Participants will explore ways to enhance their self-knowledge, work effectively as a team and cope with the stresses and emotions that are often found in the work environment.

EDET 295 - Practicum Skills Evaluations (1-4)

This course is designed to evaluate the skills learned each semester in all other EDET courses. A variety of topics will be covered depending on the student needs.

Prerequisite(s): Current major declared of Electric Distribution Engineering Technology, A.A.S. or Electric Distribution Engineering Technology Certificate

- Restricted Electives in MATH 100, ENGL 100, SOCI 215, CAD, EDET, HET, MECH, MET, or RENG (1)

Subtotal Credit Hours Required 23

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Electrical Technician Certificate

Program Description

The Electrical Technician certificate program is geared toward students seeking a challenging and exciting career as a high-tech problem-solver. Over the course of the program, you will learn to apply concepts in mathematics, science, and engineering to install, program, control, and maintain automated equipment commonly used in manufacturing, distribution, and processing.

Program Overview

The electrical certificate program supplies local industries with maintenance technicians who can install, service, repair and maintain a variety of industrial automation equipment. After completion of this certificate you can go into the field or continue on to an A.A.S. in Mechatronics or Engineering Technology. This will give the student a chance to apply their new skill set and obtain greater insight into industry practices.

Students will gain an understanding of the technology utilized in modern distribution and processing industries. Hands-on laboratories, in areas such as electricity and electronics, mechanics, fluid power, motor controls, and quality controls will prepare students for the job on day one. PLC's and Networking are included. Internships are available.

Program Outcomes

- Demonstrate professionalism (on time, positive attitude, respectful).
- Identify safety equipment.
- Practice teambuilding and effective communication.
- Understand the technology utilized in modern distribution and processing industries.
- Identify tools and equipment.
- Write industrial PLCs (Programmable Logic Controls).
- Demonstrate how to properly set up, program, operate, maintain and troubleshoot a scaled manufacturing system.
- Understand advanced concepts and applications of fluid power technology including hydraulics and pneumatics.
- Demonstrate proper application and connection of electrical motors, transformers, and solenoids.

Career Opportunities

Electrical technicians often find rewarding careers in the automotive, aerospace, medical device, and heavy equipment industries. Local employment opportunities abound within this field at companies such as: EcoLab, Essroc, Quad Graphics, Macy's Distribution, Fed-Ex, U.S. Silica, Ply Gem, Monoflo, O'Sullivan, Cenetic Landis, Automated Merchandising Systems, New World Pasta, and other firms in West Virginia, Maryland, Northern Virginia, and Southern Pennsylvania.

Curriculum for a Certificate in Electrical Technician

General Education Core	6
Technical Core	24
Total Credit Hours Required	30

General Education Core

ENGL 110 - ~Technical Writing & Communication (3)

This course is designed to prepare students to write technical reports and other technical documents. Emphasis is on audience, clarity, conciseness, and accuracy of expression. It covers research techniques, information design, writing

style, and effective use of graphics.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

MATH 102 - Technical Mathematics (3)

This course focuses on computational fluency and applied problem solving with emphasis on the following topics: real numbers, ratios, percents, proportions, estimation, exponents, roots, scientific notation, applied algebra, measurement, applied geometry, electrical formulas and laws, basic statistics, basic trigonometry and vectors.

Prerequisite(s): MATH 100 - Math Essentials (3) or proper placement on test scores

MATH 105 - Algebra (3)

Topics explored in this course include properties of the real numbers, operations on polynomials, rational and radical expressions, solutions of linear, quadratic, polynomial, radical and absolute value equations and inequalities. Coordinate geometry including distance, midpoint, lines, and circles will also be explored. Additional topics include systems of linear equations and their applications, analysis of functions, operations on functions, transformations of functions, and properties of linear, piecewise, quadratic, polynomial, rational, exponential and logarithmic functions.

Prerequisite(s): MATH 100A - Algebra Essentials (3) or proper placement on test scores

Subtotal Credit Hours Required 6

Technical Core

MECH 101 - Introduction to Mechatronics (1)

Introduction to Mechatronics is an overview course that introduces students to the field of Mechatronics. Students will rotate through modules that will give them insight into the skills, concepts, equipment, and challenges they will encounter as a mechatronics technician. Modules will include design process, basic tool use, laboratory safety, precision measurement, fluid power, robotics, and programmable logic controllers. Included will be basic professional preparation topics such as resume writing, job readiness, interviewing and portfolio development. MECH 101L - Intro to Mechatronics Lab (2) is the laboratory component of this class.

Corequisite(s): MECH 101L - Intro to Mechatronics Lab (2)

MECH 101L - Intro to Mechatronics Lab (2)

This course is the lab component of MECH 101 - Introduction to Mechatronics (1). The course contains an overview course that introduces students to the field of Mechatronics. Students will rotate through modules that will give them insight into the skills, concepts, equipment, and challenges they will encounter as a mechatronics technician. Modules will include design process, basic tool use, laboratory safety, engineering journaling, precision measurement, fluid power, robotics, and programmable logic controllers. Included will be basic professional preparation topics such as resume writing, job readiness, interviewing and portfolio development.

Corequisite(s): MECH 101 - Introduction to Mechatronics (1)

MECH 106 - Electricity & Electronics (2)

Electricity & Electronics is an introduction to AC electrical applications and commercial wiring practices. This course is paired with MECH 105 - Electricity & Commercial Wiring (1) to form a complete electricity/electronic experience for the mechatronics technician. This course introduces the fundamental concepts of and computations related to AC electricity. Emphasis is placed on AC circuits, components, operation of test equipment; and other related topics. Devices such as transformers, AC motors, and solenoids are covered. Commercial wiring tools and practices are introduced to prepare the student for the NEC exam. MECH 106L - Electricity & Electronics Lab (2) is the laboratory portion of this course.

Corequisite(s): MECH 106L - Electricity & Electronics Lab (2)

Pre-requisite/Co-requisite(s): MATH 102 - Technical Mathematics (3), MATH 105 - ^Algebra (3), MATH 106 - ^Trigonometry (3), or MATH 108 - ^Pre-Calculus (4)

MECH 106L - Electricity & Electronics Lab (2)

Electricity & Electronics is an introduction to AC electrical applications and commercial wiring practices. This course is paired with MECH 105 - Electricity & Commercial Wiring (1) to form a complete electricity/electronic experience for the mechatronics technician. This course introduces the fundamental concepts of and computations related to AC electricity. Emphasis is placed on AC circuits, components, operation of test equipment; and other related topics. Devices such as transformers, AC motors, and solenoids are covered. Commercial wiring tools and practices are introduced to prepare the student for the NEC exam. This laboratory component provides hands-on experiences necessary for complete concept attainment.

Corequisite(s): MECH 106 - Electricity & Electronics (2)

Pre-requisite/Co-requisite(s): MATH 102 - Technical Mathematics (3), MATH 105 - ^Algebra (3), MATH 106 - ^Trigonometry (3), or MATH 108 - ^Pre-Calculus (4)

MECH 201 - Systematic Troubleshooting (3)

This course will provide the students with a systematic process, utilizing critical thinking skills to diagnose, analyze, and solve complex problems. Several problem solving models will be presented. Students will work through case studies to develop their problem solving skills. This course will also prepare students to take the Work-keys Applied Technology test which is required by several local employers. This is a good course for anyone who has to analyze and troubleshoot problems within their normal work routine.

Pre-requisite/Co-requisite(s): MECH 250 - Intro to PLC (3)

MECH 230 - Industrial Controls (2)

Industrial Controls introduces the students to the basics of AC motor applications and control. This course teaches electric relay control of AC electric motors found in industrial, commercial, and residential applications. Students learn industry-relevant skills including how to operate, install, design, and troubleshoot AC electric motor control circuits for various applications.

Prerequisite(s): MECH 105 - Electricity & Commercial Wiring (1) or MECH 106 - Electricity & Electronics (2)

MECH 235 - Indust Wiring & Controls (3)

Industrial Wiring and Controls introduces students to electrical panels, panel wiring fundamentals, sizing disconnects and overcurrent devices. This course teaches grounding control systems, internal panel wiring, wire bundling, wiring a

motor, and wire bundling. Students learn industry-relevant skills including how to operate, install, design, and troubleshoot AC electrical panels.

Prerequisite(s): MECH 106 - Electricity & Electronics (2) and MECH 106L - Electricity & Electronics Lab (2)

MECH 250 - Intro to PLC (3)

The PLC course will prepare students to install, maintain and program Programmable Logic Controllers. Students will learn about both Allen-Bradley and Seimens PLC systems.

Prerequisite(s): MECH 105 - Electricity & Commercial Wiring (1) or MECH 106 - Electricity & Electronics (2)

MECH 260 - Process Control & Instrumentation (3)

Process Controls cover a wide range of topics such as measurement methods, pressure measurement devices, temperature measurement devices, flow measurement devices, level measurement devices, pilot valves, pneumatic controls, electronic controls, and process controls. Students will learn to install, maintain, monitor and troubleshoot process control equipment.

Prerequisite(s): MECH 105 - Electricity & Commercial Wiring (1) or MECH 106 - Electricity & Electronics (2)

ROB 210 - Robotics I (2)

This course is designed to introduce the student to industrial robotics applications typical environments. Topics include: robot history and fundamentals, robot classification, power sources, robot applications in the workplace, robot control techniques, path control, end of arm tooling, robot operation, and robot controllers, controller architecture in a system, robotic language programming, and human interface issues.

- Restricted Electives in CAD, INST, MET, MECH, ROB - Internship preferred (1)

Subtotal Credit Hours Required 24

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Environmental Science Technician Certificate

The Environmental Science Technician Certificate program prepares students to work in a variety of safety and environmental jobs. Students will receive training in basic environmental, safety, and health disciplines. The certificate program will be the first step in a career in environmental science. Our graduates can enter the environmental workforce in entry-level positions in a variety of manufacturing settings and environmental settings, including environmental sampling and testing technicians, water and wastewater technicians, and occupational health and safety technicians.

Program Outcomes

- Describe the interactions between physical, chemical, and biological principles in human-environmental interactions.
- Recognize and control exposure to hazardous substances in the workplace.
- Describe the OSHA/EPA requirements surrounding inspection, fire, and chemical exposure.
- Demonstrate mastery of the concepts required to be a Class I Water Operator.
- Demonstrate mastery of the concepts required to be a Class I Wastewater Operator.

Curriculum for a Certificate in Environmental Science Technician

General Education Core	6
Applied Laboratory Technician Core	15
Restricted Electives	9
Total Credit Hours Required	30

General Education Core

ENGL 101 - ~English Composition I (3)

ENGL 101 is an introduction to college writing. This class emphasizes processes for drafting, revising, and editing. It develops a student's ability to read a passage, analyze its meaning, and write an intelligent response which shows not only an understanding of the passage but also a working knowledge of the writing and rhetorical strategies. Students will learn how to make effective arguments and how to locate, synthesize, and evaluate relevant information.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 101L - English Composition I Lab (3), or placement test scores

ENGL 110 - ~Technical Writing & Communication (3)

This course is designed to prepare students to write technical reports and other technical documents. Emphasis is on audience, clarity, conciseness, and accuracy of expression. It covers research techniques, information design, writing style, and effective use of graphics.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

MATH 101 - ~Introduction to Mathematics (3)

During this course topics to be covered are sets, mathematical logic, mathematical systems, the real number system, systematic counting, probability, measurement, and consumer mathematics. History of mathematics, critical thinking skills, problem solving, and use of technology will be incorporated throughout the course.

Prerequisite(s): MATH 100 - Math Essentials (3) or proper placement on test scores

MATH 102 - Technical Mathematics (3)

This course focuses on computational fluency and applied problem solving with emphasis on the following topics: real numbers, ratios, percents, proportions, estimation, exponents, roots, scientific notation, applied algebra, measurement, applied geometry, electrical formulas and laws, basic statistics, basic trigonometry and vectors.

Prerequisite(s): MATH 100 - Math Essentials (3) or proper placement on test scores

Subtotal Credit Hours Required **6**

Environmental Science Technician Core

CAD 108 - Geographic Information Systems (2)

Geographic Information Systems are a growing part of every aspect of technology and engineering. In this course the student will explore the building blocks of this complex worldwide system including elements of GIS, analysis of spatial information, real-world applications, map creation and analysis. Primary objective is to investigate interactive GIS application rather than develop expert users.

Prerequisite(s): CAD 106 - Intro to Civil CAD & Surveying (2)

ENVT 101 - Environmental Science (3)

This is an introductory course in environmental science. Students will develop an understanding of the interrelationships between human activities and the environment. Emphasis is on the physical, chemical, and biological principles and processes as they relate to human-environment interactions, the role of energy in human and natural systems, environmental legislation and human behavior.

ENVT 105 - Intro to Safety (1)

This course includes training in CPR, first aid, bloodborne pathogens for first responders, as well as introductory training in basic decontamination. Completers will receive CPR and First Aid cards.

ENVT 140 - Industrial Hygiene (3)

This course covers the methods of anticipating, recognizing, evaluation and controlling exposures in the workplace while exploring the toxicological effects of contaminants on the workforce.

LTEC 101 - Laboratory Technician I (4)

This course is the introductory course to chemistry concepts. This course will also introduce instrumentation, industrial processes and the science that is needed to be a successful Applied Laboratory Technician.

Corequisite(s): MATH 100 - Math Essentials (3) or placement

LTEC 111 - Laboratory Technician III (2)

This course presents a basic introduction to industrial safety health and environmental health concepts. Students will be able to discuss and recognize the various hazards that exist in a manufacturing environment. The students will discuss the remediation of spills and unsafe conditions. This course will provide OSHA 30 General Industry certification that will include OSHA's history.

Restrictive Electives

The student can pick any 9 credits with approval from their advisor.

CAS 111 - Information Literacy (3)

This course covers a variety of introductory computing knowledge including how personal computers work, software essentials, hardware components, operating systems and the most popular productivity applications including word processing, spreadsheet, database and presentation software. Students will also be introduced to the Internet and e-mail essentials, file management and digital electronics. This course aligns with the Internet and Computing Core Certification (IC3), which demonstrates that a student has a clear understanding of the knowledge and application of computers and technology in the modern world.

ENVT 108 - Intro to OSHA and EPA (3)

This course provides an introduction to OSHA and EPA regulations pertaining to 29 CFR 1910 and 29 CFR 1926 record keeping, OSHA/EPA inspection, fire, chemical exposure, most frequent violations, and other topics.

ENVT 200 - HAZWOPER (3)

This HAZWOPER (Hazardous Waste Operations and Emergency Response) course provides a basic knowledge of the storage, transportation, and use of hazardous materials in business. The course introduces hazardous materials, including definitions, categories, properties, regulations, and evaluation. Critical principles of emergency management, including both private and public sector elements, are included.

LTEC 160 - Water Operator I (3)

This course prepares students to take the West Virginia Water Operator I test. The test is administered by the State of West Virginia by Environmental Engineering Division District Office.

LTEC 161 - Waste Water Operator I (3)

This course prepares students to take the West Virginia Waste Water Operator I test. The test is administered by the State of West Virginia by Environmental Engineering Division District Office.

PSYC 203 - ~Introduction to Psychology (3)

This course will introduce the student to basic psychological principals and to enable the student to examine current thinking about development, personality, sensation and perception, cognition, learning, psychological disorders, and their treatment, and influence.

Corerequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Food Service Retail Management Certificate

This economical, practical certificate program prepares you with the skills to enter the foodservice industry as an entry-level manager within the foodservice, hospitality, and tourism industry through a certificate program.

Program Overview

Students will learn classical cooking techniques, which include a wide variety of regional cuisines, along with courses that build on immersing the student into all aspects of culinary foundations such as safety and sanitation, food costing, product efficiency, sense of urgency, purchasing and inventory, human relations, attention to detail and culinary artistry. Practical lab experiences will help to complete the well-rounded student for entry into the workforce. Students will be able to experience the flow of their product from creation to service in this degree program through our Bruin Café lab and other service opportunities.

Program Outcomes

- Demonstrate an organized and sanitary workstation.
- Demonstrate accurate measuring and portioning.
- Follow standardized recipes and production procedures.
- Identify and describe procedures and techniques for controlling food costs.
- Demonstrate customer service skills.
- Practice team building and communication.
- Demonstrate professionalism (clean and complete uniform, on time, good attitude, respectful).
- Demonstrate leadership in both the front and back of the house operations.
- Construct a small business plan for a foodservice operation.
- Demonstrate critical thinking skills.

Career Opportunities

If you choose a certificate in Food Service Retail Management, you will be prepared for entry to mid-level positions within the industry. You can seek positions within foodservice, hospitality, and tourism.

Curriculum for a Certificate in Food Service Retail Management

General Education Core	6
Food Service Retail Management Core	24
Total Credit Hours Required	30

General Education Core

ENGL 110 - ~Technical Writing & Communication (3)

This course is designed to prepare students to write technical reports and other technical documents. Emphasis is on audience, clarity, conciseness, and accuracy of expression. It covers research techniques, information design, writing

style, and effective use of graphics.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

MATH 101 - ~Introduction to Mathematics (3)

During this course topics to be covered are sets, mathematical logic, mathematical systems, the real number system, systematic counting, probability, measurement, and consumer mathematics. History of mathematics, critical thinking skills, problem solving, and use of technology will be incorporated throughout the course.

Prerequisite(s): MATH 100 - Math Essentials (3) or proper placement on test scores

Subtotal Credit Hours Required 6

Food Service Retail Management Core

BUSN 101 - Introduction to Business (3)

This course provides an overview of the complex building blocks of business including administration, management, finance, labor, marketing, law, and ethics. These aspects are considered in reference to local and global markets, e-commerce, and evolving technology and trends.

BUSN 201 - Principles of Management (3)

This course examines the basic functions of management – planning, organizing, coordinating, and controlling - in a business organization. Students study management theory and practice in order to identify their own management style and appreciate the complex nature of management. The impact of social responsibility, corporate culture, and technological advances on management are also considered.

CART 115 - Safety/Sanitation in Food Serv (2)

The Safety and Sanitation in the Food Service Industry course follow the format of the National Restaurant Association Educational Foundation ServSafe® Program. The course is designed as an industry-based program that prepares students for careers in the restaurant and foodservice industry. The emphasis of this program is to educate the students about the responsibilities which a foodservice manager and food service worker have to the public in providing safe and sanitary food to the consumer.

Prerequisite(s): Required major in Baking and Pastry Certificate, Baking and Pastry, A.A.S., Catering & Hospitality Management, A.A.S., Culinary Arts Certificate, Culinary Arts, A.A.S., Food Service Retail Management Certificate, or Food Service Retail Management, A.A.S. is required.

CART 120 - Bruin Cafe Lecture (1)

This course teaches students the practice and implementation of management principles as they relate to retail food service.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2)

Corequisite(s): CART 120L - Bruin Cafe Lab (3)

CART 120L - Bruin Cafe Lab (3)

This course continues the development of retail skills in a supervised laboratory setting. Specific skills are correlated to lecture content in CART 120 - Bruin Cafe Lecture (1).

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2)

Corequisite(s): CART 120 - Bruin Cafe Lecture (1)

CART 201 - Stocks, Soups, and Sauces (1)

This course provides the lecture format to the principles and techniques of basic stocks, Mother (leading) sauces, and soups along with varied thickening agents. Special emphasis will be placed on preparation, sanitation, and the presentation.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2), CART 245 - Cooking Fundamentals I Lecture (1), and CART 245L - Cooking Fundamentals I Lab (2)

CART 201L - Stock, Soups & Sauces Lab (2)

This course provides a hands-on lab format to the principles and techniques of basic stocks, Mother (leading) sauces, and soups along with varied thickening agents. Special emphasis will be placed on preparation, sanitation, and the presentation.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2), CART 245L - Cooking Fundamentals I Lab (2), and CART 245 - Cooking Fundamentals I Lecture (1)

CART 204 - Inventory and Purchasing (3)

This course introduces students to inventory and purchasing, the purchasing function, quality standards in purchasing, the procurement process, supplier selection, and inventory control.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2)

CART 245 - Cooking Fundamentals I Lecture (1)

This course is concurrent with CART 100 - Intro Culinary Food Service (2) by engaging the student in a practical application of learned terminology, methods, and techniques. Students will engage in ingredient production and recipe application. We will introduce knife handling skills, basic cooking skills, mise en place, plating, reinforcing food safety and sanitation practices, practical application of the chef's prep list, and industry terminology and standards.

Prerequisite(s): Required major in Baking and Pastry Certificate, Baking and Pastry, A.A.S., Catering & Hospitality Management, A.A.S., Culinary Arts Certificate, Culinary Arts, A.A.S., Food Service Retail Management Certificate, or Food Service Retail Management, A.A.S. is required.

Corequisite(s): CART 100 - Intro Culinary Food Service (2) and CART 245L - Cooking Fundamentals I Lab (2)

CART 245L - Cooking Fundamentals I Lab (2)

This course is the companion to CART 245 - Cooking Fundamentals I Lecture (1) and is concurrent with CART 100 - Intro Culinary Food Service (2) by engaging the student in a practical application of learned terminology, methods, and techniques. Students will engage in ingredient production and recipe application. We will introduce knife handling skills, basic cooking skills, mise en place, plating, reinforcing food safety and sanitation practices, practical application

of the chef's prep list, and industry terminology and standards

Prerequisite(s): Required major in Baking and Pastry Certificate, Baking and Pastry, A.A.S., Catering & Hospitality Management, A.A.S., Culinary Arts Certificate, Culinary Arts, A.A.S., Food Service Retail Management Certificate, or Food Service Retail Management, A.A.S. is required.

Corerequisite(s): CART 100 - Intro Culinary Food Service (2) and CART 245 - Cooking Fundamentals I Lecture (1)

CART 246 - Cooking Fundamentals II (1)

This course focuses on expanding the knowledge, skills, cooking techniques and principles learned in CART 245 - Cooking Fundamentals I Lecture (1) and CART 245L - Cooking Fundamentals I Lab (2). Special influences are put on knife skills, advanced cooking techniques, portioning and presentation, safety and sanitation. Students will learn to create balanced and eye appealing meals.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2), CART 245 - Cooking Fundamentals I Lecture (1), and CART 245L - Cooking Fundamentals I Lab (2)

Corerequisite(s): CART 246L - Cooking Fundamentals II Lab (2)

CART 246L - Cooking Fundamentals II Lab (2)

This course continues the development of Cooking Fundamentals II skills in a supervised laboratory setting. Specific skills are correlated to lecture content in CART 246 - Cooking Fundamentals II (1).

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2), CART 245 - Cooking Fundamentals I Lecture (1), and CART 245L - Cooking Fundamentals I Lab (2)

Corerequisite(s): CART 246 - Cooking Fundamentals II (1)

Subtotal Credit Hours Required 24

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Information Security Certificate

Blue Ridge Community and Technical College delivers the Information Security Certificate program through courses that are designed to introduce students to programming, security basics, network monitoring, and risk assessment. These courses, in conjunction with other foundational courses, give students the technical aptitude for a career in information security.

Students will be introduced to security and risk assessment via courses already offered and cataloged by the College at the beginning of their sequence of training.

Program Outcomes

- Utilize various assessment tools to conduct a security audit and identify intrusions.

- Identify and demonstrate the understanding of Cybersecurity terminology, principles, concepts, and methodologies.
- Demonstrate an understanding of common operating systems management and maintenance.
- Research current threats and attacks and identify how to mitigate those threats.

Career Opportunities

Whether students are seeking a career as a network professional or currently working as a business manager or other Information Security professional, the Blue Ridge Community and Technical College Certificate in Technology Systems will help graduates implement high-functioning business and technology systems in the workplace. Additional Intrusion Detection and Ethical Hacking courses taken after the completion of foundational courses will prepare students to sit for certification exams such as CompTIA Security+ and the Certified Ethical Hacker Professional certifications.

Curriculum for a Certificate in Information Security

General Education Core	12
Technical Core	18
Total Credit Hours Required	30

General Education Core

CAS 111 - Information Literacy (3)

This course covers a variety of introductory computing knowledge including how personal computers work, software essentials, hardware components, operating systems and the most popular productivity applications including word processing, spreadsheet, database and presentation software. Students will also be introduced to the Internet and e-mail essentials, file management and digital electronics. This course aligns with the Internet and Computing Core Certification (IC3), which demonstrates that a student has a clear understanding of the knowledge and application of computers and technology in the modern world.

COMM 202 - ~Fundamentals of Speech (3)

This course equips the student with the necessary tools to construct, deliver, and analyze public communication messages.

ENGL 110 - ~Technical Writing & Communication (3)

This course is designed to prepare students to write technical reports and other technical documents. Emphasis is on audience, clarity, conciseness, and accuracy of expression. It covers research techniques, information design, writing style, and effective use of graphics.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

IT 105 - Computer Ethics (3)

This course is designed to educate existing and future Information Technology professionals on the tremendous impact ethical issues have on the use of information technology in the modern business world. The topics covered include an overview of ethics, ethics for IT professionals and IT users, computer internet and crime, privacy, freedom of expression, intellectual property, software development, and employer/employee Issues. Individual case examinations will be presented to more closely represent real-life examples of each of these topics.

MATH 105 - Algebra (3)

Topics explored in this course include properties of the real numbers, operations on polynomials, rational and radical expressions, solutions of linear, quadratic, polynomial, radical and absolute value equations and inequalities. Coordinate geometry including distance, midpoint, lines, and circles will also be explored. Additional topics include systems of linear equations and their applications, analysis of functions, operations on functions, transformations of functions, and properties of linear, piecewise, quadratic, polynomial, rational, exponential and logarithmic functions.

Prerequisite(s): MATH 100A - Algebra Essentials (3) or proper placement on test scores

Subtotal Credit Hours Required 12

Technical Core

CNET 111 - Networking Fundamentals (3)

This course is designed to provide a detailed overview of the foundational concepts involved in networking and telecommunications. The OSI model will be examined in detail. Specific protocols and their operations will be examined. Methods of providing telecommunications and the technologies involved will be covered, as well as networking hardware, cabling, documentation, troubleshooting, implementations, planning, and an introduction of subnetting of networks and telecommunications systems.

CYBR 101 - Intro to CyberSecurity (3)

This course provides an overview of the field of cybersecurity. It covers core cybersecurity topics including computer system architectures, critical infrastructures, cyber threats and vulnerabilities, cryptography, information assurance, network security, digital forensics, and risk assessment and management. Topics such as industrial espionage, hacking, and cyber terrorism and information warfare will be discussed.

CYBR 160 - Information Security Fundament (3)

This course offers in-depth coverage of the current risks and threats to an organization's data, combined with a structured way of addressing the safeguarding of these critical electronic assets. The course provides a foundation for those new to Information Security as well as those responsible for protecting network services, devices, traffic, and data. Additionally, the course provides the broad-based knowledge necessary to prepare students for further study in other specialized security fields.

Prerequisite(s): CYBR 101 - Intro to CyberSecurity (3) and CNET 111 - Networking Fundamentals (3)

IT 185 - Introduction to Linux (3)

This course will prepare students to work with the Linux operating system and help them prepare for the Linux+ CompTIA certification exams. The course does not assume any prior knowledge of Linux and is geared toward those interested in systems administration as well as those who will use or develop programs for Linux systems. The course provides coverage of topics related to Linux certification, including Linux distributions, installation, administration, networking and security.

Prerequisite(s): CAS 111 - Information Literacy (3)

SDE 188 - Intro to Programming Logic (3)

This course introduces the basic concepts of programming logic. Students will examine the basic constructs of selection, sequence, and repetition, abstract data structures of records, arrays, and linked lists, and file access methods.

Corerequisite(s): MATH 100 - Math Essentials (3) or appropriate test scores

- Restricted Electives in CNET, CYBR, DBM, or IT (3)

Subtotal Credit Hours Required 24

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Instrumentation Certificate

If you seek a hands-on career in the high-tech industry and the opportunity to quickly enter the job market, consider a certificate as an Instrumentation Technician. Our program prepares you to be an effective, interdisciplinary problem solver. You will learn to apply knowledge of mathematics, science, and engineering used in automated manufacturing, and process control. You will become efficient at controlling a variety of fluid processes to control temperature, level, and pressure.

Program Overview

The Instrumentation program supplies local industries with knowledgeable technicians who can operate, maintain, and perform preventative and routine maintenance on process control devices. The program is designed to prepare workers to sit for the ISA Instrumentation certification exam.

Students will gain an understanding of the technology utilized in processing industries. Hands-on laboratories, in areas such as electricity and electronics, fluid power, and the basics of programmable logic controllers will prepare the students to be "work ready". This program will give students a skill set that paves the way for a continuation of the Mechatronics A.A.S. program to become a certified technician.

Program Outcomes

- Demonstrate professionalism (clean and complete uniform, on time, positive attitude, respectful).
- Identify safety equipment.

- Practice team building and effective communication.
- Identify tools and equipment used in instrumentation.
- Identify key elements in common instrumentation systems.
- Understand the operation of instrumentation systems (pneumatic, electrical, and electronic).
- Determine the application of instrumentation systems in the workplace.
- Understand standard maintenance procedures, installation, and calibration practices involved in instrumentation.
- Analyze and control process control systems.
- Document and troubleshoot process control systems.

Career Opportunities

Instrumentation Technicians are in high demand around the globe, earning an average of \$16 – \$20 per hour, depending on their geographic region. Prospective employers in the region include Proctor and Gamble, EcoLab, Hood, Rustoleum and other firms in West Virginia, Maryland, Northern Virginia, and Southern Pennsylvania.

Note: All salary estimations are based on the current position and educational trends. Blue Ridge Community and Technical College cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Curriculum for a Certificate in Instrumentation

General Education Core	6
Technical Core	24
Total Credit Hours Required	30

General Education Core

ENGL 110 - ~Technical Writing & Communication (3)

This course is designed to prepare students to write technical reports and other technical documents. Emphasis is on audience, clarity, conciseness, and accuracy of expression. It covers research techniques, information design, writing style, and effective use of graphics.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

MATH 102 - Technical Mathematics (3)

This course focuses on computational fluency and applied problem solving with emphasis on the following topics: real numbers, ratios, percents, proportions, estimation, exponents, roots, scientific notation, applied algebra, measurement, applied geometry, electrical formulas and laws, basic statistics, basic trigonometry and vectors.

Prerequisite(s): MATH 100 - Math Essentials (3) or proper placement on test scores

Subtotal Credit Hours Required **6**

Technical Core

INST 165 - Instrumentation I (2)

This course explores basic instrumentation concepts and electrical process control. Topics include instrumentation history and fundamentals, safety, instrumentation classification, power sources, the operation of instrumentation systems (pneumatic, electrical, and electronic) and applications in the workplace. Standard maintenance procedures, and installation and calibration practices will be introduced on the state-the-art training equipment.

MECH 106 - Electricity & Electronics (2)

Electricity & Electronics is an introduction to AC electrical applications and commercial wiring practices. This course is paired with MECH 105 - Electricity & Commercial Wiring (1) to form a complete electricity/electronic experience for the mechatronics technician. This course introduces the fundamental concepts of and computations related to AC electricity. Emphasis is placed on AC circuits, components, operation of test equipment; and other related topics. Devices such as transformers, AC motors, and solenoids are covered. Commercial wiring tools and practices are introduced to prepare the student for the NEC exam. MECH 106L - Electricity & Electronics Lab (2) is the laboratory portion of this course.

Corequisite(s): MECH 106L - Electricity & Electronics Lab (2)

Pre-requisite/Co-requisite(s): MATH 102 - Technical Mathematics (3), MATH 105 - ^Algebra (3), MATH 106 - ^Trigonometry (3), or MATH 108 - ^Pre-Calculus (4)

MECH 106L - Electricity & Electronics Lab (2)

Electricity & Electronics is an introduction to AC electrical applications and commercial wiring practices. This course is paired with MECH 105 - Electricity & Commercial Wiring (1) to form a complete electricity/electronic experience for the mechatronics technician. This course introduces the fundamental concepts of and computations related to AC electricity. Emphasis is placed on AC circuits, components, operation of test equipment; and other related topics. Devices such as transformers, AC motors, and solenoids are covered. Commercial wiring tools and practices are introduced to prepare the student for the NEC exam. This laboratory component provides hands-on experiences necessary for complete concept attainment.

Corequisite(s): MECH 106 - Electricity & Electronics (2)

Pre-requisite/Co-requisite(s): MATH 102 - Technical Mathematics (3), MATH 105 - ^Algebra (3), MATH 106 - ^Trigonometry (3), or MATH 108 - ^Pre-Calculus (4)

MECH 120 - Fluid Power (3)

The Fluid Power course is designed to provide students with a basic understanding of the concepts and applications of fluid power technology including hydraulics and pneumatics. The course is an overview of fluid power technology applications; the general concept of fluid power systems; an introduction to energy input, energy output, energy control, and systems auxiliary components; as well as the design and function of components.

MECH 121 - Safety Awareness & OSHA 10 (2)

Safety Awareness is designed to introduce students to the necessary skills to safely work in the industrial setting. Some major areas of studies include: Fall Protection, Fire Prevention and Protection, Electrical Safety, Personal Protective Equipment, Hazard Communication, and other elective topics. Upon successfully passing the OSHA exam the student will earn a 10 hour OSHA card.

MECH 201 - Systematic Troubleshooting (3)

This course will provide the students with a systematic process, utilizing critical thinking skills to diagnose, analyze, and solve complex problems. Several problem solving models will be presented. Students will work through case studies to develop their problem solving skills. This course will also prepare students to take the Work-keys Applied Technology test which is required by several local employers. This is a good course for anyone who has to analyze and troubleshoot problems within their normal work routine.

Pre-requisite/Co-requisite(s): MECH 250 - Intro to PLC (3)

MECH 230 - Industrial Controls (2)

Industrial Controls introduces the students to the basics of AC motor applications and control. This course teaches electric relay control of AC electric motors found in industrial, commercial, and residential applications. Students learn industry-relevant skills including how to operate, install, design, and troubleshoot AC electric motor control circuits for various applications.

Prerequisite(s): MECH 105 - Electricity & Commercial Wiring (1) or MECH 106 - Electricity & Electronics (2)

MECH 250 - Intro to PLC (3)

The PLC course will prepare students to install, maintain and program Programmable Logic Controllers. Students will learn about both Allen-Bradley and Seimens PLC systems.

Prerequisite(s): MECH 105 - Electricity & Commercial Wiring (1) or MECH 106 - Electricity & Electronics (2)

MECH 260 - Process Control & Instrumentation (3)

Process Controls cover a wide range of topics such as measurement methods, pressure measurement devices, temperature measurement devices, flow measurement devices, level measurement devices, pilot valves, pneumatic controls, electronic controls, and process controls. Students will learn to install, maintain, monitor and troubleshoot process control equipment.

Prerequisite(s): MECH 105 - Electricity & Commercial Wiring (1) or MECH 106 - Electricity & Electronics (2)

- Restricted Electives in any CAD, INST, MECH, RENG, or ROB (2)

Subtotal Credit Hours Required 24

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Justice System Certificate

The Blue Ridge Community and Technical College Certificate in Justice System will help students gain entry-level skills for a variety of positions in criminal justice and law. Blue Ridge Community and Technical College will educate students in the skills of the criminal justice system, forensic science, and criminal investigations.

Program Overview

The Justice System Certificate will introduce students to the criminal justice system. Topics covered are not limited to, but will include forensic science, corrections, law enforcement, investigations, the juvenile justice system, and careers in the field.

To be eligible to earn a Blue Ridge Community and Technical College Certificate the student must be a current degree-seeking student or complete the application and admissions process to the College. Eligibility to earn and receive a Blue Ridge Community and Technical College Certificate does not interfere with the degree-seeking status of the student.

Program Outcomes

- Demonstrate an understanding of the historic origins, structure, and operation of our American Criminal Justice system.
- Demonstrate an understanding of the laws, Constitutional requirements, and legally defined procedures that criminal justice professionals have to adhere to when working within the field of criminal justice.
- Communicate effectively, both orally and in writing, and demonstrate basic knowledge of information technology as applied to criminal justice research and practice.

Curriculum for a Certificate in Justice System

General Education Core	12
Justice Core	18
Total Credit Hours Required	30

General Education Core

ENGL 101 - ~English Composition I (3)

ENGL 101 is an introduction to college writing. This class emphasizes processes for drafting, revising, and editing. It develops a student's ability to read a passage, analyze its meaning, and write an intelligent response which shows not only an understanding of the passage but also a working knowledge of the writing and rhetorical strategies. Students will learn how to make effective arguments and how to locate, synthesize, and evaluate relevant information.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 101L - English Composition I Lab (3), or placement test scores

MATH 101 - ~Introduction to Mathematics (3)

During this course topics to be covered are sets, mathematical logic, mathematical systems, the real number system, systematic counting, probability, measurement, and consumer mathematics. History of mathematics, critical thinking skills, problem solving, and use of technology will be incorporated throughout the course.

Prerequisite(s): MATH 100 - Math Essentials (3) or proper placement on test scores

PSCI 101 - ~American Federal Government (3)

This course involves the study of the functions and administration of government in the United States. The course is designed to provide an introduction to the structure, organization and functioning of the national government of the United States. It will examine the powers and relationships of the executive, legislative, and judicial branches of government with special emphasis given to the role that history, political parties, pressure groups, etc. play in influencing these relationships.

PSYC 203 - ~Introduction to Psychology (3)

This course will introduce the student to basic psychological principals and to enable the student to examine current thinking about development, personality, sensation and perception, cognition, learning, psychological disorders, and their treatment, and influence.

Corerequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement

SOCI 203 - ~General Sociology (3)

This course introduces students to the core concepts and perspectives of sociology, the study of human social environments and of human interactions within those environments. The course will explore a number of sociological topics to develop a sociological imagination, an ability to understand the effects of group membership on behavior, attitudes, beliefs, and life chances.

Corerequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement

Subtotal Credit Hours Required 12

Justice Core

BUSN 250 - Management and Leadership (3)

This course empowers students to assess their leadership potential by studying successful leaders of the past and present. With a focus on business, students consider the skills required to set goals for an organization and direct the actions of others to achieve them.

CJST 200 - Intro Crim Justice Sys (3)

This course provides the students with a survey of law enforcement as well as the role, history, development, and constitutional aspects of law enforcement and public safety, as well as a review of agencies involved in the process of administration of justice.

Corerequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement scores

CJST 220 - Criminal Investigation (3)

This course examines the fundamental principles and theories of criminal investigation, with concentration on the following subjects: report writing; sources of information: witnesses, complainants, victims, observation, physical description, identification, interviews, interrogation, modus operandi, informants, surveillance, undercover techniques, crime scene search, collection, preservation, and processing of physical evidence; raids, arrest, search, seizure, and case preparation.

Corequisite(s): CJST 200 - Intro Crim Justice Sys (3)

CJST 260 - The Correctional System (3)

This course covers the court and jury system, probation and parole, and correctional institutions including jails and the non-institutional treatment of offenders. In addition, legal procedures, which affect the liberties of inmates, clients, and the correctional staff within the institutional and community settings will be covered.

Corequisite(s): CJST 200 - Intro Crim Justice Sys (3)

LGST 213 - American Court System (3)

This course provides an overview of the American court system. Students will be introduced to the actors in the system, including judges, prosecutors, and defense attorneys. Courtroom processes from pretrial through sentencing and appeals will be discussed. The course will review the history of the court system and the different types of courts within the state and federal levels.

Corequisite(s): LGST 100 - Intro to Law & Legal Systems (3) or CJST 200 - Intro Crim Justice Sys (3)

LGST 230 - Criminal Law and Procedure (3)

This course provides an overview of criminal law beginning with the arrest and investigation through the trial process. Case studies and historical cases in criminal law will be reviewed and analyzed. Other topics covered include legal terminology, rights of criminal defendants, and courtroom activities.

Corequisite(s): LGST 100 - Intro to Law & Legal Systems (3) or CJST 200 - Intro Crim Justice Sys (3)

Subtotal Credit Hours Required 18

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Legal Office Assistant Certificate

This hands-on certificate program provides graduates with the basic skills to gain entry-level employment in the fast-paced legal field. Over the course of study, students will learn the basics of legal research and writing, document processing, computer applications, and legal assisting.

Program Overview

The Legal Office Assistant Certificate is the first year of the A.A.S. Paralegal Studies Degree. This certificate also serves secretaries, administrative assistants, and office managers who are interested in law and procedure. This certificate represents the foundation of knowledge that may be applied in a variety of legal office situations.

To be eligible to earn a Blue Ridge Community and Technical College Certificate the student must be a current degree-seeking student or complete the application and admissions process to the College. Eligibility to earn and receive a Blue Ridge Community and Technical College Certificate does not interfere with the degree-seeking status of the student.

Program Outcomes

- Identify legal terminology needed to communicate with professionals in the legal field. (Remember)
- Demonstrate professional skills necessary to a paralegal career, including oral and written communication and technology skills. (Understand)
- Describe the sources of law, hierarchy, and powers of various state and federal courts. (Understand)
- Compose various types of legal correspondence and legal documents. (Create)

Career Opportunities

Blue Ridge Community and Technical College graduates may secure employment in a number of settings, including magistrate courts, circuit/district courts, prosecutor's offices, public defender offices, and private law offices. Graduates may further their education and earning potential by pursuing an associate degree in legal studies or criminal justice.

Curriculum for a Certificate in Legal Office Assistant

General Education Core	15
Legal Office Core	15
Total Credit Hours Required	30

General Education Core

CAS 111 - Information Literacy (3)

This course covers a variety of introductory computing knowledge including how personal computers work, software essentials, hardware components, operating systems and the most popular productivity applications including word processing, spreadsheet, database and presentation software. Students will also be introduced to the Internet and e-mail essentials, file management and digital electronics. This course aligns with the Internet and Computing Core Certification (IC3), which demonstrates that a student has a clear understanding of the knowledge and application of computers and technology in the modern world.

COMM 202 - ~Fundamentals of Speech (3)

This course equips the student with the necessary tools to construct, deliver, and analyze public communication messages.

ENGL 101 - ~English Composition I (3)

ENGL 101 is an introduction to college writing. This class emphasizes processes for drafting, revising, and editing. It develops a student's ability to read a passage, analyze its meaning, and write an intelligent response which shows not only an understanding of the passage but also a working knowledge of the writing and rhetorical strategies. Students

will learn how to make effective arguments and how to locate, synthesize, and evaluate relevant information.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 101L - English Composition I Lab (3), or placement test scores

MATH 101 - ~Introduction to Mathematics (3)

During this course topics to be covered are sets, mathematical logic, mathematical systems, the real number system, systematic counting, probability, measurement, and consumer mathematics. History of mathematics, critical thinking skills, problem solving, and use of technology will be incorporated throughout the course.

Prerequisite(s): MATH 100 - Math Essentials (3) or proper placement on test scores

PSYC 203 - ~Introduction to Psychology (3)

This course will introduce the student to basic psychological principals and to enable the student to examine current thinking about development, personality, sensation and perception, cognition, learning, psychological disorders, and their treatment, and influence.

Corerequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement

SOCI 203 - ~General Sociology (3)

This course introduces students to the core concepts and perspectives of sociology, the study of human social environments and of human interactions within those environments. The course will explore a number of sociological topics to develop a sociological imagination, an ability to understand the effects of group membership on behavior, attitudes, beliefs, and life chances.

Corerequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement

Subtotal Credit Hours Required 15

Legal Office Core

LGST 100 - Intro to Law & Legal Systems (3)

This introductory course will provide students with information on the legal structure of American society. The emphasis is on how the law really works in everyday life. A vital feature of the course is an understanding of legal terminology and active inquiry by the students. The students will analyze authentic and fictional cases and examine common legal forms. The different topics will cover criminal, civil, juvenile, and consumer law. The goal of this course is to prepare the students with a functional knowledge of the everyday law and the Bill of Rights in the United States Constitution.

LGST 103 - Legal Terminology (3)

This course serves to introduce students to terms used in the legal field. The student will learn spelling, pronunciation, and definitions of commonly used terms within various components of the field, including constitutional law, criminal law, family law, business organizations, and courts.

LGST 150 - Legal Research and Writing (3)

This course is designed to familiarize the student with legal research, legal analysis, and legal writing. Topics covered will include utilizing print and online resources, legal citation, legal memorandum, and legal correspondence.

LGST 230 - Criminal Law and Procedure (3)

This course provides an overview of criminal law beginning with the arrest and investigation through the trial process. Case studies and historical cases in criminal law will be reviewed and analyzed. Other topics covered include legal terminology, rights of criminal defendants, and courtroom activities.

Corequisite(s): LGST 100 - Intro to Law & Legal Systems (3) or CJST 200 - Intro Crim Justice Sys (3)

- LGST Electives (3)

Subtotal Credit Hours Required 15

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Machine Operator/Mechatronics Assistant Certificate

Program Description

If you seek a hands-on career in the high-tech industry, and entry into the job market, consider a certificate as a Certified Machine Operator and Mechatronics Assistant. Our program prepares you to be an effective, interdisciplinary problem solver. You will learn to apply knowledge of mathematics, science, and engineering used in manufacturing, distribution, and processing. You will become efficient at operating complex machinery while troubleshooting and foreseeing production problems before they arise.

Program Overview

The Assistant Mechatronics program supplies local industries with knowledgeable machine operators who can operate, maintain, and perform preventative and routine maintenance on a variety of industrial equipment. The program is designed to prepare workers for the Key Train Applied Technology test, which many local employers require for employment. Program completers can also test to become Siemens Certified Assistant Technicians. This certification is recognized worldwide and will open many employment opportunities.

Students will gain an understanding of the technology utilized in modern distribution and processing industries. Hands-on laboratories, in areas such as electricity and electronics, mechanics, fluid power, motor controls, and the basics of programmable logic controllers will prepare students to be "work ready". This program will give students a skill set that will make them ready for employment, and also pave the way for a continuation into the Mechatronics A.A.S. program to become a certified technician. Internships are available.

Program Outcomes

- Demonstrate professionalism (on time, positive attitude, respectful).
- Identify safety equipment.
- Practice team building and effective communication.
- Understand the technology utilized in modern distribution and processing industries.
- Identify tools and equipment.
- Write industrial PLCs (Programmable Logic Controls).
- Understand the fundamentals of Quality Control.
- Demonstrate how to properly set up, program, operate, maintain and troubleshoot a scaled manufacturing system.
- Understand advanced concepts and applications of fluid power technology including hydraulics and pneumatics.
- Demonstrate proper application and connection of electrical motors, transformers, and solenoids.

Career Opportunities

Machine Operators are in high demand around the globe, earning an average of \$12 – \$16 per hour, depending on their geographic region and the machine they operate. Prospective employers in the region include Procter and Gamble, EcoLab, Quad Graphics, Ply Gen, Brentwood Industries, American Woodmark, Monoflo, O'Sullivan, Cenetic Landis, Automated Merchandising Systems, New World Pasta, and other firms in West Virginia, Maryland, Northern Virginia, and Southern Pennsylvania.

Many of these employers have tuition assistance programs, which will help the student to continue their education, toward an A.A.S. in Mechatronics.

Note: All salary estimations are based on the current position and educational trends. Blue Ridge Community and Technical College cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Curriculum for a Certificate in Machine Operator/Mechatronics Assistant

General Education Core	9
Technical Core	21
Total Credit Hours Required	30

General Education Core

CAS 111 - Information Literacy (3)

This course covers a variety of introductory computing knowledge including how personal computers work, software essentials, hardware components, operating systems and the most popular productivity applications including word processing, spreadsheet, database and presentation software. Students will also be introduced to the Internet and e-mail essentials, file management and digital electronics. This course aligns with the Internet and Computing Core Certification (IC3), which demonstrates that a student has a clear understanding of the knowledge and application of computers and technology in the modern world.

ENGL 110 - ~Technical Writing & Communication (3)

This course is designed to prepare students to write technical reports and other technical documents. Emphasis is on audience, clarity, conciseness, and accuracy of expression. It covers research techniques, information design, writing style, and effective use of graphics.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

MATH 102 - Technical Mathematics (3)

This course focuses on computational fluency and applied problem solving with emphasis on the following topics: real numbers, ratios, percents, proportions, estimation, exponents, roots, scientific notation, applied algebra, measurement, applied geometry, electrical formulas and laws, basic statistics, basic trigonometry and vectors.

Prerequisite(s): MATH 100 - Math Essentials (3) or proper placement on test scores

Subtotal Credit Hours Required 9

Technical Core

MECH 101 - Introduction to Mechatronics (1)

Introduction to Mechatronics is an overview course that introduces students to the field of Mechatronics. Students will rotate through modules that will give them insight into the skills, concepts, equipment, and challenges they will encounter as a mechatronics technician. Modules will include design process, basic tool use, laboratory safety, precision measurement, fluid power, robotics, and programmable logic controllers. Included will be basic professional preparation topics such as resume writing, job readiness, interviewing and portfolio development. MECH 101L - Intro to Mechatronics Lab (2) is the laboratory component of this class.

Corerequisite(s): MECH 101L - Intro to Mechatronics Lab (2)

MECH 101L - Intro to Mechatronics Lab (2)

This course is the lab component of MECH 101 - Introduction to Mechatronics (1). The course contains an overview course that introduces students to the field of Mechatronics. Students will rotate through modules that will give them insight into the skills, concepts, equipment, and challenges they will encounter as a mechatronics technician. Modules will include design process, basic tool use, laboratory safety, engineering journaling, precision measurement, fluid power, robotics, and programmable logic controllers. Included will be basic professional preparation topics such as resume writing, job readiness, interviewing and portfolio development.

Corerequisite(s): MECH 101 - Introduction to Mechatronics (1)

MECH 106 - Electricity & Electronics (2)

Electricity & Electronics is an introduction to AC electrical applications and commercial wiring practices. This course is paired with MECH 105 - Electricity & Commercial Wiring (1) to form a complete electricity/electronic experience for the mechatronics technician. This course introduces the fundamental concepts of and computations related to AC electricity. Emphasis is placed on AC circuits, components, operation of test equipment; and other related topics. Devices such as transformers, AC motors, and solenoids are covered. Commercial wiring tools and practices are introduced to prepare the student for the NEC exam. MECH 106L - Electricity & Electronics Lab (2) is the laboratory portion of this course.

Corerequisite(s): MECH 106L - Electricity & Electronics Lab (2)

Pre-requisite/Co-requisite(s): MATH 102 - Technical Mathematics (3), MATH 105 - ^Algebra (3), MATH 106 - ^Trigonometry (3), or MATH 108 - ^Pre-Calculus (4)

MECH 106L - Electricity & Electronics Lab (2)

Electricity & Electronics is an introduction to AC electrical applications and commercial wiring practices. This course is paired with MECH 105 - Electricity & Commercial Wiring (1) to form a complete electricity/electronic experience for the mechatronics technician. This course introduces the fundamental concepts of and computations related to AC electricity. Emphasis is placed on AC circuits, components, operation of test equipment; and other related topics. Devices such as transformers, AC motors, and solenoids are covered. Commercial wiring tools and practices are introduced to prepare the student for the NEC exam. This laboratory component provides hands-on experiences necessary for complete concept attainment.

Corerequisite(s): MECH 106 - Electricity & Electronics (2)

Pre-requisite/Co-requisite(s): MATH 102 - Technical Mathematics (3), MATH 105 - ^Algebra (3), MATH 106 - ^Trigonometry (3), or MATH 108 - ^Pre-Calculus (4)

MECH 110 - Mechanical Systems I (3)

Mechanics I is a comprehensive introduction to fundamentals of industrial mechanical concepts, principles, and equipment. The course covers safety, lubrication, bearing installation and removal, proper installation and adjustment of belt and chain drives, as well as coupling and shaft alignment.

Prerequisite(s): MECH 101 - Introduction to Mechatronics (1)

MECH 120 - Fluid Power (3)

The Fluid Power course is designed to provide students with a basic understanding of the concepts and applications of fluid power technology including hydraulics and pneumatics. The course is an overview of fluid power technology applications; the general concept of fluid power systems; an introduction to energy input, energy output, energy control, and systems auxiliary components; as well as the design and function of components.

MECH 121 - Safety Awareness & OSHA 10 (2)

Safety Awareness is designed to introduce students to the necessary skills to safely work in the industrial setting. Some major areas of studies include: Fall Protection, Fire Prevention and Protection, Electrical Safety, Personal Protective Equipment, Hazard Communication, and other elective topics. Upon successfully passing the OSHA exam the student will earn a 10 hour OSHA card.

MECH 201 - Systematic Troubleshooting (3)

This course will provide the students with a systematic process, utilizing critical thinking skills to diagnose, analyze, and solve complex problems. Several problem solving models will be presented. Students will work through case studies to develop their problem solving skills. This course will also prepare students to take the Work-keys Applied Technology test which is required by several local employers. This is a good course for anyone who has to analyze and troubleshoot problems within their normal work routine.

Pre-requisite/Co-requisite(s): MECH 250 - Intro to PLC (3)

MECH 250 - Intro to PLC (3)

The PLC course will prepare students to install, maintain and program Programmable Logic Controllers. Students will learn about both Allen-Bradley and Seimens PLC systems.

Prerequisite(s): MECH 105 - Electricity & Commercial Wiring (1) or MECH 106 - Electricity & Electronics (2)

Subtotal Credit Hours Required 21

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Medical Assisting Certificate

Our program prepares you with the skills to deliver quality care in a variety of settings. Our balance of academic and clinical components gives you the knowledge and hands-on opportunities to perform administrative and clinical procedures with confidence.

Program Overview

This certificate program is designed for the student interested in an entry-level position as a medical assistant in a medical office. The program provides lectures as well as competency-based training in both administrative and clinical procedures. There is also a non-compensated externship experience in which students work in an actual ambulatory care setting. Externship sites may have their own requirements that students must meet prior to their externship experience. Medical assisting certificate students must maintain a grade of "C" or better in all required courses. Students must provide appropriate health records that include a history and physical, required immunizations, and a negative TB test prior to externship. Students must also have a current American Heart Association's "Healthcare Provider" CPR certification as well as First Aid certification and meet the program's technical standards. Also, students will undergo a background check and drug screen prior to externship. Any negative findings may prohibit a student from participating in their externship, and thus not be able to complete the Medical Assisting certificate program. Students who successfully complete the program are required to sit for the American Medical Technologists' national certification exam in medical assisting *.

To be eligible to earn a Blue Ridge Community and Technical College Certificate the student must be a current degree-seeking student or complete the application and admissions process to the College. Eligibility to earn and receive a Blue Ridge Community and Technical College Certificate does not interfere with the degree-seeking status of the student.

** In order to sit for the American Medical Technologists' national certification exam in medical assisting, the graduate must have proof of High School diploma or G.E.D.*

Outcomes

Students will be able to:

- Demonstrate an understanding of the content areas of the curriculum in medical assisting. These content areas are anatomy and physiology, medical terminology, medical law and ethics, psychology, communication,

medical assisting administrative procedures, medical assisting clinical procedures, and professional components.

- Apply knowledge from content areas to competencies in administrative, clinical, and general skills of medical assisting.
- Analyze the essential elements of core content areas and competencies.
- Critically evaluate patient care and administrative scenarios and use appropriate judgment within the scope of practice of medical assistants.
- Display a professional commitment to the ethical, legal, and compassionate practice of medicine in diverse communities.
- Demonstrate hands-on competency in administrative, clinical, and general skills of medical assisting.
- Communicate effectively with all members of healthcare teams, patients and others associated with the medical profession.
- Function as a competent, professional member of a healthcare team both administratively and clinically.
- Continue to learn and grow in healthcare professions and life.
- Contribute to the development and growth of their communities in creative ways.

Career Opportunities

As a medical assistant, you will work primarily in outpatient care settings under the direction of physicians.

Curriculum for a Certificate in Medical Assisting

General Education Core	9
Medical Core	30
Total Credit Hours Required	39

General Studies Core

BIOL 100 - The Human Body (3)

This is a survey course of basic Human Anatomy & Physiology. It is designed for students who need a rudimentary understanding of the human body and its organ systems but not in the detail that would be expected of a selective admissions healthcare program. This course will not substitute for BIOL 120 - ^Human Anatomy & Physiology I (3), BIOL 121 - ^Human Anatomy & Phys I Lab (1), BIOL 122 - ^Human Anatomy & Physiology II (3), or BIOL 123 - ^Human Anatomy & Phys II Lab (1).

ENGL 110 - ~Technical Writing & Communication (3)

This course is designed to prepare students to write technical reports and other technical documents. Emphasis is on audience, clarity, conciseness, and accuracy of expression. It covers research techniques, information design, writing style, and effective use of graphics.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

MATH 101 - ~Introduction to Mathematics (3)

During this course topics to be covered are sets, mathematical logic, mathematical systems, the real number system, systematic counting, probability, measurement, and consumer mathematics. History of mathematics, critical thinking skills, problem solving, and use of technology will be incorporated throughout the course.

Prerequisite(s): MATH 100 - Math Essentials (3) or proper placement on test scores

Subtotal Credit Hours Required 9

Medical Core

CAHS 141 - Intro to Pharmacology (3)

This course provides information on a variety of medications that are commonly administered in the healthcare setting. Major drug categories associated with body systems will be reviewed. Students will learn about drug pharmacokinetics, dosage, preparation, administration and interactions.

Prerequisite(s): MATH 100 - Math Essentials (3) or placement

MAST 101 - Introduction to Medical Assisting (3)

This course is a foundation course for all medical assisting programs (clinical and/or administrative). Topics include medical assisting and other allied health disciplines as a profession, health care settings, communication skills, coping skills, topics in psychology, and medical law and ethics. Emphasis is also placed on professionalism topics including personal traits of the health care professional, work place dynamics, career planning and employment. In addition, basic keyboarding skills and 10 key skills are reviewed and competency is required.

MAST 102 - Medical Terminology (3)

This course is an integral component in understanding the language of medicine. It is designed to give the student a foundation in the basic structure of medical terms, word building and definitions as well as the applications of medical terminology. A human body systems approach is utilized and topics covered in each system include anatomy and physiology overview, medical terms, symptoms and signs, diseases and disorders, treatments, procedures and devices.

MAST 105 - Insurance Billing & Coding (3)

The focus of this course is on the process of using source documents to apply diagnostic and procedural codes to patient records for the purpose of filing insurance claims. Topics covered include introduction to health insurance, managed health care, life cycle of an insurance claim, legal and regulatory issues, ICD-9-CM coding, ICD-10 coding, CPT coding, HCPCS coding, CMS reimbursement methodologies, coding for medical necessity and the essentials of CMS-1500 claim instructions. Also, insurance carriers such as Blue Cross and Blue Shield, Medicare, Medicaid and others are covered.

Prerequisite(s): MAST 101 - Introduction to Medical Assisting (3), MAST 102 - Medical Terminology (3), MAST 106 - Medical Office Management (2), and MAST 106L - Medical Office Management Lab (1)

MAST 106 - Medical Office Management (2)

This course is a foundational course in administrative medical assisting. Topics include the facility environment, computers in the ambulatory care setting, electronic medical records (EMR), telecommunications, patient scheduling,

medical records management, written communications, daily financial practices, introduction to medical coding, insurance, billing and collections, accounting practices, and facility and equipment management. In addition, more advanced topics are covered: management styles, risk management, the importance of teamwork, supervising personnel, procedure manual, HIPAA implications, marketing functions, records and financial management, liability coverage, human resource management such as recruiting and hiring office personnel, dismissing employees, and complying with personnel laws. Good record keeping principles are stressed in this course. Emphasis is placed on applications of electronic technology and fundamental writing skills as well as basic medical assisting clerical and operational functions.

Corerequisite(s): MAST 101 - Introduction to Medical Assisting (3), MAST 102 - Medical Terminology (3), and MAST 106L - Medical Office Management Lab (1)

MAST 106L - Medical Office Management Lab (1)

This course is taken in conjunction with MAST 106 Medical Office Management. It emphasizes hands-on demographic data entry, billing and coding, insurance filing, reporting, as well as other electronic data functions of medical information management systems.

Corerequisite(s): MAST 106 - Medical Office Management (2)

MAST 202 - Clinical Medical Assistant I (2)

This course offers the medical assistant student the opportunity to learn basic clinical theory that is utilized within medical practices. Areas covered include principals of asepsis including sterilization, infection control, blood borne pathogens, emergency/first aid procedures, skills for interviewing patients, taking a medical history, patient charts and documentation, vital signs and measurements, physical examination, specialty examinations and assisting with minor surgeries including identification of surgical instruments.

Prerequisite(s): MAST 101 - Introduction to Medical Assisting (3), MAST 102 - Medical Terminology (3), MAST 106 - Medical Office Management (2), and MAST 106L - Medical Office Management Lab (1)

Corerequisite(s): MAST 202L - Clinical Medical Assistant I Lab (1)

MAST 202L - Clinical Medical Assistant I Lab (1)

This course is taken in conjunction with MAST 202 - Clinical Medical Assistant I (2). Emphasis is placed on hands-on learning of skills related to the lecture portion including blood pressure, pulse, respiration, temperature, height, weight, and pain level. Additional hands-on learning skills covered are observation skills, patient care, patient positioning for examinations, vision screening, patient education instructions, and pre-surgical patient preparation procedures. Students must be competent in all skills tested.

Prerequisite(s): MAST 102 - Medical Terminology (3)

Corerequisite(s): MAST 202 - Clinical Medical Assistant I (2)

MAST 206 - Clinical Medical Assistant II (2)

This course builds on topics covered in MAST 202 - Clinical Medical Assistant I (2) and introduces new information including an introduction to the medical laboratory, lab equipment, and safety, microbiology, collecting, processing, and testing of blood and urine specimens, nutrition and special diets, principles of pharmacology, and drug administration. The course also includes topics on the anatomy of the heart, cardiac cycle, 12-lead ECG, lead identification, ECG tracing troubleshooting, cardiac dysrhythmias, Holter monitors, and stress testing. Additional topics covered are anatomy of the respiratory system, symptoms of respiratory conditions/disorders, pulmonary function testing including Spirometry, peak flow meters, pulse oximetry and the medical assistant's role in diagnostic

radiology.

Prerequisite(s): MAST 202 - Clinical Medical Assistant I (2) .

Corerequisite(s): MAST 206L - Clinical Medical Assistant II Lab (1)

MAST 206L - Clinical Medical Assistant II Lab (1)

This course is taken in conjunction with MAST 206 - Clinical Medical Assistant II (2). Emphasis is placed on hands-on learning of skills covered in MAST 206 lecture. These skills include performing hematology tests, urinalysis, basic microbiology testing, and CLIA waved tests such as blood glucose, Strep-A, and pregnancy testing. Additional hands-on skills covered in the course are the administration of oral and paternal (injections) patient medications, and performing ECG tests including electrode placement and lead connection. Pulmonary function testing is introduced using peak flow meters and respiratory treatment including the proper use of a nebulizer and pulse oximetry.

Prerequisite(s): MAST 202 - Clinical Medical Assistant I (2)

Corerequisite(s): MAST 206 - Clinical Medical Assistant II (2)

MAST 214 - MA Review and Certification Prep (2)

This course provides the student with a review of all of the major administrative, clinical and general competencies covered in the medical assistant program. Upon successful completion of this course and all other program requirements, the medical assistant certificate and degree students are required to sit for national certification as a Registered Medical Assistant (RMA) through American Medical Technologists.

Prerequisite(s): BIOL 100 - The Human Body (3) , CAHS 141 - Intro to Pharmacology (3), ENGL 101 - ~English Composition I (3), MAST 101 - Introduction to Medical Assisting (3), MAST 102 - Medical Terminology (3), MAST 105 - Insurance Billing & Coding (3), MAST 106 - Medical Office Management (2), MAST 106L - Medical Office Management Lab (1), MAST 202 - Clinical Medical Assistant I (2), MAST 202L - Clinical Medical Assistant I Lab (1), MAST 206 - Clinical Medical Assistant II (2), MAST 206L - Clinical Medical Assistant II Lab (1), MATH 101 - ~Introduction to Mathematics (3) or higher, and PLBT 101 - Phlebotomy (3)

Corerequisite(s): MAST 216 - Clinical & Administrative Externship (4)

MAST 216 - Clinical & Administrative Externship (4)

The course coordinates with local medical office sites to provide students with hands-on clinical and administrative experience in a medical office setting. The student will work for a total of one hundred sixty (160) uncompensated hours at the assigned site. Clinical and administrative competencies will be evaluated by a medical office preceptor(s) and under the direction of the Medical Assistant Externship Coordinator. The student is required to be in contact with the Medical Assistant Externship Coordinator prior to registering for this course. Early registration is encouraged to allow time to complete requirements and to make schedule arrangements with the assigned medical office site. Students must have received a grade of "C" or better in ALL MAST and PLBT courses prior to registering for this course. In addition, students must provide proof of valid/current BLS for Healthcare Providers and have documentation of a recent (within past 6 months) physical and provide proof of required immunizations. Students are required to have their own stethoscope and required uniforms for the course.

Prerequisite(s): BIOL 100 - The Human Body (3) , CAHS 141 - Intro to Pharmacology (3), ENGL 101 - ~English Composition I (3), MAST 101 - Introduction to Medical Assisting (3), MAST 102 - Medical Terminology (3), MAST 105 - Insurance Billing & Coding (3), MAST 106 - Medical Office Management (2), MAST 106L - Medical Office Management Lab (1), MAST 202 - Clinical Medical Assistant I (2), MAST 202L - Clinical Medical Assistant I Lab (1), MAST 206 - Clinical Medical Assistant II (2), MAST 206L - Clinical Medical Assistant II Lab (1), MATH 101 - ~Introduction to Mathematics (3) or higher, and PLBT 101 - Phlebotomy (3)

Corerequisite(s): MAST 214 - MA Review and Certification Prep (2)

PLBT 101 - Phlebotomy (3)

This course prepares students with the fundamentals of phlebotomy. Both theory and hands-on experience are provided. Course content includes the history of phlebotomy, basic anatomy and physiology, infection control, specimen collection, various venipuncture techniques, dermal punctures, venipuncture complications, point-of-care testing, legal issues, and special non-blood specimen collection techniques.

Prerequisite(s): MAST 102 - Medical Terminology (3)

Subtotal Credit Hours Required 30

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Medical Coding Specialist Certificate

This certificate degree program will prepare the student to become a specialist in Medical Coding. The Medical Coding Specialist will review patients' records and assign alphanumeric codes for each diagnosis and procedure codes performed by the medical provider. Through detailed instruction including professional practicum experience, the student will be prepared in ICD10 and CPT coding systems and will gain knowledge in medical terminology, disease processes, and pharmacology. Upon completion of this certificate, a student may sit for certification exams.

Program Outcomes

- **Summarize** medical terminology, systems of classification, and methods of reimbursement commonly used in the Health Information Management field.
- **Explain** legal and ethical concerns related to confidentiality, security, and privacy issues in Health Information Management.
- **Examine** compliance issues related to government regulations, licensure, and certification requirements.

Curriculum for an Certificate in Medical Coding Specialist

General Education Core

Medical Coding Core

Total Credit Hours Required

General Education Core

BIOL 100 - The Human Body (3)

This is a survey course of basic Human Anatomy & Physiology. It is designed for students who need a rudimentary understanding of the human body and its organ systems but not in the detail that would be expected of a selective

admissions healthcare program. This course will not substitute for BIOL 120 - ^Human Anatomy & Physiology I (3), BIOL 121 - ^Human Anatomy & Phys I Lab (1), BIOL 122 - ^Human Anatomy & Physiology II (3), or BIOL 123 - ^Human Anatomy & Phys II Lab (1).

CAS 111 - Information Literacy (3)

This course covers a variety of introductory computing knowledge including how personal computers work, software essentials, hardware components, operating systems and the most popular productivity applications including word processing, spreadsheet, database and presentation software. Students will also be introduced to the Internet and e-mail essentials, file management and digital electronics. This course aligns with the Internet and Computing Core Certification (IC3), which demonstrates that a student has a clear understanding of the knowledge and application of computers and technology in the modern world.

ENGL 110 - ~Technical Writing & Communication (3)

This course is designed to prepare students to write technical reports and other technical documents. Emphasis is on audience, clarity, conciseness, and accuracy of expression. It covers research techniques, information design, writing style, and effective use of graphics.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

MATH 101 - ~Introduction to Mathematics (3)

During this course topics to be covered are sets, mathematical logic, mathematical systems, the real number system, systematic counting, probability, measurement, and consumer mathematics. History of mathematics, critical thinking skills, problem solving, and use of technology will be incorporated throughout the course.

Prerequisite(s): MATH 100 - Math Essentials (3) or proper placement on test scores

Subtotal Credit Hours Required

12

Medical Coding Core

CAHS 141 - Intro to Pharmacology (3)

This course provides information on a variety of medications that are commonly administered in the healthcare setting. Major drug categories associated with body systems will be reviewed. Students will learn about drug pharmacokinetics, dosage, preparation, administration and interactions.

Prerequisite(s): MATH 100 - Math Essentials (3) or placement

CAHS 142 - Pathophysiology of Disease (3)

Pathophysiology of diseases will build upon previously learned knowledge of normal anatomy and normal physiology. This course will discuss pathologies and abnormalities that are deviations from the norm. For all pathologies, we will discuss causes, signs and symptoms, diagnosis, diagnostic tests, treatments, and prognosis. The pathologies will be organized according to the body system, including cardiovascular, respiratory, immune, gastrointestinal, urinary,

reproductive, endocrine, nervous, musculoskeletal, and integumentary. Other topics will include infectious diseases, neoplasms, hereditary diseases, diseases of the blood, and mental/cognitive disorders.

HIM 200 - Coding I (3)

This course focuses on the current classification systems used in the healthcare industry for diagnostic and procedure coding purposes. This course will emphasize applying ethical coding standards while adhering to current regulations and established guidelines. Upon completion, students should be able to accurately assign and sequence diagnostic and procedural codes for patient outcomes, statistical, and reimbursement purposes.

Prerequisite(s): BIOL 120 - ^Human Anatomy & Physiology I (3), BIOL 122 - ^Human Anatomy & Physiology II (3), BIOL 123 - ^Human Anatomy & Phys II Lab (1), CAHS 141 - Intro to Pharmacology (3), CAHS 142 - Pathophysiology of Disease (3), and HIM 101 - Fundamentals of HIM (2) with a grade of C or better

HIM 201 - Coding II (3)

The course focuses on the current CPT/HCPCS coding classification system used for outpatient/professional fees and ambulatory billing of medical services provided to the patient. This course will emphasize applying ethical coding standards while adhering to current regulations and established guidelines. Upon completion, students should be able to apply coding principles to correctly assign CPT/HCPCS codes. The focus will be on the CPT/HCPCS coding classification system used for outpatient/professional fees and ambulatory billing of medical service provided to the patient.

Prerequisite(s): HIM 200 - Coding I (3)

HIM 220 - HIM Reimbursement Methods (3)

This course covers reimbursement methodologies and revenue cycle used in all healthcare settings as they relate to national billing, compliance, and reporting requirements. Topics include prospective payment systems, billing process and procedures, charge master maintenance, regulatory guidelines, reimbursement monitoring, and compliance strategies and reporting. Upon completion, students should be able to perform data quality reviews to validate code assignment and comply with reimbursement and reporting requirements.

Prerequisite(s): HIM 200 - Coding I (3)

MAST 102 - Medical Terminology (3)

This course is an integral component in understanding the language of medicine. It is designed to give the student a foundation in the basic structure of medical terms, word building and definitions as well as the applications of medical terminology. A human body systems approach is utilized and topics covered in each system include anatomy and physiology overview, medical terms, symptoms and signs, diseases and disorders, treatments, procedures and devices.

Subtotal Credit Hours Required

18

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Paramedicine Certificate

The Paramedic Program is a 60 Credit Hour Associate of Applied Science Degree program that is designed for students who are interested in pursuing careers in advanced emergency care. As of July 1, 2020, the U.S. Department of Education has implemented (Regulation 34 CFR 668.43 (a) (5) (v)) which requires Blue Ridge CTC's Paramedic program to provide a list of all states where our curriculum meets state educational requirements for certification. The National Registry Paramedic certification is a requirement for initial state licensure in all states except Montana, where it is optional, and New York and North Carolina, where alternate entry is available. Students should contact the state Department of EMS in the state they would like to be initially certified for more specific information.

Prior to registering for any advanced clinical (200 level) EMSP courses, students are required to:

- Complete the Emergency Medical Technician (EMT) course before or during the first semester.
- Obtain a valid EMT certification, which meets the U.S. Department of Transportation's National Standard Curriculum for Emergency Medical Technicians, no later than February 15th of the second semester.
- Pass the ALS Entrance Exam with a 70% or higher and submit the following documentation to the EMS Program Coordinator:
 1. An application to the advanced clinical (200 level) EMSP courses
 2. A photocopy of current CPR (AHA Healthcare Provider Course) certification
 3. Current EMT card from either: National Registry, West Virginia, Maryland, Pennsylvania, or
 4. A completed immunization record prior to participation in any EMS Practicum course
 5. An annual PPD results (or chest X-ray, if appropriate)
 6. Successfully complete a urine drug screen
 7. Successfully complete a national criminal background check

Students in the Paramedic Program are subject to Blue Ridge Community and Technical College's requirements for admissions, basic skills testing, and appropriate course placement, including mandated developmental courses, which are not counted toward completion of the program. Blue Ridge Community and Technical College Catalog requirements regarding academic standards, student conduct, and graduation procedures also apply.

Blue Ridge CTC Paramedic Program Goal

The goal of the Associate of Applied Science Degree in Paramedic is to prepare competent entry-level Paramedics in the cognitive (knowledge), psychomotor (skills), and affective (behavior) learning domains.

EMS TECHNICAL STANDARDS

The following activities are examples of the kind of activities in which a student in the Paramedic Program will be required to perform in order to successfully complete the program.

1. **Critical Thinking:** Paramedic students should possess critical thinking ability sufficient for clinical judgment. For example, the paramedic student must be able to prioritize the care of the critically injured or ill patient.
2. **Interpersonal Skills:** Paramedic students shall possess interpersonal abilities sufficient to interact with individuals, families, groups, etc. from a variety of social, emotional, cultural and intellectual backgrounds. For example, the student shall establish rapport with clients/patients and health care team members.
3. **Communication Skills:** Paramedic students shall possess communication abilities sufficient for interaction with others in verbal and written forms. For example: providing verbal encode to medical direction from the field and documentation of patient care.
4. **Mobility:** Paramedic students shall possess physical abilities sufficient to move from room to room, maneuver in small spaces, stand and walk for extensive periods of time and lift average-size adults with help. For example: transferring patients on to stretchers, loading and unloading stretchers into the ambulance and moving about the scene to search and discover patients.

5. **Motor Skills:** Paramedic students shall possess gross and fine motor abilities sufficient to provide safe and effective care. For example: calibrate and use designated equipment, insertion of tubes and initiation of intravenous and intraosseous infusions and administration of medications.
6. **Hearing:** Paramedic students shall possess auditory ability sufficient to monitor and assess health needs. For example: hear monitor alarms, emergency signals, and cries for help and auscultate breath and bowel sounds.
7. **Visual:** Paramedic students shall possess visual ability sufficient for observation and assessment necessary for care. For example: observe patient/client responses to treatment, use of designated equipment and assessment of a patient.
8. **Tactile:** Paramedic students shall possess tactile ability sufficient for physical assessment. For example: perform palpation and percussion, assessment of skin vital signs.
9. **Weight Bearing:** Paramedic students shall possess the ability to lift and manipulate/move 45-50 pounds on a daily basis. For example position patients/clients, carry designated equipment.
10. **Cognitive Abilities:** Paramedic students shall possess an ability to be oriented to time, place and person and organize responsibilities, make decisions and function effectively in a critical situation. For example, a student shall assess client/patient complaints and implement appropriate plans for care.
11. **Occupational Exposures:** Paramedic students may be exposed to communicable diseases/ and or body fluids, toxic substances, medicinal preparations, and latex. Students shall use appropriate precautions at all times. For example, a student may be assigned a client/patient with a communicable disease and shall provide total care using universal precautions.
12. **Driving Skills/Abilities:** Paramedic students must have a valid Driver's License in order to complete their coursework at Blue Ridge Community and Technical College.

Career Opportunities

Paramedics must be able to perform under pressure—in settings demanding excellent clinical, stress management, and communication skills. As a paramedic, you will provide pre-hospital care to patients, administering medication, interpreting EKGs, and operating equipment.

Accredited by both the State of West Virginia and the Commission on Accreditation of Allied Health Program (click here for details), our graduates.

Paramedic Program Outcomes

CAAHEP Accredited Paramedic Programs and CoAEMSP Letter of Review (LoR) Programs track and report outcome measures annually to the Committee on Accreditation for the Emergency Medical Services Professions (CoAEMSP).

The most current CoAEMSP Annual Report was for the calendar year 2020.

The most recent success rate for the National Registry of EMT Paramedic/State Cognitive exam was 100%.

The most recent positive placement rate for graduates was 81.8%. Positive placement is defined by the CoAEMSP as 'Employed full or part-time in a related field and/or continuing his/her education and/or serving in the military'. Positive placement is measured at completion of the program.

The most recent retention rate was 61.1%.

Accreditation

The Blue Ridge Community and Technical College's Paramedic Program is Accredited by the Committee on Accreditation of EMS Programs as part of the Commission on Accreditation of Allied Health Education Programs.

It is through the assistance of the "Committee on Accreditation of Educational Programs for the Emergency Medical Services Professions" (www.coaemsp.org) that the "Commission on Accreditation of Allied Health Education Programs" (<http://www.caahep.org/Find-An-Accredited-Program>) grants our accreditation.

Curriculum for a Certificate in Paramedicine

General Education Core	8
EMS Core	38
Total Credit Hours Required	46

General Education Core

BIOL 120 - ^Human Anatomy & Physiology I (3)

This is course one in a two-course sequence that provides a detailed review of the human organism. It will provide a brief overview of the human body and the chemical basis for activities occurring within the body, a detailed review of the cell, tissues, the integumentary, skeletal, muscular, and nervous systems as well as an overview of the human senses.

Corerequisite(s): BIOL 121 - ^Human Anatomy & Phys I Lab (1)

BIOL 121 - ^Human Anatomy & Phys I Lab (1)

This is a laboratory course in human anatomy and physiology to be taken concurrently with BIOL 120.

Corerequisite(s): BIOL 120 - ^Human Anatomy & Physiology I (3)

BIOL 122 - ^Human Anatomy & Physiology II (3)

This is the second course in a two-course sequence that provides a detailed review of the human organism. This course provides a detailed review of cardiovascular, lymphatic, immune, respiratory, digestive, urinary, and reproductive systems.

Prerequisite(s): BIOL 120 - ^Human Anatomy & Physiology I (3) and BIOL 121 - ^Human Anatomy & Phys I Lab (1)

Corerequisite(s): BIOL 123 - ^Human Anatomy & Phys II Lab (1)

BIOL 123 - ^Human Anatomy & Phys II Lab (1)

This is a laboratory course in human anatomy and physiology to be taken concurrently with BIOL 122.

Prerequisite(s): BIOL 120 - ^Human Anatomy & Physiology I (3) and BIOL 121 - ^Human Anatomy & Phys I Lab (1)

Corerequisite(s): BIOL 122 - ^Human Anatomy & Physiology II (3)

Subtotal Credit Hours Required 8

EMS Core

EMSP 101 - Introduction to EMS (3)

This course is a survey course designed to acquaint the student with emergency medical services roles & responsibilities, well being of the EMS provider, illness and injury prevention, medical-legal issues, ethics, therapeutic communications, and life span development.

Pre-requisite/Co-requisite(s): Be a degree seeking student in Paramedic, A.A.S. or Paramedicine Certificate

EMSP 103 - EMS Operations (3)

This course will include in-depth review of such topics as emergency vehicle operations, medical incident command, rescue awareness and operations, hazardous materials recognition & identification and crime scene awareness.

Pre-requisite/Co-requisite(s): Be a degree seeking student in Paramedic, A.A.S. or Paramedicine Certificate

EMSP 104 - EMS Practicum (1)

This course provides the opportunity to observe and apply the skills learned in EMSP 102 in a supervised clinical setting including a local hospital emergency department, regional medical command center and on a field EMS unit. A minimum of fifty hours are required and will be scheduled by the student on an individual basis through the EMS Clinical Coordinator.

Pre-requisite/Co-requisite(s): Be a degree seeking student in Paramedic, A.A.S. or Paramedicine Certificate

EMSP 104L - EMS Lab I (1)

This course affords the student the opportunity to apply and reinforce the skills learned in EMSP 102 in a laboratory setting. The student will participate in both scenario based training as well as skill specific review.

Pre-requisite/Co-requisite(s): Be a degree seeking student in Paramedic, A.A.S. or Paramedicine Certificate

EMSP 201 - Adv Airway Mgmt & Pt Assessmen (3)

This course provides a comprehensive understanding of the respiratory system and respiratory emergencies. Covered is an advanced approach to managing simple as well as difficult airways. The course includes advanced patient assessment skills and techniques for the paramedic to use while establishing their appropriate treatment modalities.

Prerequisite(s): EMSP 104 - EMS Practicum (1)

Pre-requisite/Co-requisite(s): Students must be accepted into Paramedic, A.A.S. or Paramedicine Certificate

EMSP 202 - Pathophysiology of Shock & Trauma Resuscitation (3)

This course provides a comprehensive understanding of the pathophysiology of shock, the different types of shock followed by appropriate treatment. The course also will give an in-depth look at all of the types of trauma and how our bodies react to absorbing energy. Our course will follow up with time management and treatment modalities for trauma care.

Prerequisite(s): EMSP 204 - EMS Practicum II (2)

EMSP 203 - Pre-Hospital Pharmacology (3)

This course provides topics to include pharmacokinetics, pharmacodynamics, drug calculations, and drug administration. The course provides the cognitive understanding of such skills as intravenous cannulation, intraosseous infusion, intramuscular medication injection, and subcutaneous medication injection, intranasal medication administration to mention a few. The student will be working with Crew Resource Management techniques to ensure the accuracy of patient care.

Prerequisite(s): EMSP 104 - EMS Practicum (1)

Pre-requisite/Co-requisite(s): Students must be accepted into Paramedic, A.A.S. or Paramedicine Certificate

EMSP 204 - EMS Practicum II (2)

This course provides the opportunity to observe and apply the skills learned in EMSP 201, EMSP 202, and EMSP 203 in a supervised clinical setting including a local hospital emergency department, respiratory therapy department, and operating room and on a field EMS unit. A minimum of one hundred clinical hours are required and will be scheduled by the student on an individual basis through the EMS Clinical Coordinator.

Prerequisite(s): EMSP 104 - EMS Practicum (1)

Pre-requisite/Co-requisite(s): Students must be accepted into Paramedic, A.A.S. or Paramedicine Certificate

EMSP 204L - EMS Lab II (1)

This course affords the student the opportunity to apply and reinforce the skills that they have learned in the EMS program to this point in a laboratory setting, concentrating on EMSP 201 and EMSP 203. The student will participate in both scenario based training as well as skill specific review.

Prerequisite(s): EMSP 104 - EMS Practicum (1)

Pre-requisite/Co-requisite(s): Students must be accepted into Paramedic, A.A.S. or Paramedicine Certificate

EMSP 205 - Medical Emergencies I (3)

This course provides a comprehensive review of the pathophysiology of the cardiovascular system. This will include assessment and treatment for cardiovascular emergencies. Within this course, you will become fluent in Electro Cardio Grams (ECG) and their interpretations. The course will conclude with a complete 12 Lead understanding and interpretation.

Prerequisite(s): EMSP 204 - EMS Practicum II (2)

Corerequisite(s): EMSP 205L - Medical Emergencies I Lab (1)

Pre-requisite/Co-requisite(s): Be a degree seeking student in Paramedic, A.A.S. or Paramedicine Certificate

EMSP 205L - Medical Emergencies I Lab (1)

This course provides a comprehensive review and integration with patient care to the cardiac patient. This will include assessment and treatment for cardiovascular emergencies. Within this course, you will become fluent in Electro Cardio Grams (ECG) and their interpretations. The course will conclude with a complete 12 Lead understanding and interpretation.

Prerequisite(s): EMSP 204 - EMS Practicum II (2)

Corerequisite(s): EMSP 205 - Medical Emergencies I (3)

Pre-requisite/Co-requisite(s): Be a degree seeking student in Paramedic, A.A.S. or Paramedicine Certificate

EMSP 206 - EMS Practicum III (2)

This course provides the opportunity to observe and apply the skills learned in EMSP 205 in a supervised clinical setting including a local hospital emergency department, respiratory therapy, cardiac service, and cardiac care unit and on a field EMS unit. A minimum of one hundred clinical hours are required and will be scheduled by the student on an individual basis through the EMS Clinical Coordinator.

Prerequisite(s): EMSP 204 - EMS Practicum II (2)

Pre-requisite/Co-requisite(s): Be a degree seeking student in Paramedic, A.A.S. or Paramedicine Certificate

EMSP 206L - EMS Lab III (1)

This course affords the student the opportunity to apply and reinforce the skills learned in the EMS program to this point in a laboratory setting, concentrating on EMSP 205 and EMSP 206. The student will participate in both scenario-based training as well as skill-specific review.

Prerequisite(s): EMSP 204 - EMS Practicum II (2)

Pre-requisite/Co-requisite(s): Be a degree seeking student in Paramedic, A.A.S. or Paramedicine Certificate

EMSP 207 - Medical Emergencies II (3)

This course reviews pathophysiology, assessment and management of medical patients with neurological and endocrinological emergencies, allergies, and anaphylaxis, gastroenterological, urological, toxicological, hematological, and environmental emergencies, infectious and communicable diseases, behavioral, gynecological, and obstetrical emergencies.

Prerequisite(s): EMSP 206 - EMS Practicum III (2)

Pre-requisite/Co-requisite(s): Be a degree seeking student in Paramedic, A.A.S. or Paramedicine Certificate

EMSP 208 - Special Patients & Situations (3)

This course takes an in depth look at the approach to patients with special needs such as neonatal, pediatric and geriatric patients, patients with mental or physical impairments, or patients with high technology medical devices in the out-of-hospital setting.

Prerequisite(s): EMSP 206 - EMS Practicum III (2)

Pre-requisite/Co-requisite(s): Be a degree seeking student in Paramedic, A.A.S. or Paramedicine Certificate

EMSP 209 - EMS Practicum IV (2)

This course provides the opportunity to observe and apply the skills learned in EMSP 207 and EMSP 208 in a supervised clinical setting including a local hospital emergency department, pediatric unit, obstetrical unit, psychiatric unit and on a field EMS unit. A minimum of one hundred clinical hours are required and will be scheduled by the student on an individual basis through the EMS Clinical Coordinator.

Prerequisite(s): EMSP 206 - EMS Practicum III (2)

Pre-requisite/Co-requisite(s): Be a degree seeking student in Paramedic, A.A.S. or Paramedicine Certificate

EMSP 209I - EMS Internship (1)

This course is an internship which takes place in the final weeks at the completion of the EMSP program. The student will be assigned an internship mentor and field unit with whom they will do a minimum of 48 hours, prior to graduation. This internship will give the student a chance to "put it all together" in real-life situations.

Prerequisite(s): EMSP 206 - EMS Practicum III (2)

Pre-requisite/Co-requisite(s): Be a degree seeking student in Paramedic, A.A.S. or Paramedicine Certificate

EMSP 210 - Paramedic Capstone (2)

This course serves as the cumulative review and remedial application of what the student has learned in EMSP 201-209. The course will focus on providing summative evaluation of the student's performance in simulated situations or scenarios. Successful completion of this course is required to obtain recommendation to sit for the National Registry Examination for Paramedic. This course is designed to meet the standards set forth by the National Registry of EMTs.

Prerequisite(s): EMSP 206 - EMS Practicum III (2)

Pre-requisite/Co-requisite(s): Be a degree seeking student in Paramedic, A.A.S. or Paramedicine Certificate

Subtotal Credit Hours Required 38

Precision Machining Certificate

Program Description

The Precision Machining certificate is a hands-on program that incorporates elements of machining and advanced manufacturing. This program was designed for the student who wants the skills to work in the precision machining and precision metal working industries. Many of these courses can be used to further pursue an A.A.S in Engineering Technology.

Program Overview

Graduates of the Precision Machining Certificate may begin their careers in mold making, machine building, tool making, die making, or CNC machinist. Students who pursue this degree should gain the knowledge needed to sit for certifications in CAD and machining.

Students will gain an understanding of the technology utilized in modern manufacturing and engineering firms. Hands-on innovative laboratories, in areas CNC machining, Quality Control, and CAD will prepare students for the job. Internships may be available.

Program Outcomes

- Demonstrate professionalism (on time, positive attitude, respectful).
- Identify safety equipment.
- Practice team building and effective communication.
- Understand technology utilized in modern distribution and processing industries.
- Identify tools and equipment.
- Understand the fundamentals of Quality Control.
- Perform computer numerical machine part production to industry standards.
- Demonstrate measurement techniques necessary for successful employment.
- Compose machine tool programs necessary for successful employment.

Career Opportunities

Engineering technicians can specialize in the design, control systems, materials, process control, instrumentation, automotive systems, robotics, machining, and processes used in the refrigeration and air conditioning fields. The average annual salary for graduates in this field is \$44,420 with the top ten percent earning over \$66,610. There are multiple prospective employers in the Eastern Panhandle of WV and additional employment opportunities throughout Maryland, Northern Virginia, and Southern Pennsylvania.

Many employers in this field have tuition assistance programs, which could help the student to continue their education, toward an A.A.S in Engineering Technology.

Note: All salary estimations are based on the current position and educational trends. Blue Ridge Community and Technical College cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Curriculum for a Certificate in Precision Machining

General Education Core	6
Technical Core	24
Total Credit Hours Required	30

General Education Core

ENGL 110 - ~Technical Writing & Communication (3)

This course is designed to prepare students to write technical reports and other technical documents. Emphasis is on audience, clarity, conciseness, and accuracy of expression. It covers research techniques, information design, writing style, and effective use of graphics.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

MATH 102 - Technical Mathematics (3)

This course focuses on computational fluency and applied problem solving with emphasis on the following topics: real numbers, ratios, percents, proportions, estimation, exponents, roots, scientific notation, applied algebra, measurement, applied geometry, electrical formulas and laws, basic statistics, basic trigonometry and vectors.

Prerequisite(s): MATH 100 - Math Essentials (3) or proper placement on test scores

MATH 106 - ^Trigonometry (3)

Topics explored in this course include the study of angles in radians and degrees and evaluating trigonometric functions using the right triangle and a unit circle approaches. Other topics to be explored include verifying trigonometric identities, solving trigonometric equations, solving applied problems using right triangles and oblique triangles, analyzing the graphs and characteristics of trigonometric and inverse trigonometric functions, performing composition and transformations on trigonometric functions, and evaluating inverse trigonometric functions. Time permitting topics include polar coordinates, complex numbers, deMoivre's Theorem, and vectors.

Prerequisite(s): MATH 105 - ^Algebra (3) or proper placement on test scores

MATH 108 - ^Pre-Calculus (4)

This course is a one-semester preparation for calculus, which includes various algebra and trigonometry topics. Algebra topics include the analysis of linear, quadratic, polynomial, radical, rational, absolute value, piecewise, exponential and logarithmic functions and their graphs along with applications. Trigonometry topics include the study of angles using both the unit circle and right triangle approaches, verifying trigonometric identities, solving trigonometric equations, solving right and oblique triangles with applications, and analyzing the characteristics of trigonometric and inverse trigonometric functions. Additional topics include complex numbers, systems of equations, partial fractions, conic

sections, sequences, and series. As time permits, vectors, polar coordinates, mathematical induction, and limits may also be explored.

Prerequisite(s): MATH 105 - Algebra (3) or proper placement on test scores

Subtotal Credit Hours Required 6

Technical Core

CAD 201 - 3D Modeling (1)

In this course students will learn to use 3D modeling software to develop parametric design solutions for various engineering problems. Students will develop designs, learn and apply ANSI (American National Standards Institute) standards, explore finite element analysis, and develop working, assembly and presentation drawings.

Corequisite(s): CAD 201L - 3D Modeling Lab (2)

CAD 201L - 3D Modeling Lab (2)

In this course, students will learn to use 3D modeling software to develop parametric design solutions for various engineering problems. During the lab component, students will develop designs, learn and apply ANSI (American National Standards Institute) standards, explore finite element analysis, and develop working, assembly and presentation drawings.

Corequisite(s): CAD 201 - 3D Modeling (1)

MECH 101 - Introduction to Mechatronics (1)

Introduction to Mechatronics is an overview course that introduces students to the field of Mechatronics. Students will rotate through modules that will give them insight into the skills, concepts, equipment, and challenges they will encounter as a mechatronics technician. Modules will include design process, basic tool use, laboratory safety, precision measurement, fluid power, robotics, and programmable logic controllers. Included will be basic professional preparation topics such as resume writing, job readiness, interviewing and portfolio development. MECH 101L - Intro to Mechatronics Lab (2) is the laboratory component of this class.

Corequisite(s): MECH 101L - Intro to Mechatronics Lab (2)

MECH 101L - Intro to Mechatronics Lab (2)

This course is the lab component of MECH 101 - Introduction to Mechatronics (1). The course contains an overview course that introduces students to the field of Mechatronics. Students will rotate through modules that will give them insight into the skills, concepts, equipment, and challenges they will encounter as a mechatronics technician. Modules will include design process, basic tool use, laboratory safety, engineering journaling, precision measurement, fluid power, robotics, and programmable logic controllers. Included will be basic professional preparation topics such as resume writing, job readiness, interviewing and portfolio development.

Corequisite(s): MECH 101 - Introduction to Mechatronics (1)

MECH 121 - Safety Awareness & OSHA 10 (2)

Safety Awareness is designed to introduce students to the necessary skills to safely work in the industrial setting. Some major areas of studies include: Fall Protection, Fire Prevention and Protection, Electrical Safety, Personal Protective Equipment, Hazard Communication, and other elective topics. Upon successfully passing the OSHA exam the student will earn a 10 hour OSHA card.

MET 105 - Introduction to Machining (3)

In this introductory course, students will learn to safely operate equipment in a machining environment. Students will also learn about hand tools, saw types, saw blades, installation and removal and welding. This course also concentrates on the proper care and use of semi-precision measuring equipment. The machining industry requires daily use of mathematics. In this course, students will learn to demonstrate proficiency using fractions and use mathematics, precision measuring equipment and proper workpiece layout for manual machining.

Prerequisite(s): MATH 100A - Algebra Essentials (3) OR MATH 102 - Technical Mathematics (3) OR MATH 105 - Algebra (3)

MET 200 - Introduction to CAM (2)

This course is a study of the basic concepts of automation. These concepts include machine language computer programming, computer process monitoring, process-computer interfaces, and automation problem-solving. The laboratory will consist of team problem-solving in automation and operation of computer-aided manufacturing systems.

Pre-requisite/Co-requisite(s): MATH 100A - Algebra Essentials (3), MATH 102 - Technical Mathematics (3), or placement

MET 201 - Intro to CNC Programming (2)

In this course, students will create basic programs for CNC mills and lathes. Students will generate industry standard G and M code programs. Programs are run on verification software to ensure accuracy. Additionally, students will study speed and feed calculations, operator notes and start-up lines, mill and lathe tooling types and procedures, rectangular coordinates, canned (drill) cycles, and file management.

Pre-requisite/Co-requisite(s): MATH 102 - Technical Mathematics (3), MATH 106 - Trigonometry (3) or placement

MET 202 - CNC Programming II (3)

This course expands on the MET 201 - Intro to CNC Programming (2) course, providing further study in computer-aided numerical control programming of CNC Lathes. It concentrates on the lathe series of machines and includes set-up, centering, turning, facing, filing, polishing, burning, thread cutting, and other processes common to the lathe series.

Prerequisite(s): MET 201 - Intro to CNC Programming (2)

- Restricted Electives in CAD, INST, MET, MECH, ROB - Internship preferred (6)

Subtotal Credit Hours Required 24

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Professional Development Certificate

Program Overview

The Professional Development Certificate provides an opportunity for Blue Ridge Community and Technical College students to enhance their learning experience by completing a series of educational courses in a specialized area. Along with core courses, each certificate offers a balanced curriculum with coursework in communication, social and cultural awareness, and scientific and quantitative reasoning along with focused study in a particular content area. The coursework is essential to prepare students seeking to expand their knowledge and competencies as they complete an associate's degree and/or enter or advance in the workforce.

The certificate is designed to be completed in one year of full-time enrollment at Blue Ridge Community and Technical College. The specialized study is offered in the following areas: Communication Studies, General Education, Public Relations, and Social Sciences. The specific course requirements for each Professional Development Certificate Track are outlined below.

Program Outcomes

- Apply critical thinking and mathematical skills to solve problems.
- Compose coherent documents and oral presentations appropriate to a specific purpose and audience.
- Utilize psychological or sociological principles to analyze personal, societal, and organizational issues.

Career Opportunities

Completion of the Professional Development Certificate demonstrates to employers and transfer institutions a student's commitment to the acquisition of knowledge in both core subjects and a specialized content area. This coursework is designed to enhance academic and professional competencies.

Curriculum for a Certificate in Professional Development

General Education Core	12
Specialty Track	18
Total Credit Hours Required	30

General Education Core

COMM 202 - ~Fundamentals of Speech (3)

This course equips the student with the necessary tools to construct, deliver, and analyze public communication messages.

ENGL 101 - ~English Composition I (3)

ENGL 101 is an introduction to college writing. This class emphasizes processes for drafting, revising, and editing. It develops a student's ability to read a passage, analyze its meaning, and write an intelligent response which shows not only an understanding of the passage but also a working knowledge of the writing and rhetorical strategies. Students will learn how to make effective arguments and how to locate, synthesize, and evaluate relevant information.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 101L - English Composition I Lab (3), or placement test scores

ENGL 110 - ~Technical Writing & Communication (3)

This course is designed to prepare students to write technical reports and other technical documents. Emphasis is on audience, clarity, conciseness, and accuracy of expression. It covers research techniques, information design, writing style, and effective use of graphics.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

MATH 101 - ~Introduction to Mathematics (3)

During this course topics to be covered are sets, mathematical logic, mathematical systems, the real number system, systematic counting, probability, measurement, and consumer mathematics. History of mathematics, critical thinking skills, problem solving, and use of technology will be incorporated throughout the course.

Prerequisite(s): MATH 100 - Math Essentials (3) or proper placement on test scores

MATH 105 - ^Algebra (3)

Topics explored in this course include properties of the real numbers, operations on polynomials, rational and radical expressions, solutions of linear, quadratic, polynomial, radical and absolute value equations and inequalities. Coordinate geometry including distance, midpoint, lines, and circles will also be explored. Additional topics include systems of linear equations and their applications, analysis of functions, operations on functions, transformations of functions, and properties of linear, piecewise, quadratic, polynomial, rational, exponential and logarithmic functions.

Prerequisite(s): MATH 100A - Algebra Essentials (3) or proper placement on test scores

MATH 106 - ^Trigonometry (3)

Topics explored in this course include the study of angles in radians and degrees and evaluating trigonometric functions using the right triangle and a unit circle approaches. Other topics to be explored include verifying trigonometric identities, solving trigonometric equations, solving applied problems using right triangles and oblique triangles, analyzing the graphs and characteristics of trigonometric and inverse trigonometric functions, performing composition and transformations on trigonometric functions, and evaluating inverse trigonometric functions. Time permitting topics include polar coordinates, complex numbers, deMoivre's Theorem, and vectors.

Prerequisite(s): MATH 105 - ^Algebra (3) or proper placement on test scores

MATH 108 - ^Pre-Calculus (4)

This course is a one-semester preparation for calculus, which includes various algebra and trigonometry topics. Algebra topics include the analysis of linear, quadratic, polynomial, radical, rational, absolute value, piecewise, exponential and logarithmic functions and their graphs along with applications. Trigonometry topics include the study of angles using both the unit circle and right triangle approaches, verifying trigonometric identities, solving trigonometric equations, solving right and oblique triangles with applications, and analyzing the characteristics of trigonometric and inverse trigonometric functions. Additional topics include complex numbers, systems of equations, partial fractions, conic

sections, sequences, and series. As time permits, vectors, polar coordinates, mathematical induction, and limits may also be explored.

Prerequisite(s): MATH 105 - ^Algebra (3) or proper placement on test scores

MATH 114 - ~Elem Probability & Statistics (3)

This course introduces the fundamental concepts of probability and statistics. Topics include descriptive statistics, random sampling methods, frequency distributions, measures of central tendency and variability, set theory, probability, permutations and combinations, random variables, probability and sampling distributions, expectation, central limit theorem, confidence intervals and hypothesis testing for means and proportions (one and two sample) and simple linear regression and correlation. Time permitting, one-way ANOVA and non-parametric techniques may be discussed. Appropriate application software will be utilized, and applications from a variety of disciplines will be presented.

Prerequisite(s): MATH 100A - Algebra Essentials (3) or proper placement on test scores

MATH 154 - ~Finite Mathematics (3)

This course introduces students to selected topics from finite mathematics. Mathematical models for the analysis of decision-making problems are examined. Topics include analyzing linear functions with applications, solving systems of linear equations using the Echelon and Gauss-Jordan methods, matrix operations and inverses, systems of linear inequalities, linear programming optimization by graphing and the simplex method, risk decisions using counting methods and probability. Additional topics may be chosen from financial mathematics, logic, or statistics.

Prerequisite(s): MATH 100A - Algebra Essentials (3) or proper placement on test scores

MATH 207 - ^Calculus I (4)

This course is an introduction to the fundamental concepts of differential and integral calculus from algebraic, numerical, and graphical points of view. Topics covered include functions, trigonometry, limits, continuity, differentiation, and integration of elementary algebraic, transcendental, and inverse functions. Other topics include implicit differentiation, the Fundamental Theorem of Calculus, Mean Value Theorem, differentials, linear approximation, and L'Hopital's Rule. Applications will be incorporated throughout the course such as velocity, acceleration, the slope of a curve at a point, curve sketching, absolute and relative extrema, related rates, optimization, areas, volume, and arc length.

Prerequisite(s): MATH 108 - ^Pre-Calculus (4) or proper placement on test scores

EDUC 220 - Soci & Psyc Cond of Learning (4)

This course is a reflective exploration of the knower (the learner), knowing (learning), the known (knowledge), and the contexts in which knowledge is constructed through teaching/learning. This course includes a field component in a public school classroom.

Prerequisite(s): EDUC 200 - Foundations of Education (3), COMM 202 - ~Fundamentals of Speech (3), ENGL 101 - ~English Composition I (3), and ENGL 102 - ~English Composition II (3)

PSYC 203 - ~Introduction to Psychology (3)

This course will introduce the student to basic psychological principals and to enable the student to examine current thinking about development, personality, sensation and perception, cognition, learning, psychological disorders, and their treatment, and influence.

Corerequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement

SOCI 203 - ~General Sociology (3)

This course introduces students to the core concepts and perspectives of sociology, the study of human social environments and of human interactions within those environments. The course will explore a number of sociological topics to develop a sociological imagination, an ability to understand the effects of group membership on behavior, attitudes, beliefs, and life chances.

Corerequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement

Subtotal Credit Hours Required 12

Specialty Tracks:

You must select ONE of the following specialty tracks:

Communication Studies Track

COMM 205 - ~Professional Communications (3)

This course examines the process of communication and the challenges to and effective practices of communicating in a professional environment. Topics include listening skills and verbal, nonverbal, and written communications. The dynamics of communicating in a group, in a global society, and in culturally diverse environments is also investigated. Students apply a systematic approach to plan and create effective letters, memos, reports, presentations, electronic and other forms of business and professional communication.

- Any COMM 101 or above-not taken elsewhere in the program (9)
- Free Electives (6)

Subtotal Credit Hours Required 18

General Education Track

- Any credited course 100 level or above not taken elsewhere in the program

Subtotal Credit Hours Required 18

Public Relations Track

COMM 205 - ~Professional Communications (3)

This course examines the process of communication and the challenges to and effective practices of communicating in a professional environment. Topics include listening skills and verbal, nonverbal, and written communications. The dynamics of communicating in a group, in a global society, and in culturally diverse environments is also investigated. Students apply a systematic approach to plan and create effective letters, memos, reports, presentations, electronic and other forms of business and professional communication.

PSCI 100 - ~Introduction to Political Ideology (3)

This course provides an overview of major political ideologies that shaped the historical political landscape of the world and the United States and will give shape to the 21st century. An examination of liberalism, conservatism, nationalism, multiculturalism, feminism, and Islamism (along with many other 'isms') provide the student with a sense of history and structure.

PSCI 101 - ~American Federal Government (3)

This course involves the study of the functions and administration of government in the United States. The course is designed to provide an introduction to the structure, organization and functioning of the national government of the United States. It will examine the powers and relationships of the executive, legislative, and judicial branches of government with special emphasis given to the role that history, political parties, pressure groups, etc. play in influencing these relationships.

SOCI 215 - ~Human Relations (3)

Human Relations instructs students on the relationship between self-esteem and human relations and consequently between human relations skills and career success. Emphasis is on strategies for personal and professional growth based on advancing skills in individual, group, and organizational contexts. The topics looked at include self-esteem, attitudes, values, communications, leadership, emotional control, creativity, conflict and stress management, diversity, business ethics, and productivity.

- Free Electives (100 level or above) (6)

Subtotal Credit Hours Required 18

Social Science Track

- HIST 101+ - Any History 101 or above (3)

PHIL 101 - Introduction to Philosophy (3)

This course introduces students to the major fields, problems, theories, and personalities of philosophy through the biographies and writing of leading thinkers.

PSYC 203 - ~Introduction to Psychology (3)

This course will introduce the student to basic psychological principals and to enable the student to examine current thinking about development, personality, sensation and perception, cognition, learning, psychological disorders, and their treatment, and influence.

Corerequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement

- Free Electives (100 level or above) (9)

Subtotal Credit Hours Required 18

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Renewable Energy Systems Certificate

The Renewable Energy program gives students skill sets in site evaluation, installation, servicing, and system modeling of Photovoltaic, Wind Turbine, Solar Thermal, and Geo-Thermal systems. Students also develop communication skills needed to communicate with inspectors as well as co-workers and customers in a professional manner.

Program Overview

The Renewable Energy program supplies local industries with knowledgeable technicians who can design, specify, and install appropriate renewable energy equipment and the systems that regulate and control that equipment. The certificate is aligned with the green energy and sustainability management sector, which needs professionals with a broad skill set focused on sustainability, as well as technical capabilities. The certificate can help students build additional skills in such areas as project development, sustainability assessment, systems engineering and strategic planning.

Hands-on laboratories, in areas such as electricity and electronics, and CAD prepare the students to be "work ready".

Program Outcomes

- Demonstrate professionalism (on time, positive attitude, respectful).
- Practice teambuilding and effective communication.
- Understand the technology utilized in renewable energy systems.
- Identify tools and equipment used for the installation of renewable energy systems.
- Understand basic renewable energy concepts.
- Understand Photovoltaics, Wind Turbine, and Solar Thermal systems.
- Identify regulations for renewable energy systems.
- Define solar thermal energy.
- Understand the use of the LEED rating system in residential and commercial building designs.
- Demonstrate proper application and connection of electrical motors, transformers, and solenoids.

Career Opportunities

Renewable Energy installers are in high demand. According to the U.S. Energy Information Administration, by 2040, 63 percent of the nation's electricity will be generated by lower-carbon options, including 16 percent from renewables. This shift will result in double-digit demand for sustainability specialists, planners, and installation workers. Graduates

can expect to earn an average of \$13 – \$18 per hour, depending on their geographic region, and their willingness to travel to large project installations. Prospective employers in the region include Mountain View Solar, Milestone Solar, Millennium 3 Energy (MD), and Geostellar.

Note: All salary estimations are based on the current position and educational trends. Blue Ridge Community and Technical College cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Curriculum for a Certificate in Renewable Energy Systems

General Education Core	9
Technical Core	21
Total Credit Hours Required	30

General Concentration Core

CAS 111 - Information Literacy (3)

This course covers a variety of introductory computing knowledge including how personal computers work, software essentials, hardware components, operating systems and the most popular productivity applications including word processing, spreadsheet, database and presentation software. Students will also be introduced to the Internet and e-mail essentials, file management and digital electronics. This course aligns with the Internet and Computing Core Certification (IC3), which demonstrates that a student has a clear understanding of the knowledge and application of computers and technology in the modern world.

ENGL 110 - ~Technical Writing & Communication (3)

This course is designed to prepare students to write technical reports and other technical documents. Emphasis is on audience, clarity, conciseness, and accuracy of expression. It covers research techniques, information design, writing style, and effective use of graphics.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

MATH 102 - Technical Mathematics (3)

This course focuses on computational fluency and applied problem solving with emphasis on the following topics: real numbers, ratios, percents, proportions, estimation, exponents, roots, scientific notation, applied algebra, measurement, applied geometry, electrical formulas and laws, basic statistics, basic trigonometry and vectors.

Prerequisite(s): MATH 100 - Math Essentials (3) or proper placement on test scores

Subtotal Credit Hours Required **9**

Technical Core

CAD 210 - Green Building Design (2)

Understanding the concepts of green building is essential for anyone in the architecture/construction/alternative energy industry. Many municipalities and non-profit organizations have developed rating systems to quantify the level of green building strategies used in construction projects. The best known rating system is LEED (Leadership in Energy & Environmental Design). In this course, the LEED green building rating system, design strategies, and building construction techniques for meeting those regulations will be incorporated into the students commercial and residential designs.

Corequisite(s): CAD 210L - Green Building Design Lab (1)

CAD 210L - Green Building Design Lab (1)

Understanding the concepts of green building is essential for anyone in the architecture/construction/alternative energy industry. Many municipalities and non-profit organizations have developed rating systems to quantify the level of green building strategies used in construction projects. The best-known rating system is LEED (Leadership in Energy & Environmental Design). In this hands-on course, the LEED green building rating system, design strategies, and building construction techniques for meeting those regulations will be incorporated into the students commercial and residential designs.

Corequisite(s): CAD 210 - Green Building Design (2)

MECH 106 - Electricity & Electronics (2)

Electricity & Electronics is an introduction to AC electrical applications and commercial wiring practices. This course is paired with MECH 105 - Electricity & Commercial Wiring (1) to form a complete electricity/electronic experience for the mechatronics technician. This course introduces the fundamental concepts of and computations related to AC electricity. Emphasis is placed on AC circuits, components, operation of test equipment; and other related topics. Devices such as transformers, AC motors, and solenoids are covered. Commercial wiring tools and practices are introduced to prepare the student for the NEC exam. MECH 106L - Electricity & Electronics Lab (2) is the laboratory portion of this course.

Corequisite(s): MECH 106L - Electricity & Electronics Lab (2)

Pre-requisite/Co-requisite(s): MATH 102 - Technical Mathematics (3), MATH 105 - ^Algebra (3), MATH 106 - ^Trigonometry (3), or MATH 108 - ^Pre-Calculus (4)

MECH 106L - Electricity & Electronics Lab (2)

Electricity & Electronics is an introduction to AC electrical applications and commercial wiring practices. This course is paired with MECH 105 - Electricity & Commercial Wiring (1) to form a complete electricity/electronic experience for the mechatronics technician. This course introduces the fundamental concepts of and computations related to AC electricity. Emphasis is placed on AC circuits, components, operation of test equipment; and other related topics. Devices such as transformers, AC motors, and solenoids are covered. Commercial wiring tools and practices are introduced to prepare the student for the NEC exam. This laboratory component provides hands-on experiences necessary for complete concept attainment.

Corequisite(s): MECH 106 - Electricity & Electronics (2)

Pre-requisite/Co-requisite(s): MATH 102 - Technical Mathematics (3), MATH 105 - ^Algebra (3), MATH 106 - ^Trigonometry (3), or MATH 108 - ^Pre-Calculus (4)

MECH 121 - Safety Awareness & OSHA 10 (2)

Safety Awareness is designed to introduce students to the necessary skills to safely work in the industrial setting. Some major areas of studies include: Fall Protection, Fire Prevention and Protection, Electrical Safety, Personal Protective Equipment, Hazard Communication, and other elective topics. Upon successfully passing the OSHA exam the student will earn a 10 hour OSHA card.

MECH 201 - Systematic Troubleshooting (3)

This course will provide the students with a systematic process, utilizing critical thinking skills to diagnose, analyze, and solve complex problems. Several problem solving models will be presented. Students will work through case studies to develop their problem solving skills. This course will also prepare students to take the Work-keys Applied Technology test which is required by several local employers. This is a good course for anyone who has to analyze and troubleshoot problems within their normal work routine.

Pre-requisite/Co-requisite(s): MECH 250 - Intro to PLC (3)

RENG 101 - Renewable Energy Technology (1)

This course explores basic Renewable energy concepts and studies Photovoltaics, Wind Turbine and Solar Thermal systems in typical application environments. Topics include a site plan, sizing, safety, regulations, and grid connection. Small scale PV, wind turbine, solar thermal and controllers will be utilized to provide hands-on training. Systems simulation will also be incorporated. This will be a 1 credit hour class, encompassing 1 hour of lecture.

RENG 101L - Renewable Energy Tech Lab (2)

This course explores basic Renewable energy concepts and studies Photovoltaics, Wind Turbine and Solar Thermal systems in typical application environments. Topics include a site plan, sizing, safety, regulations, and grid connection. Small scale PV, wind turbine, solar thermal and controllers will be utilized to provide hands-on training. Systems simulation will also be incorporated. This will be a 2 credit hour class, encompassing 4 hours of Lab.

RENG 201 - Solar Thermal Energy (1)

This course explores Solar Thermal systems in typical application environments. Topics include a site plan, sizing, safety, regulations, and connection, Flat panel, Evacuated Tube as well as geothermal systems will be utilized to provide hands-on training. Systems simulation will also be incorporated. We are planning to acquire an enclosed equipment trailer to build a rolling classroom for hands-on installation of PV, wind turbine, solar thermal and geothermal systems. This will be a 1 credit hour class, encompassing 1 hour of lecture.

RENG 201L - Solar Thermal Energy Lab (2)

This course explores Solar Thermal systems in typical application environments. Topics include a site plan, sizing, safety, regulations, and connection, Flat panel, Evacuated Tube as well as geothermal systems will be utilized to provide hands-on training. Systems simulation will also be incorporated. We are planning to acquire an enclosed equipment trailer to build a rolling classroom for hands-on installation of PV, wind turbine, solar thermal and geothermal systems. This will be a 2 credit hour class, encompassing 4 hours of lab.

- Restricted Electives in CAD, INST, MECH, RENG, or ROB (3)

Subtotal Credit Hours Required 21

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Robotics Certificate

If you seek a hands-on career in the high-tech industry, and entry into the job market, consider a certificate as a Certified Robotics Technician. Our program prepares you to be an effective, interdisciplinary problem solver. You will learn to apply knowledge of mathematics, science, and engineering used in automated manufacturing, and distribution. You will become efficient at controlling a robotic device to sort, stack, assemble, paint and perform other automated functions.

Program Overview

The Robotics program supplies local industries with knowledgeable robotic technicians who can operate, maintain, and perform preventative and routine maintenance on various robotic devices. The program is designed to prepare workers to sit for the Kuka Robotics Technology certification exam.

Students will gain an understanding of the technology utilized in modern distribution and processing industries. Hands-on laboratories, in areas such as electricity and electronics, mechanics, fluid power, and the basics of programmable logic controllers will prepare the students to be "work ready". This program will give students a skill set that paves the way for a continuation of the Mechatronics A.A.S. program to become a certified technician.

Program Outcomes

- Demonstrate professionalism (on time, positive attitude, respectful).
- Identify safety equipment.
- Practice teambuilding and effective communication.
- Understand technology utilized in modern distribution and processing industries.
- Identify tools and equipment.
- Write industrial PLCs (Programmable Logic Controls).
- Understand advanced concepts and applications of fluid power technology including hydraulics and pneumatics.
- Demonstrate proper application and connection of electrical motors, transformers, and solenoids.
- Identify common robot applications in the workplace.
- Develop an understanding of industrial robotics installation, application, programming, and maintenance.

Career Opportunities

Robotics Technicians are in high demand around the globe, earning an average of \$16 – \$20 per hour, depending on their geographic region. Prospective employers in the region include EcoLab, Quad Graphics, Monoflo, O'Sullivan, New World Pasta and other firms in West Virginia, Maryland, Northern Virginia, and Southern Pennsylvania.

Note: All salary estimations are based on the current position and educational trends. Blue Ridge Community and Technical College cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Curriculum for a Certificate in Robotics

Technical Core	24
Total Credit Hours Required	30

General Concentration Core

ENGL 110 - ~Technical Writing & Communication (3)

This course is designed to prepare students to write technical reports and other technical documents. Emphasis is on audience, clarity, conciseness, and accuracy of expression. It covers research techniques, information design, writing style, and effective use of graphics.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

MATH 102 - Technical Mathematics (3)

This course focuses on computational fluency and applied problem solving with emphasis on the following topics: real numbers, ratios, percents, proportions, estimation, exponents, roots, scientific notation, applied algebra, measurement, applied geometry, electrical formulas and laws, basic statistics, basic trigonometry and vectors.

Prerequisite(s): MATH 100 - Math Essentials (3) or proper placement on test scores

Subtotal Credit Hours Required 6

Technical Core

MECH 106 - Electricity & Electronics (2)

Electricity & Electronics is an introduction to AC electrical applications and commercial wiring practices. This course is paired with MECH 105 - Electricity & Commercial Wiring (1) to form a complete electricity/electronic experience for the mechatronics technician. This course introduces the fundamental concepts of and computations related to AC electricity. Emphasis is placed on AC circuits, components, operation of test equipment; and other related topics. Devices such as transformers, AC motors, and solenoids are covered. Commercial wiring tools and practices are introduced to prepare the student for the NEC exam. MECH 106L - Electricity & Electronics Lab (2) is the laboratory portion of this course.

Corerequisite(s): MECH 106L - Electricity & Electronics Lab (2)

Pre-requisite/Co-requisite(s): MATH 102 - Technical Mathematics (3), MATH 105 - ^Algebra (3), MATH 106 - ^Trigonometry (3), or MATH 108 - ^Pre-Calculus (4)

MECH 106L - Electricity & Electronics Lab (2)

Electricity & Electronics is an introduction to AC electrical applications and commercial wiring practices. This course is paired with MECH 105 - Electricity & Commercial Wiring (1) to form a complete electricity/electronic experience for the mechatronics technician. This course introduces the fundamental concepts of and computations related to AC electricity. Emphasis is placed on AC circuits, components, operation of test equipment; and other related topics. Devices such as transformers, AC motors, and solenoids are covered. Commercial wiring tools and practices are introduced to prepare the student for the NEC exam. This laboratory component provides hands-on experiences

necessary for complete concept attainment.

Corerequisite(s): MECH 106 - Electricity & Electronics (2)

Pre-requisite/Co-requisite(s): MATH 102 - Technical Mathematics (3), MATH 105 - ^Algebra (3), MATH 106 - ^Trigonometry (3), or MATH 108 - ^Pre-Calculus (4)

MECH 110 - Mechanical Systems I (3)

Mechanics I is a comprehensive introduction to fundamentals of industrial mechanical concepts, principles, and equipment. The course covers safety, lubrication, bearing installation and removal, proper installation and adjustment of belt and chain drives, as well as coupling and shaft alignment.

Prerequisite(s): MECH 101 - Introduction to Mechatronics (1)

MECH 120 - Fluid Power (3)

The Fluid Power course is designed to provide students with a basic understanding of the concepts and applications of fluid power technology including hydraulics and pneumatics. The course is an overview of fluid power technology applications; the general concept of fluid power systems; an introduction to energy input, energy output, energy control, and systems auxiliary components; as well as the design and function of components.

MECH 201 - Systematic Troubleshooting (3)

This course will provide the students with a systematic process, utilizing critical thinking skills to diagnose, analyze, and solve complex problems. Several problem solving models will be presented. Students will work through case studies to develop their problem solving skills. This course will also prepare students to take the Work-keys Applied Technology test which is required by several local employers. This is a good course for anyone who has to analyze and troubleshoot problems within their normal work routine.

Pre-requisite/Co-requisite(s): MECH 250 - Intro to PLC (3)

MECH 250 - Intro to PLC (3)

The PLC course will prepare students to install, maintain and program Programmable Logic Controllers. Students will learn about both Allen-Bradley and Seimens PLC systems.

Prerequisite(s): MECH 105 - Electricity & Commercial Wiring (1) or MECH 106 - Electricity & Electronics (2)

ROB 210 - Robotics I (2)

This course is designed to introduce the student to industrial robotics applications typical environments. Topics include: robot history and fundamentals, robot classification, power sources, robot applications in the workplace, robot control techniques, path control, end of arm tooling, robot operation, and robot controllers, controller architecture in a system, robotic language programming, and human interface issues.

ROB 220 - Robotics II (3)

This course expands on Robotics I and will focus on industrial robotics installation, application, programming, and maintenance. Course topics will include programming in a C-type language to read sensors and control outputs, and troubleshooting software and hardware using functional testing. Large scale robots and controllers will be utilized to provide hands-on training. Systems simulation will also be incorporated.

Prerequisite(s): ROB 210 - Robotics I (2)

- Restricted Electives in CAD, INST, MECH, RENG, or ROB (3)

Subtotal Credit Hours Required 24

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Small Business Development Certificate

Small business is the backbone of the American Economy. Being able to understand how to not only start but to successfully run a small business is vital to the economy. This certificate will give the student the ability to successfully start and manage a small business. All aspects of a business from sales, accounting, marketing, and funding will be explored. The student will leave prepared to start a business and feel confident it will be successful.

A graduate will be able to:

- Communicate in a professional manner through online and in-person communication.
- Evaluate both professional conduct and corporate conduct for ethical issues.
- Build a business plan that is realistic.

Curriculum for a Certificate in Small Business Administration

General Education Core	9
Business Core	21
Total Credit Hours Required	30

General Education Core

COMM 202 - ~Fundamentals of Speech (3)

This course equips the student with the necessary tools to construct, deliver, and analyze public communication messages.

COMM 205 - ~Professional Communications (3)

This course examines the process of communication and the challenges to and effective practices of communicating in a professional environment. Topics include listening skills and verbal, nonverbal, and written communications. The dynamics of communicating in a group, in a global society, and in culturally diverse environments is also investigated.

Students apply a systematic approach to plan and create effective letters, memos, reports, presentations, electronic and other forms of business and professional communication.

ENGL 101 - ~English Composition I (3)

ENGL 101 is an introduction to college writing. This class emphasizes processes for drafting, revising, and editing. It develops a student's ability to read a passage, analyze its meaning, and write an intelligent response which shows not only an understanding of the passage but also a working knowledge of the writing and rhetorical strategies. Students will learn how to make effective arguments and how to locate, synthesize, and evaluate relevant information.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 101L - English Composition I Lab (3), or placement test scores

ENGL 110 - ~Technical Writing & Communication (3)

This course is designed to prepare students to write technical reports and other technical documents. Emphasis is on audience, clarity, conciseness, and accuracy of expression. It covers research techniques, information design, writing style, and effective use of graphics.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

- MATH 101 or Higher (3)

Subtotal Credit Hours Required 9

Business Core

ACCT 215 - Small Business Accounting (3)

This course offers an introduction to some basic accounting practices for small businesses with application using accounting software. In this course, the student will be developing an accounting system for a small business and then using the system to manage the finances of a small business. This course covers accounting terms, basic accounting concepts, the accounting cycle, and financial statements.

Prerequisite(s): MATH 100 - Math Essentials (3) or placement

BUSN 213 - Small Business Fundamentals (3)

This course examines the opportunities and challenges of starting a small business. Various business entities will be explored as ways to start a new business. Other topics covered include financing a new business, partnerships, liability and risk, and franchising with a major emphasis on starting and growing the business.

BUSN 217 - Small Business Dev Plan (3)

Students will work with an existing business to create a new business plan or a local business person to create a new business. The outcome will be a full and detailed business plan that is viable. The plan will be pitched to the owner/idea generator for feedback and acceptance.

Prerequisite(s): BUSN 213 - Small Business Fundamentals (3)
Pre-requisite/Co-requisite(s): FINC 215 - Small Business Finance (3)

FINC 215 - Small Business Finance (3)

The role of the finance cycle will be explored in detail. Various business entities will be examined as well as creating a business, buying a business and putting a value to an existing one. Funding sources for entities and financial statement analysis will be covered.

Prerequisite(s): BUSN 213 - Small Business Fundamentals (3)

LGST 212 - Business Law (3)

This course is an introduction to the American legal system and its impact on the business environment. Topics considered include contracts, employment law, antitrust law, torts, consumer protection, and the business organization. This study prepares students to identify and limit risk in business dealings.

- Restricted Electives in ACCT, BUSN, ECON, or FINC (6)

Subtotal Credit Hours Required 21

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Software Development Engineering Certificate

Blue Ridge Community and Technical College delivers the Software Development Engineering Certificate program through courses that are designed to introduce students to programming and mobile application development. These courses, in conjunction with other foundational courses, give students the technical aptitude for a career in software development engineering.

Courses taken after the completion of foundational courses and core courses in programming and application development will prepare students for certifications such as Microsoft Technology Associate Software Development Foundations, HTML Application Development Fundamentals, and MCSA Programming in HTMLS with JavaScript and CSS3.

Program Outcomes

- Explain theoretical fundamentals of software development.
- Develop practical skills and knowledge for positions within the software engineering profession.
- Apply competencies required by the software design industry through hands-on practice.
- Apply software engineering principles to provide a solution-focused skill set to real-world business needs and scenarios.
- Use current languages, methodologies, and integrated development environments to develop secure program code for a variety of platforms, including web and mobile.

- Produce robust software using the program development cycle to analyze, design, implement, deploy, document, and maintain applications.

Curriculum for a Certificate in Software Development Engineering

General Education Core

Technical Core

Total Credit Hours Required

General Education Core

COMM 202 - ~Fundamentals of Speech (3)

This course equips the student with the necessary tools to construct, deliver, and analyze public communication messages.

ENGL 110 - ~Technical Writing & Communication (3)

This course is designed to prepare students to write technical reports and other technical documents. Emphasis is on audience, clarity, conciseness, and accuracy of expression. It covers research techniques, information design, writing style, and effective use of graphics.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

MATH 105 - ^Algebra (3)

Topics explored in this course include properties of the real numbers, operations on polynomials, rational and radical expressions, solutions of linear, quadratic, polynomial, radical and absolute value equations and inequalities. Coordinate geometry including distance, midpoint, lines, and circles will also be explored. Additional topics include systems of linear equations and their applications, analysis of functions, operations on functions, transformations of functions, and properties of linear, piecewise, quadratic, polynomial, rational, exponential and logarithmic functions.

Prerequisite(s): MATH 100A - Algebra Essentials (3) or proper placement on test scores

Subtotal Credit Hours Required

6

Technical Core

MDIA 104 - Web Page Design (3)

In this course, students learn how to code web pages from scratch using HTML, XHTML, and XML incorporating Java Scripting. Students will explore basic and advanced tags by creating web pages utilizing tables, frames, audio, video, and Java scripting.

SDE 188 - Intro to Programming Logic (3)

This course introduces the basic concepts of programming logic. Students will examine the basic constructs of selection, sequence, and repetition, abstract data structures of records, arrays, and linked lists, and file access methods.

Corequisite(s): MATH 100 - Math Essentials (3) or appropriate test scores

SDE 193 - Programming in C# (3)

This course provides students with a thorough understanding of the basic principles of C# programming language. It covers the basic syntax and structure of the language with an emphasis on problem-solving techniques. Students create programs using input/output statements; if-while, do-while, and for-loop logic structures, arrays, functions, pointers and reference variables, record structures, header files, file I/O, and basic object-oriented programming techniques. Students will be able to recognize and correct common programming errors.

Prerequisite(s): SDE 188 - Intro to Programming Logic (3)

Corequisite(s): MATH 100A - Algebra Essentials (3) or higher, or appropriate test scores

SDE 194 - Programming in Java (3)

This course provides students with a basic understanding of the principles of JAVA programming. It covers syntax, structure and emphasizes problem-solving techniques. Students create programs using input/output statement; if, while, do while, and for-loop logic structure; arrays, functions, and basic object-oriented programming techniques. Students will be able to recognize and correct common programming errors.

Prerequisite(s): SDE 188 - Intro to Programming Logic (3)

Corequisite(s): MATH 100A - Algebra Essentials (3) or higher, or appropriate test scores

SDE 195 - Programming in Python (3)

This course provides an introduction to the Python language. Students will explore its most important libraries and practice recommended programming styles and idioms, using a hands-on approach to how the various language features can be used together to best achieve efficient, secure programs. Topics covered include variables, expressions, statements, data structures, lists, dictionaries, tuples, functions, arguments, conditionals, recursion, strings, regular expressions, object-oriented development, classes, inheritance, iterators, generators, and decorators. This course is not intended for absolute beginners in programming but includes a self-contained review of elementary features.

Prerequisite(s): SDE 188 - Intro to Programming Logic (3)

Corequisite(s): MATH 100A - Algebra Essentials (3) or higher, or appropriate test scores

SDE 200 - Mobile App Development (4)

This course acquaints students with the design, development, testing, and debugging of mobile applications for multi-platform (i.e. Android, IOS, etc.) deployment. It will use the object-oriented programming along with current languages and scripts to create the applications and their interfaces. Multiple mobile user interface elements are used to gather input and drive the application. This course covers application development phases, terminologies, application design, and coding.

Prerequisite(s): SDE 193 - Programming in C# (3), SDE 194 - Programming in Java (3), or SDE 195 - Programming in Python (3)

- Restricted Electives in CNET, CYBR, DBM, IT, MATH 207, MDIA, SDE (5)

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Systems Networking Certificate

Students seeking entry into the field of advanced networking should consider a certificate in systems networking. The Blue Ridge program trains students in both the Cisco and Microsoft realms, providing essential knowledge about both parts of a functional corporate network. The program provides the background required for employment in the networking portion of the IT field. Blue Ridge will equip students with the training required to install, configure, and operate routed LANs, WLANs, and WANs, and prepare for the Cisco™ Certified Network Professional (CCNP) certification.

Program Overview

The Systems Networking certificate degree program is designed to address the needs of businesses and organizations within the local community. The field of Information Technology is growing regionally, and the need for certified technicians is advancing at a rapid rate. This course of study will provide the training required to install, configure, and operate simple routed LANs and WANs, and to prepare for the Cisco™ Certified Network Associate (CCNA) certification. The program also provides the essential knowledge and skills required for employment in the Networking portion of the Information Technology field.

The student will gain knowledge of switched LAN Emulation networks made up of Cisco™ equipment. The program is a focused coverage of Cisco™ router configuration procedures, which will be mapped to exam objectives for the Cisco composite CCNA or Cisco partial ICND 1 and ICND 2 certification exams. This program will also provide students with the knowledge to troubleshoot and repair desktop personal computers, install, maintain and manage Windows desktop operating systems, and manage, install, maintain, and troubleshoot Windows Server implementations. These additional courses will be mapped to the exam objectives for the Microsoft associate-level Windows Server domain administration exam.

Students in any program are subject to Blue Ridge Community and Technical College's requirements for admission, basic skills testing, and appropriate course placement, including developmental education courses, which may not count toward the completion of the program. Blue Ridge Community and Technical College requirements regarding academic standards and student conduct also apply.

Program Outcomes

- Merge networking concepts with the necessary server concepts to deploy a realistic enterprise network.
- Complete domain tests that include architecture, administration, storage management, security, and disaster recovery.
- Discuss troubleshooting scenarios involving the server domains and how a network technician would resolve potential issues.
- Develop the necessary communication skills to be able to coordinate and work on a team project, learn how to troubleshoot logical and design errors along with technical errors, and be able to provide clear and effective documentation of a project to aid future work such as maintenance and upgrades.

Career Opportunities

A wide range of government agencies and industries seek professionals in network design, network administration, and network engineering.

Curriculum for a Certificate in Systems Networking

General Education Core	6
Technical Core	24
Total Credit Hours Required	30

General Education Core

ENGL 101 - ~English Composition I (3)

ENGL 101 is an introduction to college writing. This class emphasizes processes for drafting, revising, and editing. It develops a student's ability to read a passage, analyze its meaning, and write an intelligent response which shows not only an understanding of the passage but also a working knowledge of the writing and rhetorical strategies. Students will learn how to make effective arguments and how to locate, synthesize, and evaluate relevant information.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 101L - English Composition I Lab (3), or placement test scores

ENGL 110 - ~Technical Writing & Communication (3)

This course is designed to prepare students to write technical reports and other technical documents. Emphasis is on audience, clarity, conciseness, and accuracy of expression. It covers research techniques, information design, writing style, and effective use of graphics.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

MATH 105 - ^Algebra (3)

Topics explored in this course include properties of the real numbers, operations on polynomials, rational and radical expressions, solutions of linear, quadratic, polynomial, radical and absolute value equations and inequalities. Coordinate geometry including distance, midpoint, lines, and circles will also be explored. Additional topics include systems of linear equations and their applications, analysis of functions, operations on functions, transformations of functions, and properties of linear, piecewise, quadratic, polynomial, rational, exponential and logarithmic functions.

Prerequisite(s): MATH 100A - Algebra Essentials (3) or proper placement on test scores

MATH 106 - ^Trigonometry (3)

Topics explored in this course include the study of angles in radians and degrees and evaluating trigonometric functions using the right triangle and a unit circle approaches. Other topics to be explored include verifying trigonometric identities, solving trigonometric equations, solving applied problems using right triangles and oblique triangles, analyzing the graphs and characteristics of trigonometric and inverse trigonometric functions, performing composition and transformations on trigonometric functions, and evaluating inverse trigonometric functions. Time permitting topics

include polar coordinates, complex numbers, deMoivre's Theorem, and vectors.

Prerequisite(s): MATH 105 - Algebra (3) or proper placement on test scores

Subtotal Credit Hours Required 6

Technical Core

CNET 111 - Networking Fundamentals (3)

This course is designed to provide a detailed overview of the foundational concepts involved in networking and telecommunications. The OSI model will be examined in detail. Specific protocols and their operations will be examined. Methods of providing telecommunications and the technologies involved will be covered, as well as networking hardware, cabling, documentation, troubleshooting, implementations, planning, and an introduction of subnetting of networks and telecommunications systems.

CNET 131 - Introduction to Networks (4)

This is the first course in a sequence that leads to the Cisco Certified Network Associate (CCNA) certification. The course covers network design based on the OSI Model as well as cable management, the functionality of networks, and the standards of network architecture. Through the duration of this course, students will engage in lab activities that emphasize the use of network tools and be exposed to applications needed for programming a network. Students will develop a base understanding of networking concepts preparing them for future courses. Course sequence mapped to CCNA certification: CNET 131, CNET 211, CNET 221.

Prerequisite(s): CNET 111 - Networking Fundamentals (3)

CNET 211 - Switch, Route & Wireless Essen (5)

This is the second course in a sequence leading to the Cisco Certified Network Associate (CCNA) Certification. This course covers local area network design and implementation. Specific topics include basic routing, switching, and wireless protocols. Students will engage in hands-on labs which will teach them the skills and troubleshooting techniques needed in the field. Upon learning these skills and protocols, students will complete a capstone project illustrating a Small Business network. Course sequence mapped to CCNA certification: CNET 131, CNET 211, CNET 221.

Prerequisite(s): CNET 131 - Introduction to Networks (4)

CNET 221 - Enterprise, Networking, Security (6)

This is the third and final course in a sequence leading to the Cisco Certified Network Associate (CCNA) certification. This course covers enterprise tools and techniques. Specific topics include basic security and automation. Students will also get exposed to more advanced networking tools used in the field. Throughout this course, students will begin to prepare and study for the CCNA exam. Upon completion of the required material, students will take the CCNA 200-301 exam. Course sequence mapped to CCNA certification: CNET 131, CNET 211, CNET 221.

Prerequisite(s): CNET 211 - Switch, Route & Wireless Essen (5)

IT 189 - Operating Sys Fundamentals (3)

This course is an introduction to the basics of computer operating systems. Topics include operating system principles, CPU, file systems, input and output devices, disk management, virtualization, sharing resources, and system maintenance.

Prerequisite(s): CAS 111 - Information Literacy (3)

IT 270 - Server I (3)

This course is a beginning course in server management. Domains include server architecture, server administration, storage, security, networking, disaster recovery, and troubleshooting. Topics include form factors and components, server roles, maintenance, virtualization, storage technologies, server hardening, protocols, IP addressing, disaster recovery principles and troubleshooting methodologies.

Prerequisite(s): IT 189 - Operating Sys Fundamentals (3)

Subtotal Credit Hours Required 24

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Technical Studies Certificate

This program is exclusively designed for students or prospective students currently employed by an employer who is working with Blue Ridge Community and Technical College. Our program allows employers to customize a course of study for their employees, while giving them the skill sets to use technology effectively; sharpen communication skills; and develop practical problem solving strategies.

Program Overview

The Blue Ridge Community and Technical College can customize this certificate degree for employers. Associate degree programs requiring additional credits for completion are also available.

Goals of the Technical Studies Program include:

- To increase the abilities of employees to use technology effectively and responsibly.
- To increase abilities of employees to communicate information effectively through reading, writing, speaking, and listening.
- To develop employee's abilities to solve problems through understanding, reasoning, research, and productive teamwork.
- To assist those employed in the workforce to understand that education is a life-long process.

Degree programs implemented under this degree designation will include instruction consistent with the following components and categories.

This program is only for individuals whose employer is working with Blue Ridge Community and Technical College to ensure completion of this degree.

Career Opportunities

Completing this degree will enhance your professional skill sets and increase your opportunities for upward mobility.

Curriculum for a Certificate in Technical Studies

Component I – General Education Core	6
Component II – Technical Core	6
Component III – Occupational Specialty	9
Component IV – On-the-Job Training	9
Total Credit Hours Required	30

Component I – General Education Core

ENGL 101 - ~English Composition I (3)

ENGL 101 is an introduction to college writing. This class emphasizes processes for drafting, revising, and editing. It develops a student's ability to read a passage, analyze its meaning, and write an intelligent response which shows not only an understanding of the passage but also a working knowledge of the writing and rhetorical strategies. Students will learn how to make effective arguments and how to locate, synthesize, and evaluate relevant information.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 101L - English Composition I Lab (3), or placement test scores

ENGL 110 - ~Technical Writing & Communication (3)

This course is designed to prepare students to write technical reports and other technical documents. Emphasis is on audience, clarity, conciseness, and accuracy of expression. It covers research techniques, information design, writing style, and effective use of graphics.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

- MATH 100+ (3) OR
- Restricted Electives (3) *Electives must be taken from the General Education core competency.*

Subtotal Credit Hours Required 6

Component II – Technical Core

Each program of study must include a general technical core that meets the goal of developing skills that may be applied to a variety of occupations or that may be specific to an occupation

Subtotal Credit Hours Required 6

Component III – Occupational Specialty

The component consists of technical specialty courses specific to an occupational area. Industry based education and training programs are to be converted to college credit at the ratio of 15:1 and at a rate consistent with the lab hour/credit ratio of the degree granting institution for laboratory credit.

Subtotal Credit Hours Required 9

Component IV – On-the-Job Training

The component consists of a paid or unpaid OJT, internship, or practicum performed in a business or industry setting in the occupational area. The on-the-job training component is to be converted to credit hours at a ratio of 150:1 with the maximum of 2,080 contact hours allowable. A statement of the total number of contact hours experience through on-the-job training will be placed on the college record.

Subtotal Credit Hours Required 9

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Technology Systems Certificate

The Blue Ridge Community and Technical College Certificate in Technology Systems strengthen skills in professional and business communication and information technology. Blue Ridge Community and Technical College combine oral and written communications with core technology classes and electives, equipping students with a grasp of technology systems. Sitting for certifications such as A+, CIW, and MCAS may complement the electives in this program, enhancing the impact of this credential.

Program Overview

The Technology System Certificate combines traditional professional and business communication with information technology. Certification such as A+, CIW, and MCAS work well with the restricted electives in this program; therefore, enhancing the credential that a Technology System Certificate provides.

To be eligible to earn a Blue Ridge Community and Technical College Certificate the student must be a current degree-seeking student or complete the application and admissions process to the College. Eligibility to earn and receive a Blue Ridge Community and Technical College Certificate does not interfere with the degree-seeking status of the student.

Program Outcomes

- Communicate effectively with both verbal and written forms.
- Perform and share cooperatively in teams or groups.
- Research and present technological concepts using office productivity software.
- Evaluate best practices in data security concepts to maintain confidentiality, integrity, and availability of databases and database management systems.

- Develop computer programs incorporating input/output, control/repetition, data structures and manipulations with arrays and lists.
- Design mathematical algorithms that are structured using top-down design by way of user-defined functions with parameters and return values.

Career Opportunities

Whether students are seeking a career as a network professional or currently working as a business manager or other IT professional, the Blue Ridge Community and Technical College Certificate in Technology Systems will help graduates implement high-functioning business and technology systems in the workplace. The certificate program ties in closely with the Information Technology A.A.S. degree, thus helping existing IT students expand their body of knowledge in networking and business.

Curriculum for a Certificate in Technology Systems

General Education Core	9
Technology Core	21
Total Credit Hours Required	30

General Education Core

CAS 111 - Information Literacy (3)

This course covers a variety of introductory computing knowledge including how personal computers work, software essentials, hardware components, operating systems and the most popular productivity applications including word processing, spreadsheet, database and presentation software. Students will also be introduced to the Internet and e-mail essentials, file management and digital electronics. This course aligns with the Internet and Computing Core Certification (IC3), which demonstrates that a student has a clear understanding of the knowledge and application of computers and technology in the modern world.

ENGL 110 - ~Technical Writing & Communication (3)

This course is designed to prepare students to write technical reports and other technical documents. Emphasis is on audience, clarity, conciseness, and accuracy of expression. It covers research techniques, information design, writing style, and effective use of graphics.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

- MATH 101 Intro to Mathematics or higher (3)

Subtotal Credit Hours Required **9**

Technology Core

CNET 111 - Networking Fundamentals (3)

This course is designed to provide a detailed overview of the foundational concepts involved in networking and telecommunications. The OSI model will be examined in detail. Specific protocols and their operations will be examined. Methods of providing telecommunications and the technologies involved will be covered, as well as networking hardware, cabling, documentation, troubleshooting, implementations, planning, and an introduction of subnetting of networks and telecommunications systems.

CYBR 101 - Intro to CyberSecurity (3)

This course provides an overview of the field of cybersecurity. It covers core cybersecurity topics including computer system architectures, critical infrastructures, cyber threats and vulnerabilities, cryptography, information assurance, network security, digital forensics, and risk assessment and management. Topics such as industrial espionage, hacking, and cyber terrorism and information warfare will be discussed.

IT 102 - IT Fundamentals (3)

The IT Fundamentals course covers foundational IT concepts including identifying and explaining computer components, installing software, establishing network connectivity and preventing security risks. The course focuses on the knowledge and skills required to identify and explain the basics of computing, IT infrastructure, software development, and database use. IT Fundamentals prepares the student for the CompTIA IT Fundamentals certification exam.

IT 180 - A+ Core 1 (3)

This course, along with IT 181 - A+ Core 2 (3), prepares students with skills needed to be a successful computer repair technician and also prepares students for CompTIA's A+ certification exams. In this course, the domains covered include mobile devices, networking, hardware, virtualization and cloud computing, and network and hardware troubleshooting. Topics include comparing and contrasting various type of mobile devices, TCP and UDP ports, protocols and their purpose, common networking hardware devices, wireless networking protocols, and internet connection types, network types and their features.

Corerequisite(s): CAS 111 - Information Literacy (3)

IT 181 - A+ Core 2 (3)

This course, along with IT 180 - A+ Core 1 (3), prepares students with skills needed to be a computer support technician and also prepares students for CompTIA's A+ certification exams. In this course, domains covered include operating systems, security, software troubleshooting and operational procedures. Students will compare and contrast common operating system types, features, tools, and their purposes, security protocols and authentication methods, social engineering, threats and vulnerabilities, and best practices with change management and documentation. Topics covered include physical security measures, logical security concepts, data destruction, and disposal methods, malware removal and disaster recovery planning.

Corerequisite(s): CAS 111 - Information Literacy (3)

IT 185 - Introduction to Linux (3)

This course will prepare students to work with the Linux operating system and help them prepare for the Linux+ CompTIA certification exams. The course does not assume any prior knowledge of Linux and is geared toward those interested in systems administration as well as those who will use or develop programs for Linux systems. The course provides coverage of topics related to Linux certification, including Linux distributions, installation, administration, networking and security.

Prerequisite(s): CAS 111 - Information Literacy (3)

IT 189 - Operating Sys Fundamentals (3)

This course is an introduction to the basics of computer operating systems. Topics include operating system principles, CPU, file systems, input and output devices, disk management, virtualization, sharing resources, and system maintenance.

Prerequisite(s): CAS 111 - Information Literacy (3)

DBM 101 - Database Concepts/SQL I (3)

Introduction to Database Concepts/SQL I provides a foundation in database design and implementation. The Relational model is analyzed along with SQL commands. Numerous database design methods are identified and applied. A discussion of the various levels of the normalization process is included. Additional topics include requirements gatherings, analysis, and trade-off discussions. SQL coverage includes hands-on problems with databases. Students are challenged with critical thinking questions utilizing problem-solving and analytical skills.

SDE 188 - Intro to Programming Logic (3)

This course introduces the basic concepts of programming logic. Students will examine the basic constructs of selection, sequence, and repetition, abstract data structures of records, arrays, and linked lists, and file access methods.

Corerequisite(s): MATH 100 - Math Essentials (3) or appropriate test scores

Subtotal Credit Hours Required 21

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Welding Certificate

The welding program is a 30-credit hour training program in which students will cut, weld, and modify a design in as little as one year. Students are taught blueprint reading, metallurgy, and basic CAD. Students will be exposed to various methods of cutting metals. Equipment such as plasma cutters, grinders, chop saws, tubing benders, and bandsaws are included in the program to introduce principals of fabrication. Welders can advance to more skilled jobs with additional training and experience.

Program Outcomes

- Demonstrate professionalism (on time, positive attitude, respectful).
- Identify safety equipment.
- Demonstrate the necessary skills to work safely in the industrial setting.

- Practice team building and effective communication.
- Understand the technology utilized in modern distribution and processing industries.
- Demonstrate proper operation of 3D modeling equipment.
- Identify tools and equipment used in welding.
- Identify types of electrodes, types of welds, and welding positions.
- Understand the basics of metal fabrication.
- Understand how to weld using Stick, arc, MIG, and TIG.

Career Opportunities

Employers across the Eastern Panhandle of West Virginia and along the I-81 corridor are seeking skilled welders with an understanding of fabrication, welding, and repair technicians. Blue Ridge Community and Technical College can aid students who seek a career in welding. Focusing solely on practical classes that range from oxyfuel welding and cutting, to tungsten inert gas (TIG) welding, this one year program provides students with an efficient way of learning the fundamentals of welding. Throughout the program, our expert instructors train students in the techniques and cutting-edge technologies embraced by the industry today.

The knowledge and skills gained may help you secure entry-level employment in the manufacturing, construction, or repair industries. Opportunities exist to become supervisors, inspectors, and instructors.

Curriculum for a Certificate in Welding

General Education Core

Technical Core

Total Credit Hours Required

General Education Core

ENGL 110 - ~Technical Writing & Communication (3)

This course is designed to prepare students to write technical reports and other technical documents. Emphasis is on audience, clarity, conciseness, and accuracy of expression. It covers research techniques, information design, writing style, and effective use of graphics.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

MATH 102 - Technical Mathematics (3)

This course focuses on computational fluency and applied problem solving with emphasis on the following topics: real numbers, ratios, percents, proportions, estimation, exponents, roots, scientific notation, applied algebra, measurement, applied geometry, electrical formulas and laws, basic statistics, basic trigonometry and vectors.

Prerequisite(s): MATH 100 - Math Essentials (3) or proper placement on test scores

Subtotal Credit Hours Required

6

Technical Core

CAD 201 - 3D Modeling (1)

In this course students will learn to use 3D modeling software to develop parametric design solutions for various engineering problems. Students will develop designs, learn and apply ANSI (American National Standards Institute) standards, explore finite element analysis, and develop working, assembly and presentation drawings.

Corerequisite(s): CAD 201L - 3D Modeling Lab (2)

CAD 201L - 3D Modeling Lab (2)

In this course, students will learn to use 3D modeling software to develop parametric design solutions for various engineering problems. During the lab component, students will develop designs, learn and apply ANSI (American National Standards Institute) standards, explore finite element analysis, and develop working, assembly and presentation drawings.

Corerequisite(s): CAD 201 - 3D Modeling (1)

HET 110 - Welding I (2)

This course introduces students to the basic processes in the welding field and emphasizes welding safety. Students receive an introduction to welding equipment, identification and selection of electrodes, types of welds, and welding positions. Students explore basic metallurgy (weldability), and welding defects and problems. GMAW (MIG), GTAW (TIG), and SMAW/MMA (Stick) welding will be introduced.

HET 120 - Fabrication (2)

Students will learn the basics of metal fabrication safety including production, measuring, hand tools, and layout. Students will demonstrate proficiency in fabrication through related projects.

Prerequisite(s): CAD 201 - 3D Modeling (1), CAD 201L - 3D Modeling Lab (2), and HET 110 - Welding I (2)

HET 210 - Welding II (2)

This course will focus on more advanced welding topics including the operation of AC and DC power sources, weld heat, polarities, and electrodes for use in joining various alloys. This course will also include weld analysis and an AWS welding certification simulation. Certification will not be granted upon this course.

Prerequisite(s): HET 110 - Welding I (2)

HET 211 - Advanced Welding (3)

Advanced welding techniques are taught in this course. This will include different methodologies which can include Stick, arc, MIG, or TIG. It also reviews how to weld various materials and shapes which can include steel, stainless steel, aluminum, alloy, nickel, copper, titanium, or cast iron.

Prerequisite(s): HET 210 - Welding II (2)

HET 212 - Weld Certification Prep (3)

This course prepares students for various AWS (American Welding Society) welding certifications. There is no certification given in this course nor guarantee of passage.

Prerequisite(s): HET 210 - Welding II (2)

MECH 101 - Introduction to Mechatronics (1)

Introduction to Mechatronics is an overview course that introduces students to the field of Mechatronics. Students will rotate through modules that will give them insight into the skills, concepts, equipment, and challenges they will encounter as a mechatronics technician. Modules will include design process, basic tool use, laboratory safety, precision measurement, fluid power, robotics, and programmable logic controllers. Included will be basic professional preparation topics such as resume writing, job readiness, interviewing and portfolio development. MECH 101L - Intro to Mechatronics Lab (2) is the laboratory component of this class.

Corequisite(s): MECH 101L - Intro to Mechatronics Lab (2)

MECH 101L - Intro to Mechatronics Lab (2)

This course is the lab component of MECH 101 - Introduction to Mechatronics (1). The course contains an overview course that introduces students to the field of Mechatronics. Students will rotate through modules that will give them insight into the skills, concepts, equipment, and challenges they will encounter as a mechatronics technician. Modules will include design process, basic tool use, laboratory safety, engineering journaling, precision measurement, fluid power, robotics, and programmable logic controllers. Included will be basic professional preparation topics such as resume writing, job readiness, interviewing and portfolio development.

Corequisite(s): MECH 101 - Introduction to Mechatronics (1)

MECH 121 - Safety Awareness & OSHA 10 (2)

Safety Awareness is designed to introduce students to the necessary skills to safely work in the industrial setting. Some major areas of studies include: Fall Protection, Fire Prevention and Protection, Electrical Safety, Personal Protective Equipment, Hazard Communication, and other elective topics. Upon successfully passing the OSHA exam the student will earn a 10 hour OSHA card.

- Restricted Electives in HET, MECH, or MET - the internship is preferred (4)

Subtotal Credit Hours Required

24

Program Disclaimer

This curriculum includes a list of courses required for this program of study for this calendar year. Your Academic Plan can be found on DegreeWorks once you become a degree-seeking student.

Note: All salary projections are based on the current position and educational needs. BRCTC cannot guarantee that the projections given will be the salaries students or graduates will ultimately receive.

Certification

Applied Laboratory Technician Skill Set Certificate

Blue Ridge Community and Technical College are providing a tremendous opportunity to individuals that have already earned an Associate or Bachelor's degree and would like to enter into a career as an applied laboratory technician or quality control technician.

If you have taken college chemistry you may qualify in as few as four courses.

Each enrollment is individualized to accommodate transfer courses.

Make an appointment today to review your transcripts and develop your individual Applied Laboratory Skill Set education plan.

- Call Elizabeth Spring 304-260-4380 ext. 3421 espring@blueridgectc.edu
- Call Cynthia Hull 304-260-4380 ext. 2405 chull@blueridgectc.edu

Applied Laboratory Technician Core

LTEC 101 - Laboratory Technician I (4)

This course is the introductory course to chemistry concepts. This course will also introduce instrumentation, industrial processes and the science that is needed to be a successful Applied Laboratory Technician.

Corequisite(s): MATH 100 - Math Essentials (3) or placement

LTEC 102 - Laboratory Technician II (4)

This course will continue the discussion of chemistry concepts with a focus on molecular compounds, chemical reactions, acids & bases, and an introduction to organic chemistry concepts. A WorkKeys NCRC Certificate Examination will be conducted at the end of this course.

LTEC 111 - Laboratory Technician III (2)

This course presents a basic introduction to industrial safety health and environmental health concepts. Students will be able to discuss and recognize the various hazards that exist in a manufacturing environment. The students will discuss the remediation of spills and unsafe conditions. This course will provide OSHA 30 General Industry certification that will include OSHA's history.

LTEC 112 - Laboratory Technician IV (3)

Students will continue with basic laboratory principles and will be able to use various types of analytical equipment that an applied laboratory technician will operate in a manufacturing setting. The student will be able to identify various types of process equipment and describe what each piece of equipment does within the manufacturing process.

Applied Laboratory Technician Restrictive Electives

LTEC 140 - Process Quality (2)

This course will describe the concepts and tools that manufacturers use for quality control in a manufacturing setting. The students will be able to describe the different management systems that are used to develop a quality control program. The students will be able to develop and interpret quality control charts.

LTEC 141 - Analytical Instrumentation (3)

The students will further explore the different analytical testing methods that are used in the industry. The students will be able to complete testing on FT-IR, Spectrophotometer, HPLC, and GC-MS instruments.

LTEC 143 - Process Technology-Operation (3)

This course will discuss the following topics: procedure writing, communication, shift change, maintenance, and other topics that Applied Laboratory Technicians and Quality Control Technicians must understand.

LTEC 144 - Process Technology-Systems (3)

Applied Laboratory Technician students learn the many different systems that an applied laboratory technician will encounter including, but not limited to, water systems, electrical systems, and refrigeration systems.

(Others as approved by advisor)

Career Advancement Continuing Education

Blue Ridge Community and Technical College offers many classroom and online continuing education training opportunities. These courses begin continuously throughout the year. For a complete list of current course offerings go to our Career Advancement Registration site: <http://blueridgectc.augusoft.net>.

Some of our training courses include:

- American Management Association Certificates in Supervision and General Management
- Animal Care Nursing Assistant
- Bartending
- CCNA Bootcamp
- Computer User Certificate
- Health Care Provider CPR
- Hundreds of online course choices
- Master Chef Courses
- OSHA Safety Training
- Personal Trainer Certification
- Pet Grooming Professional
- Quality Assurance Technician
- Real Estate Pre-licensing for West Virginia
- Recovery Coach Academy
- ServSafe Training
- WV Notary

Cisco CCDA

Vendor Certification Tracks

Several course offerings within the Division of Information Technology are directly aligned to industry-level certification exams. These courses not only allow you to earn credit toward your degree or certificate, but they also prepare you to take a targeted vendor exam to validate your knowledge and skills to a potential or current employer. For detailed information on specific exams or certifications visit the Cisco®, CompTIA®, Microsoft®, Pearson Vue, or Certiport websites for objectives, skill sets, and sample questions.

Course completion does not guarantee receipt of a state or national certification. State and National certifications are based on individual student abilities and performance.

Program Requirements

These six courses individually lead to specific Cisco Network certifications. Combined, they encompass all of the material needed to obtain the Cisco Certified Design Associate certification.

CNET 121 - Network+ (3)

The goal of this course is to provide an introduction to networking technologies and prepare students to take the CompTIA's broad-based, vendor independent Network+ certification exam. This course covers a wide range of materials from careers in networking, local area networks, wide area networks, network protocols and topologies, transmissions media and network security. In addition to introducing these concepts, it discusses significant aspects of networking such as TCP/IP and subnetting in depth. The course uses "real world" networking scenarios to provide students with the practical preparation required to step into the professional world.

Corerequisite(s): CNET 111 - Networking Fundamentals (3)

CNET 131 - Introduction to Networks (4)

This is the first course in a sequence that leads to the Cisco Certified Network Associate (CCNA) certification. The course covers network design based on the OSI Model as well as cable management, the functionality of networks, and the standards of network architecture. Through the duration of this course, students will engage in lab activities that emphasize the use of network tools and be exposed to applications needed for programming a network. Students will develop a base understanding of networking concepts preparing them for future courses. Course sequence mapped to CCNA certification: CNET 131, CNET 211, CNET 221.

Prerequisite(s): CNET 111 - Networking Fundamentals (3)

CNET 255 - Cisco Certified Design Associate (4)

This course aligns with the Cisco Certified Design Associate (CCDA) certification. This course covers the research and design elements of the network infrastructure as well as the methodologies of implementing differing design elements into a single network infrastructure design. Students will engage in challenging hands-on lab activities including skill building and troubleshooting practice.

Prerequisite(s): CNET 221 - Enterprise, Networking, Securi (6)

Cisco CCNA

Vendor Certification Tracks

Several course offerings within the Division of Information Technology are directly aligned to industry-level certification exams. These courses not only allow you to earn credit toward your degree or certificate, but they also

prepare you to take a targeted vendor exam to validate your knowledge and skills to a potential or current employer. For detailed information on specific exams or certifications visit the Cisco®, CompTIA®, Microsoft®, Pearson Vue, or Certiport websites for objectives, skill sets, and sample questions.

Course completion does not guarantee receipt of a state or national certification. State and National certifications are based on individual student abilities and performance.

Program Requirements

These five courses lead to the Cisco Certified network Associate (CCNA) certification. Topics covered in these courses include; the ability to install, configure, operate, and troubleshoot medium-size routed and switched networks, including implementation and verification of connections to remote sites in a WAN.

CNET 121 - Network+ (3)

The goal of this course is to provide an introduction to networking technologies and prepare students to take the CompTIA's broad-based, vendor independent Network+ certification exam. This course covers a wide range of materials from careers in networking, local area networks, wide area networks, network protocols and topologies, transmissions media and network security. In addition to introducing these concepts, it discusses significant aspects of networking such as TCP/IP and subnetting in depth. The course uses "real world" networking scenarios to provide students with the practical preparation required to step into the professional world.

Corerequisite(s): CNET 111 - Networking Fundamentals (3)

CNET 131 - Introduction to Networks (4)

This is the first course in a sequence that leads to the Cisco Certified Network Associate (CCNA) certification. The course covers network design based on the OSI Model as well as cable management, the functionality of networks, and the standards of network architecture. Through the duration of this course, students will engage in lab activities that emphasize the use of network tools and be exposed to applications needed for programming a network. Students will develop a base understanding of networking concepts preparing them for future courses. Course sequence mapped to CCNA certification: CNET 131, CNET 211, CNET 221.

Prerequisite(s): CNET 111 - Networking Fundamentals (3)

Cisco CCNP

Vendor Certification Tracks

Several course offerings within the Division of Information Technology are directly aligned to industry-level certification exams. These courses not only allow you to earn credit toward your degree or certificate, but they also prepare you to take a targeted vendor exam to validate your knowledge and skills to a potential or current employer. For detailed information on specific exams or certifications visit the Cisco®, CompTIA®, Microsoft®, Pearson Vue, or Certiport websites for objectives, skill sets, and sample questions.

Course completion does not guarantee receipt of a state or national certification. State and National certifications are based on individual student abilities and performance.

Program Requirements

These courses individually lead to specific Cisco Network certifications. Combined, they encompass all of the material needed to obtain the Cisco Certified Network Professional certification.

CNET 131 - Introduction to Networks (4)

This is the first course in a sequence that leads to the Cisco Certified Network Associate (CCNA) certification. The course covers network design based on the OSI Model as well as cable management, the functionality of networks, and the standards of network architecture. Through the duration of this course, students will engage in lab activities that emphasize the use of network tools and be exposed to applications needed for programming a network. Students will develop a base understanding of networking concepts preparing them for future courses. Course sequence mapped to CCNA certification: CNET 131, CNET 211, CNET 221.

Prerequisite(s): CNET 111 - Networking Fundamentals (3)

CNET 265 - Advanced Routing (6)

This is the first course in a sequence leading to the Cisco Certified Network Professional (CCNP) certification. This course covers advanced routing protocols and configurations for use in the enterprise network as well as IPv6 transitioning strategies. Students will engage in challenging hands-on lab activities including skill building and troubleshooting practice. Course sequence mapped to CCNP: CNET 265, CNET 266 - Advanced Switching (4), CNET 267 - Advanced Troubleshooting (4).

Prerequisite(s): CNET 221 - Enterprise, Networking, Securi (6)

CNET 266 - Advanced Switching (4)

This is the second course in a sequence leading to the Cisco Certified Network Professional (CCNP) certification. This course covers layer three switching, advanced switching techniques, as well as, implementing wireless and voice into the switched network. Students will engage in challenging hands-on lab activities including skill building and troubleshooting practice. Course sequence mapped to CCNP certification: CNET 265, CNET 266, CNET 267.

Prerequisite(s): CNET 211 - Switch, Route & Wireless Essen (5)

Corerequisite(s): CNET 221 - Enterprise, Networking, Securi (6)

CNET 267 - Advanced Troubleshooting (4)

This is the third course in a sequence leading to the Cisco Certified Network Professional (CCNP) certification. This course covers a wide variety of troubleshooting techniques in order to maintain networks as well as methodologies for working with larger enterprise networks and their advanced configurations. Students will engage in challenging hands-on lab activities including skill building and troubleshooting practice. Course sequence mapped to CCNP certification: CNET 265, CNET 266, CNET 267.

Prerequisite(s): CNET 265 - Advanced Routing (6) and CNET 266 - Advanced Switching (4)

CompTIA A+® Certification

Vendor Certification Tracks

Several course offerings within the Division of Information Technology are directly aligned to industry-level certification exams. These courses not only allow you to earn credit toward your degree or certificate, but they also prepare you to take a targeted vendor exam to validate your knowledge and skills to a potential or current employer.

For detailed information on specific exams or certifications visit the Cisco®, CompTIA®, Microsoft®, Pearson Vue, or Certiport websites for objectives, skill sets, and sample questions.

Course completion does not guarantee receipt of a state or national certification. State and National certifications are based on individual student abilities and performance.

Program Requirements

These two courses map to the CompTIA A+ Certification exams (two exams).

IT 180 - A+ Core 1 (3)

This course, along with IT 181 - A+ Core 2 (3), prepares students with skills needed to be a successful computer repair technician and also prepares students for CompTIA's A+ certification exams. In this course, the domains covered include mobile devices, networking, hardware, virtualization and cloud computing, and network and hardware troubleshooting. Topics include comparing and contrasting various type of mobile devices, TCP and UDP ports, protocols and their purpose, common networking hardware devices, wireless networking protocols, and internet connection types, network types and their features.

Corerequisite(s): CAS 111 - Information Literacy (3)

IT 181 - A+ Core 2 (3)

This course, along with IT 180 - A+ Core 1 (3), prepares students with skills needed to be a computer support technician and also prepares students for CompTIA's A+ certification exams. In this course, domains covered include operating systems, security, software troubleshooting and operational procedures. Students will compare and contrast common operating system types, features, tools, and their purposes, security protocols and authentication methods, social engineering, threats and vulnerabilities, and best practices with change management and documentation. Topics covered include physical security measures, logical security concepts, data destruction, and disposal methods, malware removal and disaster recovery planning.

Corerequisite(s): CAS 111 - Information Literacy (3)

CompTIA Network+® Certification

Vendor Certification Tracks

Several course offerings within the Division of Information Technology are directly aligned to industry-level certification exams. These courses not only allow you to earn credit toward your degree or certificate, but they also prepare you to take a targeted vendor exam to validate your knowledge and skills to a potential or current employer. For detailed information on specific exams or certifications visit the Cisco®, CompTIA®, Microsoft®, Pearson Vue, or Certiport websites for objectives, skill sets, and sample questions.

Course completion does not guarantee receipt of a state or national certification. State and National certifications are based on individual student abilities and performance.

Program Requirements

This single course maps to the CompTIA Network+ certification exam.

CNET 121 - Network+ (3)

The goal of this course is to provide an introduction to networking technologies and prepare students to take the CompTIA's broad-based, vendor independent Network+ certification exam. This course covers a wide range of materials from careers in networking, local area networks, wide area networks, network protocols and topologies, transmissions media and network security. In addition to introducing these concepts, it discusses significant aspects of networking such as TCP/IP and subnetting in depth. The course uses "real world" networking scenarios to provide students with the practical preparation required to step into the professional world.

Corequisite(s): CNET 111 - Networking Fundamentals (3)

CompTIA Project+® Certification

Vendor Certification Tracks

Several course offerings within the Division of Information Technology are directly aligned to industry-level certification exams. These courses not only allow you to earn credit toward your degree or certificate, but they also prepare you to take a targeted vendor exam to validate your knowledge and skills to a potential or current employer. For detailed information on specific exams or certifications visit the Cisco®, CompTIA®, Microsoft®, Pearson Vue, or Certiport websites for objectives, skill sets, and sample questions.

Course completion does not guarantee receipt of a state or national certification. State and National certifications are based on individual student abilities and performance.

Program Requirements

This single course maps to the CompTIA Project+ certification exam.

IT 269 - Project Management (3)

This comprehensive course examines the various models used to develop and control the Work Breakdown Structure (WBS), Schedule, and Cost. Additionally, the class will perform an analysis on the time, cost models, and evaluate the outcome. There will be case problems and labs utilizing various processing tools.

Prerequisite(s): CAS 111 - Information Literacy (3), ENGL 110 - ~Technical Writing & Communication (3), and completion of a minimum of 45 credits

CompTIA Security® + Certification

Vendor Certification Tracks

Several course offerings within the Division of Information Technology are directly aligned to industry-level certification exams. These courses not only allow you to earn credit toward your degree or certificate, but they also prepare you to take a targeted vendor exam to validate your knowledge and skills to a potential or current employer. For detailed information on specific exams or certifications visit the Cisco®, CompTIA®, Microsoft®, Pearson Vue, or Certiport websites for objectives, skill sets, and sample questions.

Course completion does not guarantee receipt of a state or national certification. State and National certifications are based on individual student abilities and performance.

Program Requirements

This single course maps to the CompTIA Security+ certification exam.

CYBR 160 - Information Security Fundament (3)

This course offers in-depth coverage of the current risks and threats to an organization's data, combined with a structured way of addressing the safeguarding of these critical electronic assets. The course provides a foundation for those new to Information Security as well as those responsible for protecting network services, devices, traffic, and data. Additionally, the course provides the broad-based knowledge necessary to prepare students for further study in other specialized security fields.

Prerequisite(s): CYBR 101 - Intro to CyberSecurity (3) and CNET 111 - Networking Fundamentals (3)

Dental Assisting Program

This 60-hour Dental Assisting Program prepares students for entry-level positions in a variety of healthcare settings including dental offices, hospitals, and other similar facilities, familiarizing the student with all areas of pre-clinical dental assisting and training in the professional skills required to function as an assistant in the dental practice. It covers the history of dentistry and dental assisting; introduction to the dental office; the legal aspects of dentistry and dental assisting; and policies and guidelines. Clinical aspects of oral anatomy, dental equipment, tooth structure, primary and permanent teeth, oral cavity and related structures, proper patient positioning, dental hand-pieces, dental anesthesia, sterilization, and asepsis. This program does not include a national or state certification objective which, in most states, requires 1 to 2 years of training or education.

If you seek a career in a high-growth field, our eight-week program prepares you as a dental assistant. As a key member of the healthcare team, you'll work hand-in-hand with dentists and hygienists to provide quality and corrective dental care. Over the course of your work day, you'll manage a variety of clinical and administrative responsibilities, such as sterilizing instruments, ordering supplies, and other office duties.

What are my career options?

Working in one of the fastest growing medical field careers, you can pursue employment in a dentist or orthodontist office, clinic, or hospital setting. Depending on the needs of your work environment, you may have the opportunity to work flexible hours.

This program is eligible for college credit after successful completion of the program.

Fee: \$1,199 (Textbooks included)

Course Contact Hours - 60 hrs.

Registration Information

This special program requires a separate registration process.

Contact:
Sue Reneker
304-260-4380 ext 2302
sreneker@blueridgectc.edu

CAHS 154 - Dental Assisting (1-12)

The Dental Assisting program prepares students for entry-level positions in a variety of healthcare settings including dental offices, hospitals, and other similar facilities, familiarizing the student with all areas of pre-clinical dental assisting and training in the professional skills required to function as an assistant in the dental practice. It covers the following key areas and topics - Administrative aspects: the history of dentistry and dental assisting; introduction to the dental office; the legal aspects of dentistry and dental assisting; policies and guidelines. Clinical aspects: an introduction to oral anatomy; dental equipment, operation, and maintenance; introduction to tooth structure; primary and permanent teeth; the oral cavity and related structures; proper patient positioning; dental handpieces; dental anesthesia; sterilization; maintaining sterility and asepsis. This program does not include a national or state certification objective which in most states require 1 to 2 years of training or education. This course is eligible for college credit after successful completion of the program.

CCI Disclaimer

Program completion does not guarantee receipt of a state or national certification. State and National certifications are based on individual student abilities and performance.

EKG Technician Certification Program

This comprehensive 60-hour EKG Technician Certification Program prepares students to function as EKG Technicians. This program will include important practice and background information on the anatomy of the heart and physiology, medical disease processes, medical terminology, medical ethics, legal aspects of patient contact, laboratory assisting, electrocardiography and echocardiography. Additionally, students will practice with equipment and perform hands-on labs including introduction to the function and proper use of the EKG machine, the normal anatomy of the chest wall for proper lead placement, 12-lead placement and other clinical practices.

As our population's healthcare needs continue to grow, certification as an EKG/cardiovascular technician gives you the chance to save and strengthen patients' lives. Working closely with a physician, you will find and identify patients' heart irregularities.

What are my career options?

Our 10-week, part-time program gives you the knowledge of state-of-the-art imaging technology to diagnose cardiac and vascular ailments in patients and prepares students to sit for the national certification exam. Our graduates pursue employment in physicians' offices, hospitals, and clinic settings.

This program is eligible for college credit after the successful completion of the program.

Fee: \$999 (Textbooks included)

Course Contact Hours - 60 hrs.

Registration Information

This special program requires a separate registration process.

Contact:
Sue Reneker
304-260-4380 ext 2302
sreneker@blueridgectc.edu

CAHS 150 - EKG Technician (1–12)

This comprehensive Certified EKG Technician Program prepares students to function as EKG/Cardiovascular Technicians and to take the American Society of Phlebotomy Technician (ASPT) - Electrocardiograph (EKG) Technician exam in addition to other National Certification Exams. This course will include important practice and background information on the anatomy of the heart and physiology, medical disease processes, medical terminology, medical ethics, legal aspects of patient contact, laboratory assisting, respiratory therapy assisting, electrocardiology and echocardiology. Additionally, students will practice with equipment and perform hands-on labs including introduction to the function and proper use of the EKG machine, the Holter monitor, the normal anatomy of the chest wall for proper lead placement, echocardiology, 12-lead placement and other clinical practices. EKG Technicians also analyze printed readings of EKG test, measuring various "peaks and troughs" and determining normal vs. abnormal EKG. The EKG/Cardiovascular Technician Certification Program includes a graded final exam to help prepare students for the ASPT-EKG Technician Exam. This course is eligible for college credit after successful completion of the program.

CCI Disclaimer

Program completion does not guarantee receipt of a state or national certification. State and National certifications are based on individual student abilities and performance.

Emergency Medical Responder

This 75-hour Emergency Medical Responder (EMR) prepares the student for entry-level prehospital care and is eligible to take the national certification exam as an Emergency Medical Responder. This is an introductory course to emergency medical care for individuals that in the course of their normal duties are likely to be the first individual on the scene of a medical emergency. The course will cover what should be done until the ambulance unit arrives and will include CPR, an overview of EMS systems, basic airway management, patient assessment, circulation and automatic defibrillation, illness, and injury prevention, childbirth and children and scene operations. The course was previously known as First Responder until the incorporation of the new curriculum and scope of practices.

Requirements

This course is offered each spring semester. The national certification exam is available onsite at the main campus. To complete this course and be eligible to take the national certification exam you will be required to take both classes listed below during the same semester.

EMSP 100 - Emergency Medical Responder (3)

This is an introductory course to emergency medical care for individuals that in the course of their normal duties are likely to be the first individual on the scene of a medical emergency. The course will cover what should be done until the ambulance unit arrives and will include CPR, an overview of EMS systems, basic airway management, patient assessment, circulation and automatic defibrillation, illness, and injury prevention, childbirth and children and scene operations.

Corerequisite(s): EMSP 100L - EMR Lab (1)

EMSP 100L - EMR Lab (1)

This course affords the student the opportunity to apply and reinforce the skills learned in EMSP 100 in a laboratory setting. The student will participate in both scenario based training as well as skill specific review.

Corerequisite(s): EMSP 100 - Emergency Medical Responder (3)

Emergency Medical Technician

This 150-hour Emergency Medical Technician (EMT) prepares the student for entry-level prehospital care and is eligible to take the national certification exam as an Emergency Medical Technician. As an Emergency Medical Technician, you would be trained to work or volunteer for area Emergency Medical Services organizations. The primary focus of the Emergency Medical Technician is to provide basic emergency medical care and transportation for critical and emergent patients who access the emergency medical system. This individual possesses the basic knowledge and skills necessary to provide patient care and transportation. Emergency Medical Technicians function as part of a comprehensive EMS response, under medical oversight. Emergency Medical Technicians perform interventions with the basic equipment typically found on an ambulance. Also with this course, you will be assigned to ride on an ambulance to perform your minimum of ten successful patient assessments at the Emergency Medical Technician level. The Emergency Medical Technician is a link from the scene to the emergency health care system. This course was previously known as EMT-Basic until the incorporation of the new curriculum and scope of practices. This course or the EMT-Basic is a required prerequisite for admission into the Paramedic Program.

Requirements

This course is offered each fall and spring semester. The national certification exam is available onsite at the main campus. To complete this course and be eligible to take the national certification exam you will be required to take both classes listed below during the same semester.

EMSP 102 - Emergency Medical Technician (6)

The primary focus of the Emergency Medical Technician is to provide basic emergency medical care and transportation for critical and emergent patients who access the emergency medical system. This individual possesses the basic knowledge and skills necessary to provide patient care and transportation. Emergency Medical Technicians function as part of a comprehensive EMS response, under medical oversight. Emergency Medical Technicians perform interventions with the basic equipment typically found on an ambulance. The Emergency Medical Technician is a link from the scene to the emergency health care system. This course was previously known as EMT-Basic until the incorporation of the new curriculum and scope of practices. This course or the EMT-Basic is a required prerequisite for admission into the Paramedic Program.

Corerequisite(s): EMSP 102L - Emergency Medical Technician Lab (2)

Pre-requisite/Co-requisite(s): Be a degree seeking student in Paramedic, A.A.S. or Paramedicine Certificate

EMSP 102L - Emergency Medical Technician Lab (2)

This class is designed to follow the same chronological order as the Emergency Medical Technician (EMT) course. Items covered will be all of the hands-on experiences necessary to reinforce the didactic instruction as the student completes the classroom portion. This course will act as the second portion of the EMT course in order to meet both state and national standards and guidelines for an EMT.

Corerequisite(s): EMSP 102 - Emergency Medical Technician (6)

Pre-requisite/Co-requisite(s): Be a degree seeking student in Paramedic, A.A.S. or Paramedicine Certificate

IC3 (Internet and Computer Core Certification®)

Vendor Certification Tracks

Several course offerings within the Division of Information Technology are directly aligned to industry-level certification exams. These courses not only allow you to earn credit toward your degree or certificate, but they also prepare you to take a targeted vendor exam to validate your knowledge and skills to a potential or current employer.

For detailed information on specific exams or certifications visit the Cisco®, CompTIA®, Microsoft®, Pearson Vue, or Certiport websites for objectives, skill sets, and sample questions.

Course completion does not guarantee receipt of a state or national certification. State and National certifications are based on individual student abilities and performance.

Program Requirements

This single course maps to the IC3 certification exam.

CAS 111 - Information Literacy (3)

This course covers a variety of introductory computing knowledge including how personal computers work, software essentials, hardware components, operating systems and the most popular productivity applications including word processing, spreadsheet, database and presentation software. Students will also be introduced to the Internet and e-mail essentials, file management and digital electronics. This course aligns with the Internet and Computing Core Certification (IC3), which demonstrates that a student has a clear understanding of the knowledge and application of computers and technology in the modern world.

MCSA (Microsoft® Certified Systems Administrator)

Vendor Certification Tracks

Several course offerings within the Division of Information Technology are directly aligned to industry-level certification exams. These courses not only allow you to earn credit toward your degree or certificate, but they also prepare you to take a targeted vendor exam to validate your knowledge and skills to a potential or current employer. For detailed information on specific exams or certifications visit the Cisco®, CompTIA®, Microsoft®, Pearson Vue, or Certiport websites for objectives, skill sets, and sample questions.

Course completion does not guarantee receipt of a state or national certification. State and National certifications are based on individual student abilities and performance.

Program Requirements

These courses, individually, lead to specific Microsoft certifications. Combined, they encompass all of the material needed to obtain the Microsoft Certified Systems Administrator Security certification.

IT 270 - Server I (3)

This course is a beginning course in server management. Domains include server architecture, server administration, storage, security, networking, disaster recovery, and troubleshooting. Topics include form factors and components, server roles, maintenance, virtualization, storage technologies, server hardening, protocols, IP addressing, disaster recovery principles and troubleshooting methodologies.

Prerequisite(s): IT 189 - Operating Sys Fundamentals (3)

IT 289 - Server II (3)

This course is the second course in server management. Domains include server architecture, server administration, storage, security, networking, disaster recovery, and troubleshooting. Topics include server roles, maintenance,

performance monitoring, virtualization, storage technologies, DNS, DHCP, IP addressing, print management, and group policies.

Prerequisite(s): IT 270 - Server I (3)

Medical Billing and Coding Program

This combined 80-hour billing and coding program offers the skills needed to resolve insurance billing problems, manually file claims using the ICD-10 and CPT-4 catalog procedures to complete common insurance forms, trace delinquent claims, appeal denied claims and use generic forms to streamline billing procedures. The program covers the following areas:

- CPT-4 (Introduction, Guidelines, Evaluation, and Management).
- Specialty fields (such as surgery, radiology, and laboratory).
- ICD-10 (introduction and guidelines).
- Basic claims processes for medical insurance and third party reimbursements.

Students will learn how to find the service and codes using CPT and ICD-10 manuals. After obtaining the suggested practical work experience (6 months to 2 years), students who complete this program could be qualified to sit for the American Academy of Professional Coders (AAPC) - Certified Professional Coder Exam (CPC or CPC - H Apprentice); the American Health Information Management Association (AHIMA) Certified Coding Associate (CCA) exam; and/or other National Certification Exams.

In light of new federal requirements for electronic medical records, the healthcare industry needs medical billers and coders now more than ever. Medical billing professionals keep records, calculate patient charges, and maintain files of payments made to accounts. If you seek a detail-oriented role in a healthcare setting, consider enrolling in our 13-week, part-time program today.

What are my career options?

As a medical biller and coder, you will use codes to keep track of patient illness, treatments, bills, and invoices. Work environments include hospitals, emergency rooms, or physicians' offices.

This course is eligible for college credit after the successful completion of the program.

Fee: \$1,899 (Textbooks included)

Course Contact Hours - 80 hrs.

Registration Information

This special program requires a separate registration process.

Contact:

Sue Reneker

304-260-4380 ext 2302

sreneker@blueridgectc.edu

CAHS 151 - Medical Coding/Billing (1-12)

This billing and coding course offers the skills needed to solve insurance billing problems, how to manually file claims (using the CPT and ICD-10 manual), complete common insurance forms, trace delinquent claims, (EOB's) and use generic forms (CMS 1500) to streamline billing procedures. The course covers the following areas: CPT (introduction, guidelines, evaluation, and management), specialty fields (surgery, radiology, and laboratory), ICD-10 (introduction

and guidelines) and basic claims processes for medical insurance and third-party reimbursement. Students will learn how to find the service codes using coding manuals (CPT and ICD-10) This course is eligible for college credit after successful completion of the program.

CCI Disclaimer

Program completion does not guarantee receipt of a state or national certification. State and National certifications are based on individual student abilities and performance.

MOS (Microsoft® Office Specialist)

Vendor Certification Tracks

Several course offerings within the Division of Information Technology are directly aligned to industry-level certification exams. These courses not only allow you to earn credit toward your degree or certificate, but they also prepare you to take a targeted vendor exam to validate your knowledge and skills to a potential or current employer. For detailed information on specific exams or certifications visit the Cisco®, CompTIA®, Microsoft®, Pearson Vue, or Certipoint websites for objectives, skill sets, and sample questions.

Course completion does not guarantee receipt of a state or national certification. State and National certifications are based on individual student abilities and performance.

Program Requirements

Below is a list of courses that corresponds to a professional exam.

CAS 210 - Outlook Complete (3)

This course uses a case method, problem-solving approach to learning the full scope of the features of Microsoft Office Outlook. Skills covered include creating and managing messages, scheduling appointments and events, creating and managing contacts, sending and managing tasks, and logging personal notes.

Prerequisite(s): CAS 111 - Information Literacy (3)

CAS 211 - Word Complete (3)

This course provides comprehensive training in the use of Microsoft® Office Word®. It is directly aligned with the Microsoft® Office Specialist certification exam which serves to validate an individual's skills and knowledge of the Office software. Topics covered include: creating and designing documents; incorporating table, charts, graphics, pictures and other media to enhance a document; and sharing, securing and printing documents.

Prerequisite(s): CAS 111 - Information Literacy (3)

CAS 212 - PowerPoint Complete (3)

This course provides comprehensive training in the use of Microsoft® Office PowerPoint®. It is directly aligned with the Microsoft® Office Specialist certification exam which serves to validate an individual's skills and knowledge of the Office software. Topics covered include creating and designing presentations, using charts, graphics, sound, and other media to enhance a presentation and sharing and delivering presentations.

Prerequisite(s): CAS 111 - Information Literacy (3)

CAS 213 - Excel Complete (3)

This course provides comprehensive training in the use of Microsoft® Office Excel®. It is directly aligned with the Microsoft® Office Specialist certification exam which serves to validate an individual's skills and knowledge of the Office software. Topics covered include creating and designing spreadsheets, using charts, graphics, formulas, protecting, sharing, and delivering spreadsheet presentations.

Prerequisite(s): CAS 111 - Information Literacy (3)

CAS 214 - Access Complete (3)

This course provides comprehensive training in the use of Microsoft® Office Access®. It is directly aligned with the Microsoft® Office Specialist certification exam which serves to validate an individual's skills and knowledge of the Office software. Topics covered include designing relational databases by creating, modifying, and using tables, queries, forms, and reports.

Prerequisite(s): CAS 111 - Information Literacy (3)

Pharmacy Technician Program

This comprehensive 60-hour program will prepare students to enter the pharmacy field and to take the Pharmacy Technician Certification Board's PTCB exam. Technicians work in hospitals, home infusion pharmacies, community pharmacies, and other healthcare settings while working under the supervision of a registered pharmacist. Course content includes medical terminology specific to the pharmacy, reading and interpreting prescriptions, and defining drugs by generic and brand names. Students will learn dosage calculations, I.V. flow rates, drug compounding, dose conversions, dispensing of prescriptions, inventory control, and billing and reimbursement.

As our population grows and ages, skilled pharmacy professionals must supply the demand. Within 10 weeks Fast Track training for pharmacy technician will prepare you to work in a pharmacy, performing substantial duties such as retrieving drugs in the correct dosage, form, and strength, filling prescriptions, and preparing medications for dispensing to patients. The program also prepares students to sit for the national certification exam.

What are my career options?

As a pharmacy technician, you will work in a pharmacy filling prescriptions under the direction of a pharmacist. You may choose to work in retail pharmacies, mail order pharmacies, home infusion pharmacies, as well as long-term care facilities, hospitals, and clinics.

This program is eligible for college credit after the successful completion of the program.

Fee: \$1,199 (Textbooks included)

Course Contact Hours - 60 hrs.

This is not a WV Board of Pharmacy accredited ASHP/ACPE program.

Registration Information

This special program requires a separate registration process.

Contact:
Sue Reneker
304-260-4380 ext 2302
sreneker@blueridgectc.edu

CAHS 152 - Pharmacy Technician (1–12)

This comprehensive course will prepare students to enter the pharmacy field and to take the Pharmacy Technician Certification Board's PTCB exam. Technicians work in hospitals, home infusion pharmacies, community pharmacies and other health care settings - working under the supervision of a registered pharmacist. Course content includes medical terminology specific to the pharmacy, reading and interpreting prescriptions and defining drugs by generic and brand names. Students will learn dosage calculations, I.V. flow rates, drug compounding, dose conversions, dispensing of prescriptions, inventory control billing and reimbursement. The pharmacy Technician Certification Program includes a graded final exam to help prepare students for the PTCB exam. This course is eligible for college credit after successful completion of the program.

CCI Disclaimer

Program completion does not guarantee receipt of a state or national certification. State and National certifications are based on individual student abilities and performance.

Phlebotomy Technician Program with Externship

The 180-hour Phlebotomy Technician with Externship Program prepares professionals to collect blood specimens from clients for the purpose of laboratory analysis. Students will become familiar with all aspects related to blood collection and develop comprehensive skills to perform venipunctures completely and safely. The 80-hour classroom work includes terminology, anatomy and physiology, blood collection procedures; specimen hands-on practice; and training in skills and techniques to perform venipuncture methods. This includes lab exercises, live blood draws, work with training arms and other exercises intended to prepare students to function as an entry-level Phlebotomy Technician.

This program also requires students to work in a CLIA approved laboratory setting and function under the direct supervision of a phlebotomist. The externship portion is one hundred (100) uncompensated hours in length to be completed within four weeks. Externship locations will be assigned to students by the Phlebotomy Externship Coordinator. Students are expected to perform a minimum of 100 successful blood collection procedures including venipunctures and dermal punctures. Successful completion may make the student eligible to sit for the ASCP Phlebotomy Certification exam.

What are my career options?

As a phlebotomy technician, you can pursue employment in a variety of settings, including hospitals, health centers, medical group practices, HMO's, public health facilities, veteran hospitals, and insurance carriers.

This program may be eligible for college credit after the successful completion of the program.

Fee: \$2,000 includes instruction, textbooks, classroom supplies, CPR class, Background check, and drug testing. Please note all students must submit to random drug testing and a Background Check before participating in the Externship. In addition, students must provide proof of valid/current BLS for Healthcare Providers, have documentation of a recent (within 6 months) physical, and provide proof of required immunizations.

Fee: \$2,000 (Textbooks included)

Course Contact Hours - 180 contact hours (80 didactic and 100 externship)

Registration Information

Registration Information: This special program requires a separate registration process. (You do not need to apply to the College.) Interviews are conducted by the Program Coordinator for selection into the program. At that time students will also schedule an Orientation Session with the Externship Coordinator. Both are required prior to registration for the program.

To schedule an interview contact:

Sue Reneker
304-260-4380 ext 2302
sreneker@blueridgectc.edu

CAHS 156 - Phlebotomy Tech w/Extern (10)

The Phlebotomy Technician w/ Externship prepares students to collect specimens for the purpose of laboratory analysis. Students will become familiar with all aspects of blood collection and develop skills to perform venipunctures completely and safely. The 80-hour classroom includes terminology, anatomy and physiology; blood collection procedures; hands-on practice; and training in skills and techniques to perform venipuncture. The Externship requires students to perform 100 hours in a CLIA approved laboratory setting and function under direct supervision of a phlebotomist. Externship sites will be assigned by the Phlebotomy Externship Coordinator.

CCI Disclaimer

Program completion does not guarantee receipt of a state or national certification. State and National certifications are based on individual student abilities and performance.

Course Descriptions

Accounting

ACCT 150 - Intro to Accounting Profession (1)

This course introduces students to the accounting profession and its role in business. The student will explore various fields of accounting and career paths. The purpose is for students to develop an understanding of career possibilities and professional accounting certifications.

ACCT 180 - Personal Finance (3)

This course offers a study of personal financial management. Students are equipped with the tools to make informed decisions related to spending, saving, borrowing, and investing to achieve financial goals now and in the future.

Prerequisite(s): MATH 100 - Math Essentials (3) or placement

ACCT 192 - Accounting Practicum (1)

This course will cover testing methodologies and study techniques to assist in preparing the student to sit for the QuickBooks Certified User Exam.

Prerequisite(s): ACCT 201 - Principles of Accounting I (3)
Corequisite(s): ACCT 280 - QuickBooks Accounting (3)

ACCT 199 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

ACCT 201 - Principles of Accounting I (3)

This course is a study of the fundamental theory and principles of accounting concepts for reporting financial information to business users. The course stresses the relationship between the rules by which financial statements are prepared and the use of financial statement information for decision making. This course covers accounting terms, organization of accounts, the accounting cycle, working papers, and financial statements. This study continues in ACCT 202 - Principles of Accounting II (3).

Prerequisite(s): MATH 100 - Math Essentials (3) or placement

ACCT 202 - Principles of Accounting II (3)

This course continues and concludes the fundamental study of financial accounting and then introduces the study of theory and principles of managerial and cost accounting concepts. The course stresses the use of accounting information for decision making and role of managerial accounting in a business environment. This course covers budgeting, costs systems, accounting for corporations, and financial statement analysis.

Prerequisite(s): ACCT 201 - Principles of Accounting I (3)

ACCT 215 - Small Business Accounting (3)

This course offers an introduction to some basic accounting practices for small businesses with application using accounting software. In this course, the student will be developing an accounting system for a small business and then using the system to manage the finances of a small business. This course covers accounting terms, basic accounting concepts, the accounting cycle, and financial statements.

Prerequisite(s): MATH 100 - Math Essentials (3) or placement

ACCT 220 - Payroll Accounting (3)

This course covers the underlying payroll theory, application, and compliance with various state and federal payroll regulations. Presents accounting systems and methods used in computing and recording payroll. Students will complete a comprehensive payroll simulation for a fictitious company's payroll activities for a full quarter, including payroll transactions, pay processing, and tax form completion.

Prerequisite(s): ACCT 201 - Principles of Accounting I (3)

ACCT 230 - Intermediate Accounting I (3)

This course is an in-depth study of the theory and principles, along with the application of accounting concepts for reporting financial information. The accounting conceptual framework, information systems and components of the financial statements will be emphasized. This study continues in ACCT 231 - Intermediate Accounting II (3).

Prerequisite(s): ACCT 202 - Principles of Accounting II (3)

ACCT 231 - Intermediate Accounting II (3)

This course is a continuation of ACCT 230 - Intermediate Accounting I (3). An in-depth study of the theory and principles, along with the application of accounting concepts for reporting financial information. The accounting conceptual framework, information systems and components of the financial statements will be emphasized. Specifically, this course will cover accounting theory and practice for assets, liabilities, and equity.

Prerequisite(s): ACCT 230 - Intermediate Accounting I (3)

ACCT 250 - Managerial Accounting (3)

This course is a focus on the fundamental concepts of managerial accounting. It includes the analysis of internal accounting information with emphasis on the use of such data for performance evaluation, control, cost analysis, capital budgeting, cash flows, and cost information.

Prerequisite(s): ACCT 201 - Principles of Accounting I (3)

ACCT 260 - Income Tax (3)

This course is a study of the Internal Revenue Code and regulations for individuals, partnerships, and corporations. It includes an in-depth study and application of the IRC for income, deductions, expenses and tax credits for individual and small business.

Prerequisite(s): ACCT 201 - Principles of Accounting I (3)

ACCT 261 - Individual Taxation (3)

This course introduces students to the basic issues and concepts of individual taxation principles. Students observe federal tax laws as applied to the preparation of the Form 1040 and related schedules. Tax preparation software is utilized for case projects.

Prerequisite(s): ACCT 201 - Principles of Accounting I (3)

ACCT 262 - Business Taxation (3)

This course introduces students to the fundamentals of tax law regarding business federal income taxation. Planning issues of estates and gift taxation are part of this course. Tax preparation software is utilized for case projects.

Prerequisite(s): ACCT 261 - Individual Taxation (3)

ACCT 280 - QuickBooks Accounting (3)

This course offers a study of the application of general purpose accounting software, Quick Books. In this course, the student will learn to create companies, enter and process data, generate reports and complete the accounting cycle for small businesses. Then the student will complete several comprehensive projects where they will create a new company, record transactions, and produce reports for various types of fictitious companies. The student will be required to take a national competency test, the Quick Books Certified User exam.

Prerequisite(s): ACCT 201 - Principles of Accounting I (3) and CAS 111 - Information Literacy (3)

ACCT 292 - Field Experience (3)

Field experience allows students to practice knowledge and essential skills learned in a real work setting beyond the boundaries of campus. Students will be required to complete 50 hours working in the field per credit hour enrolled and a required 1 credit live or online course. The course component will direct students in compiling an employment career portfolio. Must complete 50% of degree requirements.

ACCT 299 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

Agribusiness

AGRB 101 - Agribusiness Introduction (3)

This course presents a basic introduction to Agribusiness and Agriculture. Students will gain basic understanding of various topics in Agribusiness.

AGRB 110 - Introduction to Animal Science (3)

Students will survey the major disciplines in animal and veterinary sciences. Emphasis will be on terminology and the study of breeds of livestock and identification.

AGRB 112 - Intro to Equestrian Science (3)

Students will focus on the basic understanding of equine science and management. Topics will include the history and future of equine, breeds, health and basic management.

AGRB 113 - Intro to Swine Production (3)

Students will focus on the basic understanding of swine science production and management. Topics will include breeding, health, and overall management.

AGRB 114 - Intro Poultry, Goats, & Llamas (3)

Students will study poultry, goats, and llamas. Emphasis will be on terminology, the study of breeds, and identification.

AGRB 115 - Intro to Cattle Production (3)

Students will focus on the basic understanding of cattle science, production and management. Topics will include breeding, health, and overall management.

AGRB 116 - Companion Animal Science (3)

Students will explore the basic physiology, nutrition, and genetics of companion animals. This course will also explore basic handling, training, behavior and health issues.

AGRB 120 - Intro to Food Production (3)

This course will provide training in food production management with emphasis on large and small-scale food preparation and kitchen operations.

AGRB 122 - Farm to Table & Microgardens (3)

Students will learn the basics of creating microgardens and the fundamentals to produce products almost anywhere. Students will also study how to take their product from the farm to the table.

AGRB 124 - Licensing and Food Safety (3)

Students will study the approved procedures for food safety to include handling of utensils and equipment, food protection, and hygiene. Study will also include discussions in state licensing guidelines.

AGRB 126 - Sustainable Agriculture (3)

Students will study techniques such as crop rotation, soil fertility, erosion prevention, and limiting pests. Larger and more productive harvests are the ultimate goal.

AGRB 128 - Intro to Crop Production (3)

Students will focus on the basic understanding of crop science, production, rotation, and protection. Topics will include types of crops, types of pesticides, and modern rotation practices.

AGRB 130 - Customer Service Excellence (3)

Students will experience what it means to give and receive excellent customer service. Tips, tricks, and techniques from the nation's best companies will be shared.

AGRB 140 - Agribusiness Marketing (3)

This course will introduce concepts in Agriculture marketing. Students will examine the links between producers and consumers and rapidly changing factors that affect the marketplace.

AGRB 150 - Agribusiness Management (3)

This course will provide an overview of the agribusiness decision-making processes. Financial statements and budgeting will be analyzed.

AGRB 160 - Intro to Farm Equipment (3)

Students will study and learn about basic farm equipment. Repair and safety techniques will be taught to assist the student with basic machine repairs.

AGRB 170 - Agricultural Govt Relations (3)

This course presents an introduction to government and the influence that governmental policies and regulations have on today's agriculture. Students will gain an understanding of government policies and regulations and the relationships with these entities and how they impact agriculture.

AGRB 180 - Landscape Design (3)

Students will learn how to design and layout the steps for planning a landscape. The primary focus of this course will be the fundamentals of landscape design and site analysis. Upon successful completion, students will be able to prepare a basic landscape design for future customers.

AGRB 181 - Intro to Landscape Plants (3)

Students will learn to identify landscape plants and expand knowledge to select the correct plant, site, and purpose. Students will understand that care and disease protection of plants are crucial in longevity designs.

AGRB 182 - Intro to Trees & Shrubs (3)

Students will learn to identify landscape trees and shrubs to expand knowledge and understanding of proper tree selections for site and purpose. Students will also understand proper planting and installation.

AGRB 183 - Landscape Accessories (3)

Students will learn about the "extras" that make landscape design unique to each customer. Topics include pond creation, patios, lighting, retaining walls, outdoor entertaining spaces, and water features. Students will learn how to incorporate these "extras" into landscape design projects.

AGRB 199 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

AGRB 210 - Princ of Animal Science (3)

Students will survey the major disciplines in animal and veterinary science. Emphasis will be on terminology and the study of different breeds and identification.

AGRB 212 - Princ of Equine Science (3)

Students will focus on the understanding of equine science and management. Topics will include history and future of equine breeds, health and management.

Prerequisite(s): ENGL 101 - ~English Composition I (3) or ENGL 110 - ~Technical Writing & Communication (3)

AGRB 217 - Animal Nutrition (3)

Students will study, learn and practice basic animal nutrition for a variety of animal breeds. Course will include lecture and practical experience.

Prerequisite(s): MATH 101 - ~Introduction to Mathematics (3)

AGRB 226 - Princ of Sustainable Ag (3)

Students will study techniques such as crop rotation, limiting pests, soil fertility and erosion prevention. Larger and more productive harvests are the goal.

AGRB 228 - Princ of Crop Production (3)

Students will focus on crop science, production, rotation and protection of crops. Topics will include types of crops, types of pesticides and modern rotation principles.

AGRB 240 - Agribusiness Marketing (3)

This course will introduce concepts in agriculture marketing. Students will examine the links between producers and consumers and the rapidly changing factors that affect the marketplace.

AGRB 250 - Principles of AGRB Mgmt (3)

This course will provide an overview of the agribusiness decision-making processes. Financial statements and budgeting will be analyzed.

AGRB 270 - State and Local Government (3)

This course presents an introduction to state and local governments and the influence and impacts each entity has on the agriculture industry today. Students will gain an understanding of regulations, relationships, and differences in how state and local governments are operated and the independent influence of each on today's agriculture.

AGRB 280 - Advanced Landscape Design (3)

Students will learn to create complex landscape designs. Students will practice combining mixed concepts into a design and learn how to work within environmental constraints.

AGRB 281 - Pest Management (3)

Students will learn to identify pests, recognize and control diseases, weeds, and insect issues. Pesticide use and alternate methods will be discussed. Pesticide certification will be reviewed; however, students will not gain certification in this course.

AGRB 292 - Agribusiness Internship (1-4)

The course represents approved internship opportunities in Agribusiness.

Prerequisite(s): AGRB 101 - Agribusiness Introduction (3)

AGRB 299 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

Applied Laboratory Technician

LTEC 101 - Laboratory Technician I (4)

This course is the introductory course to chemistry concepts. This course will also introduce instrumentation, industrial processes and the science that is needed to be a successful Applied Laboratory Technician.

Corequisite(s): MATH 100 - Math Essentials (3) or placement

LTEC 102 - Laboratory Technician II (4)

This course will continue the discussion of chemistry concepts with a focus on molecular compounds, chemical reactions, acids & bases, and an introduction to organic chemistry concepts. A WorkKeys NCRC Certificate Examination will be conducted at the end of this course.

LTEC 111 - Laboratory Technician III (2)

This course presents a basic introduction to industrial safety health and environmental health concepts. Students will be able to discuss and recognize the various hazards that exist in a manufacturing environment. The students will discuss the remediation of spills and unsafe conditions. This course will provide OSHA 30 General Industry certification that will include OSHA's history.

LTEC 112 - Laboratory Technician IV (3)

Students will continue with basic laboratory principles and will be able to use various types of analytical equipment that an applied laboratory technician will operate in a manufacturing setting. The student will be able to identify various types of process equipment and describe what each piece of equipment does within the manufacturing process.

LTEC 120 - Biology for Technicians I (4)

This course will introduce Applied Laboratory Technician, A.A.S. students to cells, genetics, and evolution & diversity with an emphasis on laboratory applications and techniques. Topics include cell structure, patterns of inheritance, and evolution of microbial life. Students will also be able to function successfully within laboratory settings, including the use of basic equipment (microscopes, measurement devices, and computer technologies), as well as utilizing appropriate safety protocols for manufacturing quality control. This course has an emphasis on biological topics needed for quality control/ quality assurance in microbiologic laboratories.

LTEC 121 - Biology for Technicians II (4)

This course is a continuation of LTEC 120 - Biology for Technicians I (4) for students in the Applied Laboratory Technician, A.A.S. This course will introduce students to ecology and animal structure & function with an emphasis on laboratory applications and techniques. Topics include communities and ecosystems and nervous, sensory, and locomotor systems. Students will also be able to function successfully within laboratory settings including the use of basic equipment (microscopes, measurement devices, and computer technologies), and utilize appropriate safety protocols for manufacturing quality control. This course has an emphasis on quality control/quality assurance within manufacturing for biology.

Prerequisite(s): LTEC 120 - Biology for Technicians I (4)

LTEC 140 - Process Quality (2)

This course will describe the concepts and tools that manufacturers use for quality control in a manufacturing setting. The students will be able to describe the different management systems that are used to develop a quality control program. The students will be able to develop and interpret quality control charts.

LTEC 141 - Analytical Instrumentation (3)

The students will further explore the different analytical testing methods that are used in the industry. The students will be able to complete testing on FT-IR, Spectrophotometer, HPLC, and GC-MS instruments.

LTEC 143 - Process Technology-Operation (3)

This course will discuss the following topics: procedure writing, communication, shift change, maintenance, and other topics that Applied Laboratory Technicians and Quality Control Technicians must understand.

LTEC 144 - Process Technology-Systems (3)

Applied Laboratory Technician students learn the many different systems that an applied laboratory technician will encounter including, but not limited to, water systems, electrical systems, and refrigeration systems.

LTEC 150 - Precision Measurement and QC (2)

This course provides the study measuring tools used in manufacturing. This course will provide the student with proficiency in using and reading measuring devices used in manufacturing settings.

LTEC 160 - Water Operator I (3)

This course prepares students to take the West Virginia Water Operator I test. The test is administered by the State of West Virginia by Environmental Engineering Division District Office.

LTEC 161 - Waste Water Operator I (3)

This course prepares students to take the West Virginia Waste Water Operator I test. The test is administered by the State of West Virginia by Environmental Engineering Division District Office.

LTEC 199 - Special Topics (1-4)

A special topic (ST) course has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

LTEC 200 - Microbiology for Technicians (4)

This course is for Applied Laboratory Technology A.A.S. students and is an introduction to general microbiology for microbiology manufacturing technicians with an emphasis on manufacturing applications and techniques. Overview of cell structure, cell metabolism, genetics, bacterial growth & control, bacterial cultivation, bacterial isolation, bacterial classification, identification of the major groups of bacteria, and identification of infections and immunity; as these topics apply to quality control in manufacturing. The course includes an introduction to viruses, protozoa, fungi, and algae. In both the laboratory and lecture, students will demonstrate an understanding of basic microbiology as it applies to quality control in manufacturing. Students are introduced to safety procedures specific to microbiology laboratory procedures. Students will demonstrate basic laboratory skills and application of these skills performing lab

based activities.

Prerequisite(s): LTEC 121 - Biology for Technicians II (4)

LTEC 201 - Industrial Microbiology (4)

In this course for Applied Laboratory Technology A.A.S. students, students will be able to understand the physiology, nutrition, and growth of microorganisms that are important to various industries. Microbiological safety procedures are also emphasized. Students learn diseases specific to laboratory production workers. The students will also understand how to control microbial growth in industrial production processes and also understand the application of microorganisms in the production of cells, primary and secondary metabolites.

Prerequisite(s): LTEC 200 - Microbiology for Technicians (4)

LTEC 211 - Federal Lab Safety & Regs (3)

This course is for Applied Laboratory Technician, A.A.S. students. This course will build on the knowledge gained in LTEC 111 - Laboratory Technician III (2) with an emphasis on manufacturing applications and techniques. The students will be asked to apply some of the safety concepts learned in LTEC 111 - Laboratory Technician III, like handling equipment safely, handling, storing and disposing of chemicals safely, using emergency equipment; as well as safety planning. This course will also discuss OSHA's Laboratory Safety Guidance document and 29 CFR 1910 as it pertains to laboratory safety. The students will be able to discuss all the physical, chemical, and biological hazards discussed in OSHA's Laboratory Safety Guidance document.

Prerequisite(s): LTEC 111 - Laboratory Technician III (2)

LTEC 255 - Advanced QC: GxP (3)

This course addresses the key components of GxP and its implementation. Topics include SOPs, work instructions, data collection forms, and document templates, and maintaining a laboratory notebook. The fundamentals of change control and document management are discussed, including the importance of having supportive documents, such as raw data and training records.

LTEC 292 - Internship (1-4)

Students obtain practical experience in the chemical manufacturing industry, chemical laboratory, or water treatment industry. The student engages in on-the-site activities of a practical nature. Interns learn how to translate classroom theory and methods into professional skills. Activities are under the supervision of trained personnel. Application for the internship must be made to the Applied Laboratory Technician program manager.

Prerequisite(s): LTEC 101 - Laboratory Technician I (4) and LTEC 102 - Laboratory Technician II (4)

LTEC 299 - Special Topics (1-4)

A special topic (ST) course has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

Apprenticeship

APTR 101 - ACDS:Intr Child Developmnt I (5)

This course introduces students to the foundations of early childhood professions principles and practices including basic child and classroom observations. The course highlights health, safety, and nutrition relating to early childhood and WV licensing laws that pertain to these areas. Students can identify cognitive, emotional, and social appropriate development.

APTR 102 - ACDS:Planning for Whole Child (5)

This course emphasizes respecting cultural diversity among children and families. Students explore how to enhance cognitive development in young children and how to support emotional development. Students begin classroom management and learn the value of print-rich classrooms. Observation skill practice continues.

APTR 103 - ACDS:Facilitation of Learning (5)

This course emphasizes family and community engagement skills including verbal and non-verbal communication. Child development continues with a focus on language, literacy, mathematics, science, and arts inquiry. Students learn to prepare a lesson plan and can define the currently popular approaches to learning. Students learn challenging behavior management.

APTR 104 - ACDS:Becoming Independent (5)

This course prepares early childhood professionals to advocate for children and their families and the profession. Students learn the WV licensing law and WV afterschool program standards. Students learn to identify students with exceptionalities and disabilities.

APTR 105 - Apprenticeship in Child Development (1-10)

This course provides the apprentice with 4,000 hours of supervised on-the-job training in participating childcare programs. Formal instruction is integrated with direct experience in early education settings where apprentices reflect and critically analyze their experiences. A portfolio is used to document the apprentice's learning/work throughout the apprenticeship program.

Art

ART 103 - ~Introduction to Visual Arts (3)

This is an introductory course designed to survey prehistoric to contemporary visual art forms, giving insight into their nature and their relationships to the human condition. The course includes a study of the functions of various forms of art in which students are exposed to a variety of visual arts experiences to promote a deeper understanding of and appreciation for the role of the visual arts throughout human history and in contemporary society.

ART 105 - Creativity, Color, & Design I (3)

This is a foundational course which introduces and explores human creativity, the creative process, color theory, color formulation, design, composition, and the roles of creativity, including therapeutic, in personal life, society, and industry. Classroom and home studio exercises enable students to explore materials, approaches, and principles of creativity, color, composition, design, and execution. Individuals gain self-identity and a working understanding of creativity, art media, and personal aesthetics. Note: NO prerequisites. This course is open to all; no previous visual art training or experience is necessary.

ART 115 - Drawing I (3)

This course introduces general drawing and compositional principles. Students will train their eyes and hands, develop powers of observation, and learn to translate what they see on to paper. A variety of materials will be used: charcoal, pastel, and pencil. Drawing techniques covered are gestural line, contour "blind" drawing, still life, perspective. Students will focus on the elements of good drawing such as proportion, shading and modeling, line, and composition. As skills develop, students explore the expressive potential of different materials. Students will also look at various works of art to critique and analyze their composition/historical value and develop a portfolio of their studies and drawings.

Pre-requisite/Co-requisite(s): Students are responsible for purchasing art supplies.

ART 199 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

ART 205 - Creativity, Color, & Design II (3)

This course continues to provide foundations and explore personal creativity, the creative process, color theory and psychology, color formulation, design, and the roles of creativity, including therapeutic, in personal life, society, and industry. The course emphasizes self-discovery and personal creative expression. Classroom and home studio exercises enable students to explore materials, methods, principles of color, composition, design, execution, and presentation to gain self-identity, personal freedom, and a working understanding of art media, personal aesthetics, and presentation. Works from this class are exhibited at Blue Ridge CTC and at the Berkeley Art Works in Martinsburg, giving "hands-on" exhibit and portfolio-building experience. Note: Neither ART 105 nor prior art training is a prerequisite for ART 205.

ART 206 - Creat, Color, & Design III (3)

This third level elective utilizes longer studio atmosphere class meetings to explore human creativity in-depth and receive mentoring in sync with personal interests. Practitioners engage with media of their choice, conceptualize and exercise their own creativity, explore their own aesthetics and creative process and produce at least four finished, presentable artworks. Using a "studio reference" type text, the instructor/mentor also further grounds students in color and design theory and psychology, composition, electronic media platforms, and the role and application of creativity in lifelong learning. ART 206 is designed to complement and support ART 103, ART 105, ART 205, MDIA 121 and other design-related courses.

Prerequisite(s): ART 205 - Creativity, Color, & Design II (3)

ART 215 - Drawing II (3)

This course is a continuation of Drawing I with an introduction to color dynamics and precision drawing as used in creative expression with an emphasis on composition. Students become more skilled with visual elements and drawing principles. A broader range of materials and techniques will be used. Subject matter will include still life, landscape, and imagined subjects. It is expected that students will spend a minimum of three additional clock hours per week on work outside the scheduled class time for each studio class.

Pre-requisite/Co-requisite(s): Students are responsible for purchasing art supplies.

ART 299 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

Allied Health Science

CAHS 105 - Science for Allied Health (3)

This is a one-semester preparatory course designed for students who plan to enroll in Allied Health courses in the future. The course reviews basic principles of chemistry, cell biology, cell processes, and basic math skills with applications to biology and chemistry. Reading, writing, and study skills are emphasized throughout the course.

CAHS 140 - Intro to Healthcare (3)

This course is a foundation course for selected Allied Health programs. The course introduces students to a variety of health occupations and assists students in acquiring the basic knowledge skills, and professional behaviors needed to work and interact with clients in a healthcare setting.

CAHS 141 - Intro to Pharmacology (3)

This course provides information on a variety of medications that are commonly administered in the healthcare setting. Major drug categories associated with body systems will be reviewed. Students will learn about drug pharmacokinetics, dosage, preparation, administration and interactions.

Prerequisite(s): MATH 100 - Math Essentials (3) or placement

CAHS 142 - Pathophysiology of Disease (3)

Pathophysiology of diseases will build upon previously learned knowledge of normal anatomy and normal physiology. This course will discuss pathologies and abnormalities that are deviations from the norm. For all pathologies, we will discuss causes, signs and symptoms, diagnosis, diagnostic tests, treatments, and prognosis. The pathologies will be organized according to the body system, including cardiovascular, respiratory, immune, gastrointestinal, urinary, reproductive, endocrine, nervous, musculoskeletal, and integumentary. Other topics will include infectious diseases, neoplasms, hereditary diseases, diseases of the blood, and mental/cognitive disorders.

CAHS 143 - Spanish for Healthcare (3)

Medical Spanish for HealthCare Providers has been designed for healthcare practitioners and all individuals who interact with Hispanic patients who have limited English communication skills. Emphasis will be placed on communication and phrases needed to complete a patient assessment, and explain medical procedures.

CAHS 150 - EKG Technician (1–12)

This comprehensive Certified EKG Technician Program prepares students to function as EKG/Cardiovascular Technicians and to take the American Society of Phlebotomy Technician (ASPT) - Electrocardiograph (EKG) Technician exam in addition to other National Certification Exams. This course will include important practice and background information on the anatomy of the heart and physiology, medical disease processes, medical terminology, medical ethics, legal aspects of patient contact, laboratory assisting, respiratory therapy assisting, electrocardiology and echocardiology. Additionally, students will practice with equipment and perform hands-on labs including introduction to the function and proper use of the EKG machine, the Holter monitor, the normal anatomy of the chest wall for proper lead placement, echocardiology, 12-lead placement and other clinical practices. EKG Technicians also analyze

printed readings of EKG test, measuring various "peaks and troughs" and determining normal vs. abnormal EKG. The EKG/Cardiovascular Technician Certification Program includes a graded final exam to help prepare students for the ASPT-EKG Technician Exam. This course is eligible for college credit after successful completion of the program.

CAHS 151 - Medical Coding/Billing (1–12)

This billing and coding course offers the skills needed to solve insurance billing problems, how to manually file claims (using the CPT and ICD-10 manual), complete common insurance forms, trace delinquent claims, (EOB's) and use generic forms (CMS 1500) to streamline billing procedures. The course covers the following areas: CPT (introduction, guidelines, evaluation, and management), specialty fields (surgery, radiology, and laboratory), ICD-10 (introduction and guidelines) and basic claims processes for medical insurance and third-party reimbursement. Students will learn how to find the service codes using coding manuals (CPT and ICD-10) This course is eligible for college credit after successful completion of the program.

CAHS 152 - Pharmacy Technician (1–12)

This comprehensive course will prepare students to enter the pharmacy field and to take the Pharmacy Technician Certification Board's PTCB exam. Technicians work in hospitals, home infusion pharmacies, community pharmacies and other health care settings - working under the supervision of a registered pharmacist. Course content includes medical terminology specific to the pharmacy, reading and interpreting prescriptions and defining drugs by generic and brand names. Students will learn dosage calculations, I.V. flow rates, drug compounding, dose conversions, dispensing of prescriptions, inventory control billing and reimbursement. The pharmacy Technician Certification Program includes a graded final exam to help prepare students for the PTCB exam. This course is eligible for college credit after successful completion of the program.

CAHS 154 - Dental Assisting (1–12)

The Dental Assisting program prepares students for entry-level positions in a variety of healthcare settings including dental offices, hospitals, and other similar facilities, familiarizing the student with all areas of pre-clinical dental assisting and training in the professional skills required to function as an assistant in the dental practice. It covers the following key areas and topics - Administrative aspects: the history of dentistry and dental assisting; introduction to the dental office; the legal aspects of dentistry and dental assisting; policies and guidelines. Clinical aspects: an introduction to oral anatomy; dental equipment, operation, and maintenance; introduction to tooth structure; primary and permanent teeth; the oral cavity and related structures; proper patient positioning; dental handpieces; dental anesthesia; sterilization; maintaining sterility and asepsis. This program does not include a national or state certification objective which in most states require 1 to 2 years of training or education. This course is eligible for college credit after successful completion of the program.

CAHS 156 - Phlebotomy Tech w/Extern (10)

The Phlebotomy Technician w/ Externship prepares students to collect specimens for the purpose of laboratory analysis. Students will become familiar with all aspects of blood collection and develop skills to perform venipunctures completely and safely. The 80-hour classroom includes terminology, anatomy and physiology; blood collection procedures; hands-on practice; and training in skills and techniques to perform venipuncture. The Externship requires students to perform 100 hours in a CLIA approved laboratory setting and function under direct supervision of a phlebotomist. Externship sites will be assigned by the Phlebotomy Externship Coordinator.

CAHS 171 - Advanced Patient Care (4)

This hands-on course is designed to provide skills and performance for providers working in a healthcare setting. Students will demonstrate patient care skills maintaining safety, comfort, and caring behaviors while applying appropriate standards of care.

CAHS 199 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

CAHS 206 - HC Law & Ethics (3)

This course introduces the complex legal, moral, and ethical issues involved in providing healthcare services. Emphasis is placed on the legal requirements of healthcare professionals; HIPPA regulations; the role of documentation and ethical completion. Upon completion, students should be able to demonstrate a working knowledge of current medical law and accepted ethical behavior.

CAHS 299 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

Biology

BIOL 100 - The Human Body (3)

This is a survey course of basic Human Anatomy & Physiology. It is designed for students who need a rudimentary understanding of the human body and its organ systems but not in the detail that would be expected of a selective admissions healthcare program. This course will not substitute for BIOL 120 - ^Human Anatomy & Physiology I (3), BIOL 121 - ^Human Anatomy & Phys I Lab (1), BIOL 122 - ^Human Anatomy & Physiology II (3), or BIOL 123 - ^Human Anatomy & Phys II Lab (1).

BIOL 101 - ^General Biological Science I (4)

This is semester one of a two-semester general biology course which, with BIOL 102, satisfies the Liberal Arts science requirement. This is an integrated lecture and laboratory course dealing with both plants and animals, related to our environment from molecule to biosphere. This course focuses on molecular and cellular biology, patterns of inheritance and genetics, biotechnology, and mechanisms of evolution.

BIOL 102 - ~General Biological Science II (4)

This is semester two of a two-semester general biology course which, with BIOL 101, satisfies the Liberal Arts science requirement. This is an integrated lecture and laboratory course dealing with both plants and animals, related to our environment from molecule to biosphere. This course focuses on plant and animal structure and function, the dynamics of populations, communities and ecosystems, and human impact on the biosphere.

Prerequisite(s): BIOL 101 - ^General Biological Science I (4)

BIOL 120 - ^Human Anatomy & Physiology I (3)

This is course one in a two-course sequence that provides a detailed review of the human organism. It will provide a brief overview of the human body and the chemical basis for activities occurring within the body, a detailed review of the cell, tissues, the integumentary, skeletal, muscular, and nervous systems as well as an overview of the human senses.

Corerequisite(s): BIOL 121 - ^Human Anatomy & Phys I Lab (1)

BIOL 121 - ^Human Anatomy & Phys I Lab (1)

This is a laboratory course in human anatomy and physiology to be taken concurrently with BIOL 120.

Corerequisite(s): BIOL 120 - ^Human Anatomy & Physiology I (3)

BIOL 122 - ^Human Anatomy & Physiology II (3)

This is the second course in a two-course sequence that provides a detailed review of the human organism. This course provides a detailed review of cardiovascular, lymphatic, immune, respiratory, digestive, urinary, and reproductive systems.

Prerequisite(s): BIOL 120 - ^Human Anatomy & Physiology I (3) and BIOL 121 - ^Human Anatomy & Phys I Lab (1)

Corerequisite(s): BIOL 123 - ^Human Anatomy & Phys II Lab (1)

BIOL 123 - ^Human Anatomy & Phys II Lab (1)

This is a laboratory course in human anatomy and physiology to be taken concurrently with BIOL 122.

Prerequisite(s): BIOL 120 - ^Human Anatomy & Physiology I (3) and BIOL 121 - ^Human Anatomy & Phys I Lab (1)

Corerequisite(s): BIOL 122 - ^Human Anatomy & Physiology II (3)

BIOL 199 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

BIOL 220 - Microbiology (3)

This is a course for students in the health and life science to be taken concurrently with the 1-credit laboratory. The course will emphasize the impact of microorganisms on human health and disease, including identification and control pathogens, the mechanisms of pathogenicity and disease transmission, host resistance, and immunity. Other aspects of microbiology will also be considered, including basic microbial metabolic activities and their role in nutrient cycling and as experimental subjects; biotechnology and recombinant DNA will be introduced.

Prerequisite(s): CHEM 125 - ~Introduction to College Chemistry (4) or CHEM 127 - ~General, Organic & Biochem I (4)

Corerequisite(s): BIOL 221 - Microbiology Lab (1)

BIOL 221 - Microbiology Lab (1)

This is a laboratory course in microbiological identification and experimentation techniques to be taken concurrently with BIOL 220.

Prerequisite(s): CHEM 125 - ~Introduction to College Chemistry (4) or CHEM 127 - ~General, Organic & Biochem I (4)

Corerequisite(s): BIOL 220 - Microbiology (3)

BIOL 299 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

Business

BUSN 101 - Introduction to Business (3)

This course provides an overview of the complex building blocks of business including administration, management, finance, labor, marketing, law, and ethics. These aspects are considered in reference to local and global markets, e-commerce, and evolving technology and trends.

BUSN 108 - Business Etiquette & Image (3)

This course provides students a hands-on opportunity to develop the professional image needed to succeed in business. Activities range from the handshake and making introductions to telephone etiquette and table manners. Topics also include professional dress, conduct at work, managing technology, networking, interviewing, and resume development.

BUSN 120 - Principles of Sales I (3)

This course is an introduction to the principles of selling, the role of the professional salesperson in the marketing process, and sales management. The importance of relationship building and ethical behavior are stressed as students develop techniques for prospecting and qualifying buyers, identifying and overcoming objectives, and closing a sale. Characteristics of the local, as well as the global market, are discussed.

BUSN 125 - Customer Service Management (3)

This course goes beyond just talking about service to analyzing the strategies that enable a business to attract, satisfy, and retain customers profitably. The focus is not identifying service problems but solving them. Students discover the importance of management, communication, and training and demonstrate meeting customers' needs.

BUSN 160 - Organizational Behavior (3)

This course examines the behavior of individuals and individuals in groups in organizations, and how the two affect the overall performance of an organization. Students consider the impact of individual attitude, motivation, job satisfaction, and communication on the organization. Group dynamics, leadership, organizational culture, and change are also addressed.

BUSN 165 - Consumer Behavior (3)

This course studies the complex nature of buying decisions and how attitudes and perceptions, social class and family status, and technology and marketing influence those decisions. Consumers are considered as an individual and as members of groups making decisions on sales, advertising, and new product development. Students learn to be more effective marketing managers as well as more savvy consumers.

BUSN 175 - Human Resource Management I (3)

This course covers the components of human resource management from organizational assessment to manpower planning including recruitment and selection, training and development, and evaluation and compensation. The impact of employment laws, ethical considerations, global competition, and rapid technological advances on small and large organizations are also considered.

BUSN 199 - Special Topics (1-4)

Special topic courses may be offered from time to time dependent upon current trends, employer needs, and student interests. The course description, objectives, and credit hours for each will vary based upon the topic and schedule.

BUSN 201 - Principles of Management (3)

This course examines the basic functions of management – planning, organizing, coordinating, and controlling - in a business organization. Students study management theory and practice in order to identify their own management style and appreciate the complex nature of management. The impact of social responsibility, corporate culture, and technological advances on management are also considered.

BUSN 205 - Business Ethics (3)

This course considers business actions and decisions in relation to moral principles and values. Beginning with an introduction to ethical theory and personal credo, students apply a systematic approach to ethical decision making. That approach is then applied to business situations involving employee relations, consumer affairs, finance, government, and international competition. The role and expectations of business in society, both locally and globally, are discussed.

BUSN 213 - Small Business Fundamentals (3)

This course examines the opportunities and challenges of starting a small business. Various business entities will be explored as ways to start a new business. Other topics covered include financing a new business, partnerships, liability and risk, and franchising with a major emphasis on starting and growing the business.

BUSN 217 - Small Business Dev Plan (3)

Students will work with an existing business to create a new business plan or a local business person to create a new business. The outcome will be a full and detailed business plan that is viable. The plan will be pitched to the owner/idea generator for feedback and acceptance.

Prerequisite(s): BUSN 213 - Small Business Fundamentals (3)

Pre-requisite/Co-requisite(s): FINC 215 - Small Business Finance (3)

BUSN 220 - Principles of Sales II (3)

This class is a continuation of BUSN 120 - Principles of Sales I (3). Overall goals include honing sales techniques, dealing with rejection, meeting sales goals and performance in a sales career.

Prerequisite(s): BUSN 120 - Principles of Sales I (3)

BUSN 231 - Marketing (3)

This course provides an in-depth study of the four pillars of marketing: product, price, placement, and promotion. These aspects are considered in reference to local and global markets, e-commerce, and evolving technology and trends. Students put newly acquired knowledge to work in the development of a marketing plan.

BUSN 234 - Social Media Marketing (3)

Social media has changed the way businesses now attract and retain customers. Students will learn how businesses have adapted to the internet in order to sell their product and services.

BUSN 245 - Advertising (3)

This course addresses the basic theories, processes, and techniques of the most visible aspect of marketing communications. Local and global markets, e-commerce, and evolving technology and trends are considered as students plan and implement a successful advertising campaign using a variety of media vehicles.

BUSN 250 - Management and Leadership (3)

This course empowers students to assess their leadership potential by studying successful leaders of the past and present. With a focus on business, students consider the skills required to set goals for an organization and direct the actions of others to achieve them.

BUSN 255 - Teamwork & Managing Teams (3)

This course examines how managers create, develop, and maintain quality, high-performance teams in the workplace. Students work in teams throughout the semester to develop skills relevant to the individual and team performance. Topics include creating the culture for teamwork, team dynamics, team problem solving, and managing teams.

BUSN 273 - Human Resources Management II (3)

This class is more in depth of BUSN 175 - Human Resource Management I (3). Topics include collective bargaining, small and large HR considerations, benefits, layoffs and other crises in HR.

Prerequisite(s): BUSN 175 - Human Resource Management I (3)

BUSN 277 - HR Compensation & Benefits (3)

This course covers concepts such as retirement plans-self funded and company funded, 401 (k)'s, insurance, IRA's, and Social Security. Students will also work on planning to implement benefits for a company.

Prerequisite(s): BUSN 175 - Human Resource Management I (3)

BUSN 280 - Business Information Systems (3)

Introduction to the use of computers in data and document management as a problem-solving tool for business; fundamental concepts of information technology and theory; opportunities to use existing application software to solve various business information systems oriented problems.

BUSN 292 - Field Experience (1-6)

This course serves as the capstone in experiential learning for Business majors. Students work a minimum of 100 hours in a professional business environment applying their academic learning while gaining real-world experience and career development. To register, students must have completed 45 credit hours of the requirements for an associate degree, have a 2.0 overall GPA, and receive prior approval from the instructor of the course.

Prerequisite(s): Students must have completed 45 credit hours of the requirements for an associate degree, have a 2.0 overall GPA, and get prior approval from the Field Experience facilitator.

BUSN 294 - Business Practicum (1-6)

For Business majors already working full-time in an approved professional business environment, this course serves as the capstone in experiential learning. Students apply their academic learning to a minimum of 150 hours of special projects or expanded responsibilities on the job acquiring new skills and expanding career development.

Prerequisite(s): Students must have completed 45 credit hours of the requirements for an associate degree, have a 2.0 overall GPA, and get prior approval from the Practicum facilitator.

BUSN 295 - Capstone Research (1)

This class is taken in the final semester of the students studies. The student will define a problem in their concentration, apply research techniques to look for ways to solve the problem and offer a solution.

Prerequisite(s): Students must have completed 45 credit hours of the requirements for an associate degree, have a 2.0 overall GPA, and get prior approval from the Capstone facilitator.

BUSN 299 - Special Topics (1-4)

Special topic courses may be offered from time to time dependent upon current trends, employer needs, and student interests. The course description, objectives, and credit hours for each will vary based upon the topic and schedule.

Catering & Hospitality Mgmt

HOSP 199 - Special Topics (1-4)

A special topics course (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

HOSP 210 - Hosp & Restaurant Management (2)

Students will be introduced to all aspects of restaurant and hospitality management. Students will complete a business plan including staffing, budgeting, and daily operations of a restaurant or hospitality related business.

Prerequisite(s): BUSN 101 - Introduction to Business (3) and CART 100 - Intro Culinary Food Service (2)

HOSP 220 - Controlling Food Costs (2)

Students will be introduced to all aspects of food costing. Students will be introduced to how to establish food cost parameters for restaurant menus and catering functions. Topics will also include how to evaluate the food cost of menu items to keep food costs in line as market prices fluctuate.

Prerequisite(s): BUSN 101 - Introduction to Business (3) and CART 100 - Intro Culinary Food Service (2)

HOSP 240 - Culinary Customer Service (2)

Culinary Customer Service will introduce students to all aspects of professional and consistent customer service skills. Students will also be exposed to different types of customer service interactions in the culinary industry.

Prerequisite(s): BUSN 101 - Introduction to Business (3) and CART 100 - Intro Culinary Food Service (2)

HOSP 258 - Hosp & Restaurant Marketing (3)

Students will be introduced to all aspects of hospitality and restaurant management. Students will also be exposed to marketing methods distinct to the restaurant and hospitality industry. Concepts of social media and digital marketing will also be introduced.

Prerequisite(s): BUSN 101 - Introduction to Business (3) and CART 100 - Intro Culinary Food Service (2)

HOSP 290 - Food Truck Lab (4)

Students will be introduced to all aspects of the operation of a mobile food unity. Students will gain hands-on experience with ordering, prep, serving, and sanitation for mobile food service.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2), CART 245L - Cooking Fundamentals I Lab (2), and CART 245 - Cooking Fundamentals I Lecture (1)

Corequisite(s): BUSN 160 - Organizational Behavior (3)

HOSP 299 - Special Topics (1-4)

A special topics course (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

Certification Exam Prep

CEP 150 - Network Support Analyst I (4)

This course is designed to prepare students for an internationally recognized industry certification that meets the ISO 17024 standard and is approved by the U.S. Department of Defense to fulfill Directive 8570.01-M requirements. This industry certification is compliant with government regulations under the Federal Information Security Management Act (FISMA).

CEP 199 - Special Topics (1-6)

A special topics course (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

CEP 299 - Special Topics (1-6)

A special topics course (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

Chemistry

CHEM 125 - ~Introduction to College Chemistry (4)

This course is for students with little or no prior background in chemistry whose program (AS Nursing, for example) requires one semester of chemistry, or who require preparation for additional coursework in chemistry. Emphasis is on calculations and measurement, dimensional analysis, formulas, and equations, stoichiometry, atomic structure and molecular geometry, gas laws and solutions.

Prerequisite(s): MATH 100 - Math Essentials (3) or placement

CHEM 127 - ~General, Organic & Biochem I (4)

This course is designed as the first in a one year sequence of courses intended for nursing or other allied health students who intend to transfer to a four year academic institution which requires a two semester sequence course in General, Organic and Biochemistry (GOB). This course will include an overview of the Metric System, Scientific Notation, Temperature Scales, Density, Atoms, Structure, Isotopes, Electrons, Periodic Table, Chemical Formulae, Types of Chemical Reactions, Quantification of Chemical Reactions, Mass, Moles, Energy, Kinetic, Potential, Law of Conservation of Energy, Thermochemistry, Matter, pH, Fission, Fusion, Functional Groups and Names, and General Organic Reactions to Form Functional Groups. This course sequence could also provide an eight credit General Education Science sequence. The course consists of a lecture portion and a laboratory portion.

Prerequisite(s): MATH 100 - Math Essentials (3) or placement

CHEM 128 - ~General, Organic & Biochem II (4)

This course is designed as the second course in a one year sequence of courses intended for nursing or other allied health students who intend to transfer to a four year academic institution which requires a two semester sequence course in General, Organic and Biochemistry (GOB). This course will include an overview of Alcohols, Reactions, Aldehydes and Ketones, Organic Acids, Amines, Aromatic Compounds, Heterocyclic Compounds, DNA, Hyper-, Iso-, Hypotonic Solutions, Metabolic Disorders, Complex Carbohydrates, Proteins, Lipids, Nucleic Acids, Body Fluids, Blood, Clotting Chemistry, Respiratory Exchange, Metabolic and Respiratory Acidosis and Ketosis. This course sequence could also provide an eight credit General Education Science sequence. The course consists of a lecture portion and a laboratory portion.

Prerequisite(s): CHEM 127 - ~General, Organic & Biochem I (4)

CHEM 199 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

CHEM 299 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

Communication

COMM 199 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

COMM 201 - Nonverbal Communication (3)

This course explores the theories, definitions, and characteristics of nonverbal communication including gestures, movement, facial expressions, vocal behavior, proximity, and appearance and situational and/or cultural differences. In the context of communication theory and research, students examine the ways verbal communication and nonverbal communication intersect in everyday encounters and develop strategies to assure that nonverbal cues align with and/or enhance communication messages.

COMM 202 - ~Fundamentals of Speech (3)

This course equips the student with the necessary tools to construct, deliver, and analyze public communication messages.

COMM 203 - Ethical Communication (3)

This course examines the practice of ethical communication and the development of personal, ethical standards for communication in personal relationships, family, workplace environments, and society. Students will explore six ethical values of human communication, including trust, justice, freedom, care, integrity, and honor, and apply them to everyday communication situations. This course also addresses the issues of freedom and truth in digital communication as well as traditional approaches to ethical theory.

COMM 205 - ~Professional Communications (3)

This course examines the process of communication and the challenges to and effective practices of communicating in a professional environment. Topics include listening skills and verbal, nonverbal, and written communications. The dynamics of communicating in a group, in a global society, and in culturally diverse environments is also investigated. Students apply a systematic approach to plan and create effective letters, memos, reports, presentations, electronic and other forms of business and professional communication.

COMM 206 - Social Media Communication (3)

This course examines social media in the interpersonal, mass-mediated, educational, organizational, and political settings. Students will explore different forms of social media technologies in communication, including social networking sites, image sharing and messaging sites, social community and discussion sites, and social bookmarking sites. The course disassembles application of social media in a variety of settings to understand who is using social media, how they develop meaningful relationships, and how they use social media during major events.

COMM 207 - Interpersonal Comm Workplace (3)

This course creates a thoughtful look at the key skills necessary for personal and managerial success today. The student will discover interpersonal communications using three frames understanding yourself, understanding and working with others, and understanding and working in teams. The course takes an experiential approach to exercises, cases, and other activities.

COMM 220 - Intro to Intercultural Comm (3)

This course examines the practical application of theory and research in the area of intercultural communications. The course activities and assignments are designed to develop skills and strategies needed to deal effectively with challenges in a broad variety of interactional contexts involving intercultural communication. The course will cover topics including perception, convergence, communication, linguistic differences, ecological influences, dimensions of cultural organization and power, stereotyping, and intercultural challenges, adaptation, and culture shock.

COMM 221 - Communicating Culture/Film (3)

This course explores the stereotypes communicated in film that help shape and perpetuate cultural biases communicated in society.

COMM 230 - Art & Science of Persuasion (3)

This course addresses the principles, techniques, and ethics of persuasion as producers and consumers of information in both personal and professional contexts. Topics include the use of ethos, pathos, and logos; the importance of audience, purpose, and situational analysis; and the impact of language and listening skills on developing and responding to persuasive messages. Students will apply theories of persuasion and influence to real-world situations including interpersonal relationships, advertising campaigns, news media, television programs, film, and mediated communication, and become effective, ethical communicators as well as informed, analytical consumers.

COMM 299 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

Computer Aided Design

CAD 101 - Intro to Engineering Graphics (2)

Introduction to Engineering Graphics will introduce communication practices commonly used in the engineering environment. This includes basic sketching, orthographic projection, working drawings, basic dimensioning, pictorial drawings, and learn the ANSI standards. Students will receive an introduction to CAD and its application to engineering problem-solving.

CAD 102 - CAD Applications (2)

CAD Applications will be a continuation of CAD 101 - Intro to Engineering Graphics (2). This course will be a software based class that will prepare the student to produce accurate 2D and 3D drawings following ANSI standards. The class will focus on tools, editing, layers, dimensions and tolerances, and plotting to produce orthographic, section, auxiliary, isometric and oblique drawings. CAD 102L - CAD Applications Lab (2) is the laboratory portion of this class.

Corequisite(s): CAD 201L - 3D Modeling Lab (2)

CAD 102L - CAD Applications Lab (2)

This is the laboratory portion of CAD Applications and it will be a continuation of CAD 101- Introduction to Engineering Graphics. This course will be a software-based class that will prepare the student to produce accurate 2D and 3D drawings following ANSI standards. The class will focus on tools, editing, layers, dimensions and tolerances,

and plotting to produce orthographic, section, auxiliary, isometric and oblique drawings.

Corerequisite(s): CAD 102 - CAD Applications (2)

CAD 106 - Intro to Civil CAD & Surveying (2)

Introduction to Civil CAD and Surveying will introduce the student to the use of the computer-aided design in a variety of civil engineering applications including property description, road layout, cut and fill calculations, and topography. Included will be an introduction to surveying, which will introduce the basics of accurately measuring distances, bearing, and topography to describe a property.

Corerequisite(s): CAD 106L - Intro to Civil CAD Lab (1)

CAD 106L - Intro to Civil CAD Lab (1)

This is the laboratory component of Introduction to Civil CAD and Surveying. This course will introduce the student to the use of the computer-aided design in a variety of civil engineering applications including property description, road layout, cut and fill calculations, and topography. Included will be an introduction to surveying, which will introduce the basics of accurately measuring distances, bearing, and topography to describe a property.

Corerequisite(s): CAD 106 - Intro to Civil CAD & Surveying (2)

CAD 108 - Geographic Information Systems (2)

Geographic Information Systems are a growing part of every aspect of technology and engineering. In this course the student will explore the building blocks of this complex worldwide system including elements of GIS, analysis of spatial information, real-world applications, map creation and analysis. Primary objective is to investigate interactive GIS application rather than develop expert users.

Prerequisite(s): CAD 106 - Intro to Civil CAD & Surveying (2)

CAD 199 - Special Topics (1-4)

A special topics course (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

CAD 201 - 3D Modeling (1)

In this course students will learn to use 3D modeling software to develop parametric design solutions for various engineering problems. Students will develop designs, learn and apply ANSI (American National Standards Institute) standards, explore finite element analysis, and develop working, assembly and presentation drawings.

Corerequisite(s): CAD 201L - 3D Modeling Lab (2)

CAD 201L - 3D Modeling Lab (2)

In this course, students will learn to use 3D modeling software to develop parametric design solutions for various engineering problems. During the lab component, students will develop designs, learn and apply ANSI (American National Standards Institute) standards, explore finite element analysis, and develop working, assembly and presentation drawings.

Corerequisite(s): CAD 201 - 3D Modeling (1)

CAD 205 - Building Information Modeling (1)

Building Information Modeling will introduce the student to the use of 3D modeling software to create architectural drawings and documentation. Students will develop residential and commercial models.

Corerequisite(s): CAD 205L - Building Info Modeling Lab (2)

CAD 205L - Building Info Modeling Lab (2)

This is the lab component of Building Information Modeling. This course will introduce the student to the use of 3D modeling software to create architectural drawings and documentation. Students will develop residential and commercial models as well as plot and landscaping plans.

Corerequisite(s): CAD 205 - Building Information Modeling (1)

CAD 210 - Green Building Design (2)

Understanding the concepts of green building is essential for anyone in the architecture/construction/alternative energy industry. Many municipalities and non-profit organizations have developed rating systems to quantify the level of green building strategies used in construction projects. The best known rating system is LEED (Leadership in Energy & Environmental Design). In this course, the LEED green building rating system, design strategies, and building construction techniques for meeting those regulations will be incorporated into the students commercial and residential designs.

Corerequisite(s): CAD 210L - Green Building Design Lab (1)

CAD 210L - Green Building Design Lab (1)

Understanding the concepts of green building is essential for anyone in the architecture/construction/alternative energy industry. Many municipalities and non-profit organizations have developed rating systems to quantify the level of green building strategies used in construction projects. The best-known rating system is LEED (Leadership in Energy & Environmental Design). In this hands-on course, the LEED green building rating system, design strategies, and building construction techniques for meeting those regulations will be incorporated into the students commercial and residential designs.

Corerequisite(s): CAD 210 - Green Building Design (2)

CAD 292 - CAD Internship (1-4)

The CAD internship is a working relationship between the student, an employer and the instructor, whereby the student will serve a predetermined number of hours working for a local firm as a CAD operator, surveying technician, GIS technician or other related career field.

CAD 299 - Special Topics (1-4)

A special topics course (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

Computer Application Specialist

CAS 100 - Introduction to Keyboarding (2)

Emphasis is placed on the development of speed and accuracy in the operation of the computer keyboard. Basic document production including letters, memos, reports, and tables are covered. This course is offered for those who seek to build basic keyboarding skills.

CAS 101 - Documents Processing (3)

This course is an intermediate keyboarding class emphasizing further development of typing speed and accuracy, as well as the proper formatting and editing of business documents.

Prerequisite(s): CAS 100 Keyboarding or successful completion of the Special Exam for Course Credit.

CAS 110 - Understanding Computers (3)

This basic course helps students become literate in the terminology and usage of computers. The course covers a description of the hardware and software of a computer system, a brief history of computers, and the following topics on the personal computer Windows®, file management, word processing, electronic spreadsheet, and online learning.

CAS 111 - Information Literacy (3)

This course covers a variety of introductory computing knowledge including how personal computers work, software essentials, hardware components, operating systems and the most popular productivity applications including word processing, spreadsheet, database and presentation software. Students will also be introduced to the Internet and e-mail essentials, file management and digital electronics. This course aligns with the Internet and Computing Core Certification (IC3), which demonstrates that a student has a clear understanding of the knowledge and application of computers and technology in the modern world.

CAS 191 - Computer Support Practicum (1)

This course will cover testing methodologies and study techniques to assist in preparing students for the Microsoft Technology Associate (MTA) certification exam.

Prerequisite(s): IT 189 - Operating Sys Fundamentals (3)

CAS 192 - Computer Apps Practicum (1)

This course will cover testing methodologies and study techniques to assist in preparing students for the Internet and Computing Core (IC3) certification exam.

Prerequisite(s): CAS 111 - Information Literacy (3)

CAS 199 - Special Topics (1-6)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

CAS 210 - Outlook Complete (3)

This course uses a case method, problem-solving approach to learning the full scope of the features of Microsoft Office Outlook. Skills covered include creating and managing messages, scheduling appointments and events, creating and managing contacts, sending and managing tasks, and logging personal notes.

Prerequisite(s): CAS 111 - Information Literacy (3)

CAS 211 - Word Complete (3)

This course provides comprehensive training in the use of Microsoft® Office Word®. It is directly aligned with the Microsoft® Office Specialist certification exam which serves to validate an individual's skills and knowledge of the Office software. Topics covered include: creating and designing documents; incorporating table, charts, graphics, pictures and other media to enhance a document; and sharing, securing and printing documents.

Prerequisite(s): CAS 111 - Information Literacy (3)

CAS 212 - PowerPoint Complete (3)

This course provides comprehensive training in the use of Microsoft® Office PowerPoint®. It is directly aligned with the Microsoft® Office Specialist certification exam which serves to validate an individual's skills and knowledge of the Office software. Topics covered include creating and designing presentations, using charts, graphics, sound, and other media to enhance a presentation and sharing and delivering presentations.

Prerequisite(s): CAS 111 - Information Literacy (3)

CAS 213 - Excel Complete (3)

This course provides comprehensive training in the use of Microsoft® Office Excel®. It is directly aligned with the Microsoft® Office Specialist certification exam which serves to validate an individual's skills and knowledge of the Office software. Topics covered include creating and designing spreadsheets, using charts, graphics, formulas, protecting, sharing, and delivering spreadsheet presentations.

Prerequisite(s): CAS 111 - Information Literacy (3)

CAS 214 - Access Complete (3)

This course provides comprehensive training in the use of Microsoft® Office Access®. It is directly aligned with the Microsoft® Office Specialist certification exam which serves to validate an individual's skills and knowledge of the Office software. Topics covered include designing relational databases by creating, modifying, and using tables, queries, forms, and reports.

Prerequisite(s): CAS 111 - Information Literacy (3)

CAS 215 - Windows Complete (3)

This course provides comprehensive training in the use of Microsoft® Office Windows®. It is directly aligned with the Microsoft® Office Specialist certification exam which serves to validate an individual's skills and knowledge of the Office software. Topics covered include organizing files and folders, personalizing the Windows workspace, searching for files and folders, managing system resources, using Windows and the Internet, and managing a networked environment.

Prerequisite(s): CAS 111 - Information Literacy (3)

CAS 216 - Visio Complete (3)

This lecture/lab course will provide the student with an in-depth knowledge and ability to work with the Microsoft® Visio® software. Through a combination of lectures and class projects, students will learn to visualize, explore and communicate complex information using Visio. Students will work with the wide range of templates including business process flowcharts, network diagrams, workflow diagrams, database models, and software diagrams used to streamline business processes, track projects, and resources, chart organizations, map networks, diagram building sites, and optimize systems.

CAS 217 - Data File Management (3)

In this course, students will use software tools to collaborate and share ideas and engage with people. They will discover incentive ways to work together using the Internet and other file transfer options. Topics covered include organizing and connecting information , people, and projects, and creating new experiences using Microsoft Share Point and other data file management applications.

Prerequisite(s): CAS 111 - Information Literacy (3)

CAS 230 - Office Administration (3)

This course is designed to provide the student with concepts and procedures necessary to develop hands on skills for the digital office environment. Other areas of study include critical thinking, sound reasoning, ethical decision making, high productivity and efficient use of technical office tools.

Prerequisite(s): CAS 111 - Information Literacy (3)

CAS 240 - Computerized Accounting (3)

This course is an introduction to computerized accounting in a business office. The student will develop and maintain accounting records for a small business using a current software program.

Prerequisite(s): ACCT 201 - Principles of Accounting I (3)

CAS 299 - Special Topics (1-6)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

Computer Networking Configurat

CNC 101 - Information Technology Fund (3)

This is a hybrid course comprised of: live on-line instructor led instruction, 24/7 cloud based labs that use real operating systems, live one-on-one tutoring and mentoring, group mentoring, certification exam preparation with simulation software and one technician hands-on Saturday. Get introduced to the world of Information technology (IT). Learn essential IT skills. Learn the basics of computer hardware, software, mobile computing and networking. Learn about operating systems, files and folders, basic desktop and network configurations. Install software. This course helps

prepare the student for the CompTIA IT Fundamentals certificate exam. It provides the basic skills that a student that is new to desktop and network configurations needs to be successful in more advanced courses.

CNC 102 - Computer Configuration & Mgmt (6)

This is a hybrid course comprised of: live on-line instructor led, 24/7 cloud based labs that use real operating systems, live one-on-one tutoring/mentoring, group mentoring, certification exam preparation with simulation software and one technician hands-on Saturday. The student will build working level skills configuring and troubleshooting desktop operating systems and get an introduction to network operating systems. Learn about cloud and mobile technologies. Learn troubleshooting best practices. Develop professional technician skills. Keep computers and operating systems running smoothly with proper management skills. This can be used as preparation for the CompTIA A+ exams (220-901 and 220-902).

CNC 103 - Network Configuration & Mgmt (6)

This is a hybrid course comprised of: live on-line instructor led instruction, 24/7 cloud based labs that use real operating systems, live one-on-one tutoring/mentoring, group mentoring, certification exam preparation with simulation software and one technician hands-on Saturday. Learn about network technologies. Learn TCP/IP, DHCP, DNS, OSI Model, IPv4, IPv6, etc. The student will build working level skills configuring and troubleshooting Windows Server 2008 and 2012. Students will learn basic Linux server skills. Students will gain the knowledge and skills required for: troubleshooting, configuring and managing common network devices, understanding basic network design and connectivity, understanding and maintaining network documentation, identifying network limitations and weaknesses, implementing network security, standards and protocols.

CNC 199 - Special Topics (1-6)

A special topics course (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

CNC 201 - Adv. Windows Server 2012 Mgt (6)

This is a hybrid course comprised of: live online instructor-led instruction, 24/7 cloud-based labs that use real operating systems, live one-on-one tutoring and mentoring, group mentoring, certification exam preparation with simulation software. The student will build working level skills required to install, configure, and manage Server 2012. Some of the key features of this course are a plan for a server installation, server roles, Windows PowerShell, disk and storage management, quotas, NTFS, Domain Controller, Active Directory, Hyper-V, virtual disks, DHCP, DNS, Active Directory Domain Services, Group Policy, GPO, and UAC. This course can be used to prepare for Microsoft Certified Solution Associate Exams #70-411 and 70-412.

CNC 202 - Network Security & Rsk Mgt (6)

This is a hybrid course comprised of: live on-line instructor led instruction, 24/7 cloud based labs that use real operating systems, live one-on-one tutoring and mentoring, group mentoring, certification exam preparation with simulation software. The student will build working level skills configuring and troubleshooting the security parameters of a typical client server network. Key elements: network security competency, compliance and operational security, threats and vulnerabilities, host security, access control, identity management and cryptography. This course can be used as a preparation for the CompTIA Security+ Exam #SYO-401. CNC 201 is a prerequisite for CNC 202.

CNC 203 - Interconnect Cisco NW Device (6)

This is a hybrid course comprised of: live online instructor-led instruction, 24/7 cloud-based labs that use real operating systems, live one-on-one tutoring and mentoring, group mentoring, certification exam preparation with simulation software and one technician hands-on Saturday. The student will build working level skills configuring and troubleshooting routed network environments using Cisco network devices. Some of the things students will learn how to do: secure Cisco networks, develop a security infrastructure, recognize threats and vulnerabilities, mitigate security threats, and develop proper methodologies for solving problems. This course can be used to prepare for the Cisco CCNA exam.

CNC 299 - Special Topics (1-6)

A special topics course (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

Computer Network Engineering

CNET 111 - Networking Fundamentals (3)

This course is designed to provide a detailed overview of the foundational concepts involved in networking and telecommunications. The OSI model will be examined in detail. Specific protocols and their operations will be examined. Methods of providing telecommunications and the technologies involved will be covered, as well as networking hardware, cabling, documentation, troubleshooting, implementations, planning, and an introduction of subnetting of networks and telecommunications systems.

CNET 121 - Network+ (3)

The goal of this course is to provide an introduction to networking technologies and prepare students to take the CompTIA's broad-based, vendor independent Network+ certification exam. This course covers a wide range of materials from careers in networking, local area networks, wide area networks, network protocols and topologies, transmissions media and network security. In addition to introducing these concepts, it discusses significant aspects of networking such as TCP/IP and subnetting in depth. The course uses "real world" networking scenarios to provide students with the practical preparation required to step into the professional world.

Corerequisite(s): CNET 111 - Networking Fundamentals (3)

CNET 131 - Introduction to Networks (4)

This is the first course in a sequence that leads to the Cisco Certified Network Associate (CCNA) certification. The course covers network design based on the OSI Model as well as cable management, the functionality of networks, and the standards of network architecture. Through the duration of this course, students will engage in lab activities that emphasize the use of network tools and be exposed to applications needed for programming a network. Students will develop a base understanding of networking concepts preparing them for future courses. Course sequence mapped to CCNA certification: CNET 131, CNET 211, CNET 221.

Prerequisite(s): CNET 111 - Networking Fundamentals (3)

CNET 199 - Special Topics (1-6)

This course is being added due to needing the ability to provide special one-time course offerings as special topics courses. These may be courses offered as a test-case scenario to determine their viability of being created into a new course or as specific one-time offer courses needed for the needs of a business or organization.

CNET 211 - Switch, Route & Wireless Essen (5)

This is the second course in a sequence leading to the Cisco Certified Network Associate (CCNA) Certification. This course covers local area network design and implementation. Specific topics include basic routing, switching, and wireless protocols. Students will engage in hands-on labs which will teach them the skills and troubleshooting techniques needed in the field. Upon learning these skills and protocols, students will complete a capstone project illustrating a Small Business network. Course sequence mapped to CCNA certification: CNET 131, CNET 211, CNET 221.

Prerequisite(s): CNET 131 - Introduction to Networks (4)

CNET 221 - Enterprise, Networking, Securi (6)

This is the third and final course in a sequence leading to the Cisco Certified Network Associate (CCNA) certification. This course covers enterprise tools and techniques. Specific topics include basic security and automation. Students will also get exposed to more advanced networking tools used in the field. Throughout this course, students will begin to prepare and study for the CCNA exam. Upon completion of the required material, students will take the CCNA 200-301 exam. Course sequence mapped to CCNA certification: CNET 131, CNET 211, CNET 221.

Prerequisite(s): CNET 211 - Switch, Route & Wireless Essen (5)

CNET 250 - CCNA Security (4)

This course is aligned with the Cisco Certified Network Associate (CCNA): Security certification. The course covers methodologies and techniques for hardening routers and switches as well as developing tunneling and endpoint security solutions. Students will engage in challenging hands-on lab activities including skill building and troubleshooting practice.

Prerequisite(s): CNET 221 - Enterprise, Networking, Securi (6)

CNET 255 - Cisco Certified Design Associate (4)

This course aligns with the Cisco Certified Design Associate (CCDA) certification. This course covers the research and design elements of the network infrastructure as well as the methodologies of implementing differing design elements into a single network infrastructure design. Students will engage in challenging hands-on lab activities including skill building and troubleshooting practice.

Prerequisite(s): CNET 221 - Enterprise, Networking, Securi (6)

CNET 265 - Advanced Routing (6)

This is the first course in a sequence leading to the Cisco Certified Network Professional (CCNP) certification. This course covers advanced routing protocols and configurations for use in the enterprise network as well as IPv6 transitioning strategies. Students will engage in challenging hands-on lab activities including skill building and troubleshooting practice. Course sequence mapped to CCNP: CNET 265, CNET 266 - Advanced Switching (4), CNET 267 - Advanced Troubleshooting (4).

Prerequisite(s): CNET 221 - Enterprise, Networking, Securi (6)

CNET 266 - Advanced Switching (4)

This is the second course in a sequence leading to the Cisco Certified Network Professional (CCNP) certification. This course covers layer three switching, advanced switching techniques, as well as, implementing wireless and voice into the switched network. Students will engage in challenging hands-on lab activities including skill building and troubleshooting practice. Course sequence mapped to CCNP certification: CNET 265, CNET 266, CNET 267.

Prerequisite(s): CNET 211 - Switch, Route & Wireless Essen (5)

Corerequisite(s): CNET 221 - Enterprise, Networking, Securi (6)

CNET 267 - Advanced Troubleshooting (4)

This is the third course in a sequence leading to the Cisco Certified Network Professional (CCNP) certification. This course covers a wide variety of troubleshooting techniques in order to maintain networks as well as methodologies for working with larger enterprise networks and their advanced configurations. Students will engage in challenging hands-on lab activities including skill building and troubleshooting practice. Course sequence mapped to CCNP certification: CNET 265, CNET 266, CNET 267.

Prerequisite(s): CNET 265 - Advanced Routing (6) and CNET 266 - Advanced Switching (4)

CNET 270 - Intro to Virtualization (4)

This course will focus on the virtualization tools and software used in the field. Students will develop an entry-level understanding of VMware, HyperV, as well as future virtualization software. Through the duration of this course, students will develop an understanding of how virtual networks and virtual machines are created on this software to meet the needs of a small business. Upon completion of this course, students will be able to learn from network administrators the rest of the requirements needed to meet the needs of their employers.

Prerequisite(s): CNET 131 - Introduction to Networks (4)

CNET 299 - Special Topics (1-6)

This course is being added due to needing the ability to provide special one-time course offerings as special topics courses. These may be courses offered as a test-case scenario to determine their viability of being created into a new course or as specific one-time offer courses needed for the needs of a business or organization.

Criminal Justice

CJST 120 - Defensive Driving and Firearms Safety (3)

Major roles of the law enforcement officers are to operate a motor vehicle and handle firearms safely. This course will deliver in lecture format the cognitive knowledge necessary to accomplish this task and then culminate with a practical laboratory at a professional driving and firearms range.

CJST 121 - Assertive Driving and Marksmanship (3)

This course provides instruction in how to use a motor vehicle as a tool to stop the flight of an offender or defense from an assailant. Additional instruction in the mastery of firearms will also be addressed.

Prerequisite(s): CJST 120 - Defensive Driving and Firearms Safety (3)

CJST 190 - Introduction to Computer Forensics (3)

This course presents a basic introduction to the history of web-based criminal activity, laws surrounding computer forensic investigation, the techniques and principles used by computer forensic practitioners in the collection of digital evidence, the documentation of the procedures used during a computer-based investigation, and the preservation of computer/cyber evidence for use in legal procedures.

Corerequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement

CJST 192 - Criminal Justice Practicum (1)

This course will cover testing methodologies and study techniques to assist in preparing students to take a certifying exam.

Prerequisite(s): CJST 200 - Intro Crim Justice Sys (3) and LGST 230 - Criminal Law and Procedure (3)

CJST 199 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

CJST 200 - Intro Crim Justice Sys (3)

This course provides the students with a survey of law enforcement as well as the role, history, development, and constitutional aspects of law enforcement and public safety, as well as a review of agencies involved in the process of administration of justice.

Corerequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement scores

CJST 205 - Interrogation & Rprt Writing (3)

The success or failure of any law enforcement agency hinges on the quality of its paperwork and strict adherence to laws and policies. A solid understanding of how to obtain and document gathered information will lead to better investigations and successful prosecutions. This class will provide students with a better understanding of the importance of proper documentation, how to obtain information from both suspects and the general citizenry through interviews and interrogations, as well as how to properly document the information received.

Prerequisite(s): ENGL 101 - ~English Composition I (3) or ENGL 110 - ~Technical Writing & Communication (3)

CJST 210 - Introduction to Forensic Science (3)

An introduction to the utilization of scientific methods and instrumentation in the analysis of physical evidence at crime scenes and in the laboratory. The course covers fingerprints, cast and mold development, blood, and other body fluids, hair, fibers, paint, glass and plastic fragments, ballistics, and specialized instrumentation.

Corerequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement scores

CJST 211 - Examination of Questionable Documents (3)

This course focuses on a specialty area of forensic science, that of the examination of questionable documents. Topics covered will be paper and ink analysis, forged documents, and handwriting comparisons.

CJST 212 - Intro to Serial Murder (3)

This course will introduce students to the phenomenon of serial murder including; the differences between serial, spree, and mass murderers; theories of serial murder; types of killers; the psychology of killers; and individual case studies on specific killers.

Prerequisite(s):

Corerequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement scores

CJST 215 - Introduction to Homeland Security (3)

This course is designed as an overview of the administrative, legislative, and operational elements of homeland security programs and processes including a review of homeland security history, policies, and programs.

Corerequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement

CJST 220 - Criminal Investigation (3)

This course examines the fundamental principles and theories of criminal investigation, with concentration on the following subjects: report writing; sources of information: witnesses, complainants, victims, observation, physical description, identification, interviews, interrogation, modus operandi, informants, surveillance, undercover techniques, crime scene search, collection, preservation, and processing of physical evidence; raids, arrest, search, seizure, and case preparation.

Corerequisite(s): CJST 200 - Intro Crim Justice Sys (3)

CJST 225 - Terrorism (3)

This course acquaints the Criminal Justice student with the concept of terrorism at both the international and domestic levels. Topics include the history of terrorism, terrorism today and terrorism in the future. Response measures taken to terrorist threats will also be examined.

Corerequisite(s): CJST 200 - Intro Crim Justice Sys (3)

CJST 231 - Criminal Trial Law (3)

This course is intended to take the knowledge gained in criminal justice courses and provide an opportunity to apply the knowledge and skills using actual case studies as well as text materials. The class will examine each part of a criminal case with the focus of actually prosecuting or defending at trial. The class will examine: police investigations; initial charges; preliminary hearings; grand jury practice, arraignments and bond; pre-trial suppression and discovery hearings; witness preparation and examination; trial tactics; sentencing strategies; and appeals. A mock trial may be held at the end of the class.

Prerequisite(s): CJST 200 - Intro Crim Justice Sys (3) and LGST 230 - Criminal Law and Procedure (3)

CJST 232 - Immigration Law (3)

This course will focus on a specialized area of the legal system -- that of immigration law and practices. The course covers various federal agencies that oversee and enforce United States Immigration Law. Focus is upon visa application, process, consideration of non-immigrant and immigrant status, removal grounds and procedures, and forms of relief from removability. Various forms are introduced. Students will complete asylum applications and are given the opportunity to attend a removal procedure.

Corerequisite(s): CJST 200 - Intro Crim Justice Sys (3)

CJST 240 - Police Organization & Mgmt (3)

This course examines the basic principles of organization and management. Federal, state, county, and municipal law enforcement agencies will be reviewed and compared with government and business administration. The important areas of leadership, planning, discipline, and contemporary police management problems will be analyzed.

Corerequisite(s): CJST 200 - Intro Crim Justice Sys (3)

CJST 241 - Criminal Profiling (3)

This course focuses on the criminal investigation specialty of criminal profiling. Specific case studies will be used in class to demonstrate the process by which a profile of serial criminals are developed and used.

CJST 243 - Critical Issues in Criminal Justice (3)

This course examines specific and controversial issues related to crime and the criminal justice system in a debate and discussion format. While the exact topics may change, some topics may include capital punishment, Megan's law, sentencing, and domestic abuse.

Prerequisite(s):

Corerequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement scores

CJST 245 - Bioterrorism and Weapons of Mass Destruction (3)

This course will center on Weapons of Mass Destruction and their potential use by terrorists. The student will explore the origins, development and weaponization of Chemical, Biological, Nuclear and Radiological Systems and Devices. The class will focus on the preparation and execution of plans and policies to counter this threat.

Corerequisite(s): CJST 200 - Intro Crim Justice Sys (3)

CJST 250 - Juvenile Justice System (3)

This course provides an overview of the juvenile justice system. Focus will be on the juvenile offender, the juvenile courts system, and the juvenile detention system.

Corerequisite(s): CJST 200 - Intro Crim Justice Sys (3)

CJST 253 - State Police Academy Basic Training (3)

This course is designed for law enforcement personnel who have completed the State Police Academy Basic Police Training Course. Upon presentation of the certificate of completion from the State Police Academy Basic Police Training Course, and having earned 15 credit hours at BRCTC, the student is eligible for 3.0 credit hours (without grade) in CJST 253 to be used as an elective in the A.A.S. Criminal Justice degree. See the Criminal Justice Academic Advisor for more information.

CJST 260 - The Correctional System (3)

This course covers the court and jury system, probation and parole, and correctional institutions including jails and the non-institutional treatment of offenders. In addition, legal procedures, which affect the liberties of inmates, clients, and the correctional staff within the institutional and community settings will be covered.

Corerequisite(s): CJST 200 - Intro Crim Justice Sys (3)

CJST 265 - Community Corrections (3)

This class studies the dynamic world of corrections with specific regard to community-based alternatives and intermediate sanctions in lieu of traditional incarceration practices. Specific focus will be on the history of community-based corrections and intermediate sanction programming as well as the increasing use of treatment-based courts (e.g. drug court, mental health court, veterans court, etc.), pretrial diversion, probation, home confinement and other alternatives to traditional incarceration practices. The discussion will include the difficulties that offenders experience as the result of traditional incarceration, issues surrounding offenders upon their return to the community as well as the benefits of treatment versus punishment.

Corerequisite(s): CJST 200 - Intro Crim Justice Sys (3) or HSRV 101 - Intro to Social Work & HSRV (3)

CJST 280 - Criminal Investigation II with Lab (4)

This course is designed to cover the more technical aspects of investigation and evidence collection. Topics will include interviewing, evidence gathering, pattern interpretation, classification of evidence, and packaging of evidence, submitting fingerprints, taking and lifting of fingerprints, analyzing evidence, and searching and filing procedures. Times will be devoted to laboratory work in the classroom.

Prerequisite(s): CJST 200 - Intro Crim Justice Sys (3) and CJST 220 - Criminal Investigation (3)

CJST 292 - Field Experience (1–6)

With practical experience in local and regional correctional facilities, courts systems, security, and police facilities or other related organizations, students learn how to translate classroom theory and methods into professional skills and opportunities.

Prerequisite(s): CJST 200 - Intro Crim Justice Sys (3); must have completed over half of the requirements for certificate or degree completion; and have an overall GPA above 2.0.

CJST 293 - Criminal Justice On-the-Job-Training (1–13)

This course is designed to award credit to those persons who have participated in a supervised on-the-job training program in criminal justice. Credit is awarded upon receipt of a letter from the on-site supervisor stating successful completion of on-the-job training assignments and the total number of actual hours involved in the training.

Hours (Credit hours earned for On-the-Job Training are calculated as 1 credit hour = 150 actual hours. Therefore a student must work 1950 actual hours to receive 13 credit hours.)

CJST 299 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

Culinary Arts

CART 100 - Intro Culinary Food Service (2)

This course is a comprehensive overview of foodservice operational equipment, identification, and maintenance as well as an introduction to culinary terminology, theory and history and how food moves through an operation. This course will also familiarize the student with essential food handling, safety, and storage guidelines encountered within the industry. This course also provides an overview of the professionalism in the culinary industry and career opportunities leading to a career pathway to the Food Service Industry.

Prerequisite(s): Required major in Baking and Pastry Certificate, Baking and Pastry, A.A.S., Catering & Hospitality Management, A.A.S., Culinary Arts Certificate, Culinary Arts, A.A.S., Food Service Retail Management Certificate, or Food Service Retail Management, A.A.S. is required.

CART 110 - Molecular Gastronomy (1)

This course introduces students to trendy and cutting edge cuisine. Students will experience new tools and theories on food preparation. Students will use all of their senses to explore the science of flavor with laboratory activities and demonstrations.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2), CART 245 - Cooking Fundamentals I Lecture (1), and CART 245L - Cooking Fundamentals I Lab (2)

CART 115 - Safety/Sanitation in Food Serv (2)

The Safety and Sanitation in the Food Service Industry course follow the format of the National Restaurant Association Educational Foundation ServSafe® Program. The course is designed as an industry-based program that prepares students for careers in the restaurant and foodservice industry. The emphasis of this program is to educate the students about the responsibilities which a foodservice manager and food service worker have to the public in providing safe and sanitary food to the consumer.

Prerequisite(s): Required major in Baking and Pastry Certificate, Baking and Pastry, A.A.S., Catering & Hospitality Management, A.A.S., Culinary Arts Certificate, Culinary Arts, A.A.S., Food Service Retail Management Certificate, or Food Service Retail Management, A.A.S. is required.

CART 116 - Servsafe Alcohol (1)

This course provides practical, yet comprehensive, knowledge that assists all front-of-the-house staff in learning what they need to know to serve alcohol responsibly. Lessons are reinforced with guides, charts, exercises and case studies to make concepts much more memorable.

CART 120 - Bruin Cafe Lecture (1)

This course teaches students the practice and implementation of management principles as they relate to retail food service.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2)
Corerequisite(s): CART 120L - Bruin Cafe Lab (3)

CART 120L - Bruin Cafe Lab (3)

This course continues the development of retail skills in a supervised laboratory setting. Specific skills are correlated to lecture content in CART 120 - Bruin Cafe Lecture (1).

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2)
Corerequisite(s): CART 120 - Bruin Cafe Lecture (1)

CART 145 - Modern Cakes and Pastries (1)

This course introduces the production of a variety of modern cakes, pastries, and individual desserts suitable for restaurants, retail shops, and large-scale production. Emphasis is placed on modern techniques and presentations.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2), CART 212 - Baking Skills & Development (4), CART 245L - Cooking Fundamentals I Lab (2), and CART 245 - Cooking Fundamentals I Lecture (1)

CART 146 - Regional Italian Cuisine (1)

This course is designed to deliver cooking techniques and applied training in moderate to advanced Italian cooking spanning specific regions.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2), CART 245L - Cooking Fundamentals I Lab (2), and CART 245 - Cooking Fundamentals I Lecture (1)

CART 147 - Farm to Table Cuisine (1)

This course is designed to deliver cooking techniques and applied training utilizing local farms and markets to create and deliver fresh, high-quality food products in a food service environment.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2), CART 245L - Cooking Fundamentals I Lab (2), and CART 245 - Cooking Fundamentals I Lecture (1)

CART 148 - Plated Desserts (1)

In this course, students learn how to incorporate ice creams and sorbets into hot, cold, and frozen desserts, souffles, and a la minute plated desserts. Students become familiar with the flavor and texture elements in successful plating and learn to evaluate them using all five senses. Students also learn and explore classic French and modern presentations that can be applied to creating their own plated desserts.

Prerequisite(s): CART 100 - Intro Culinary Food Service (2), CART 115 - Safety/Sanitation in Food Serv (2), CART 212 - Baking Skills & Development (4), CART 245L - Cooking Fundamentals I Lab (2), and CART 245 - Cooking Fundamentals I Lecture (1)

CART 149 - Atlantic Seafood (1)

The Sustainable Seafood of the American Coastal Waters (ACW) course focuses on the wide variety of local Fish and Seafood available to the American chef. Students learn to prepare Fish, Crustaceans, Mollusks, and Seaweed. The course is divided into three regions: Atlantic, Pacific, and Gulf and will explore the techniques and recipes of each region. A focus of the course will be learning to determine sustainable fishing techniques and species, and new methods utilized to recover failing stocks and species.

Prerequisite(s): CART 100 - Intro Culinary Food Service (2), CART 115 - Safety/Sanitation in Food Serv (2), CART 212 - Baking Skills & Development (4), CART 245L - Cooking Fundamentals I Lab (2), and CART 245 - Cooking Fundamentals I Lecture (1)

CART 150 - Pasta On the Silk Road (1)

This course focuses on the wide variety of methods, techniques, and preparation of pasta and sauces as developed along the ancient Silk Road. Students will be introduced to the Geometry of Pasta and learn why certain pasta shapes work so well together.

Prerequisite(s): CART 100 - Intro Culinary Food Service (2), CART 115 - Safety/Sanitation in Food Serv (2), CART 212 - Baking Skills & Development (4), CART 245L - Cooking Fundamentals I Lab (2), and CART 245 - Cooking Fundamentals I Lecture (1)

CART 151 - Native American Cuisine (1)

This course will explore the significant impact of Native American ingredients and methods on the American Culinary Experience. The course will focus on three regions: East Coast and Woodland, Southwest and Plains, and Northwest. We will explore the historical impact and how traditional ingredients and methods can be incorporated into the modern kitchen.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2), CART 245L - Cooking Fundamentals I Lab (2), and CART 245 - Cooking Fundamentals I Lecture (1)

CART 152 - Californian Cuisine (1)

This course will explore the significant impact of Native American ingredients and methods on the American Culinary Experience. The course will focus on three regions: East Coast and Woodland, Southwest and Plains, and Northwest. We will explore the historical impact and how traditional ingredients and methods can be incorporated into the modern kitchen.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2), CART 245L - Cooking Fundamentals I Lab (2), and CART 245 - Cooking Fundamentals I Lecture (1)

CART 170 - Bread Fundamentals (1)

This course provides an introduction to the principles and techniques of the art and craft of bread making. Topics include formulas and techniques associated with naturally leavened loaves, hearth breads, focaccia, flat breads, rolls and other breads utilizing a variety of grains. Upon completion, students should be able to prepare classical and specialty breads that meet or exceed the expectations of restaurant and retail establishments.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2)
Corequisite(s): CART 170L - Bread Fundamentals Lab (3)

CART 170L - Bread Fundamentals Lab (3)

This course continues the development of Baking Fundamental skills in a supervised laboratory setting. Specific skills are correlated to lecture content in CART 170.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2)

Corerequisite(s): CART 170 - Bread Fundamentals (1)

CART 199 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

CART 200 - International Cuisines Lecture (1)

In this course, students will learn the impact of religions and cultures on cuisines throughout the world. This course introduces students to ingredients, cooking methods, and presentations specific to international cuisines.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2), CART 245 - Cooking Fundamentals I Lecture (1), CART 245L - Cooking Fundamentals I Lab (2), CART 246 - Cooking Fundamentals II (1), and CART 246L - Cooking Fundamentals II Lab (2)

Corerequisite(s): CART 200L - International Cuisines Lab (2)

CART 200L - International Cuisines Lab (2)

This lab course allows students to practice to improve skills, knowledge, and abilities using basic cooking techniques specific to cultural and regional cuisines.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2), CART 245 - Cooking Fundamentals I Lecture (1), CART 245L - Cooking Fundamentals I Lab (2), CART 246 - Cooking Fundamentals II (1), and CART 246L - Cooking Fundamentals II Lab (2)

Corerequisite(s): CART 200 - International Cuisines Lecture (1)

CART 201 - Stocks, Soups, and Sauces (1)

This course provides the lecture format to the principles and techniques of basic stocks, Mother (leading) sauces, and soups along with varied thickening agents. Special emphasis will be placed on preparation, sanitation, and the presentation.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2), CART 245 - Cooking Fundamentals I Lecture (1), and CART 245L - Cooking Fundamentals I Lab (2)

CART 201L - Stock, Soups & Sauces Lab (2)

This course provides a hands-on lab format to the principles and techniques of basic stocks, Mother (leading) sauces, and soups along with varied thickening agents. Special emphasis will be placed on preparation, sanitation, and the presentation.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2), CART 245L - Cooking Fundamentals I Lab (2), and CART 245 - Cooking Fundamentals I Lecture (1)

CART 203 - Culinary Nutrition (3)

This course is a study of functions, sources, and requirements of nutrients. Emphasis is placed on meeting the nutritional needs of individuals of all ages in a variety of situations. It teaches the principles of adapting recipes and menus to accommodate a variety of dietary and nutritional needs including but not limited to texture, nutrients, and allergies.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2), CART 245 - Cooking Fundamentals I Lecture (1), and CART 245L - Cooking Fundamentals I Lab (2)

CART 204 - Inventory and Purchasing (3)

This course introduces students to inventory and purchasing, the purchasing function, quality standards in purchasing, the procurement process, supplier selection, and inventory control.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2)

CART 212 - Baking Skills & Development (4)

This course provides students the fundamental skills for basic baking. Students will produce simple yeast doughs, quick breads, pies, cakes, cookies and other baked goods found in bakeries, restaurants and food markets. Instruction included classification of ingredients and their functions, baking terminology, culinary and bakery tool, and equipment use and recipe conversions.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2)

CART 231 - Garde Manger and Cold Presentations (4)

This course covers all aspects of the art of Garde Manger including butchering, garnishing, and charcuterie. Students will prepare marinades, cold sauces, forcemeats, mousses, hot and cold Hors d'oeuvres, sandwiches, and cold dishes. Techniques in buffet presentation are implemented in the form of the Grand Buffet as the students' semester capstone.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2), CART 245 - Cooking Fundamentals I Lecture (1), CART 245L - Cooking Fundamentals I Lab (2), CART 246 - Cooking Fundamentals II (1), and CART 246L - Cooking Fundamentals II Lab (2)

CART 245 - Cooking Fundamentals I Lecture (1)

This course is concurrent with CART 100 - Intro Culinary Food Service (2) by engaging the student in a practical application of learned terminology, methods, and techniques. Students will engage in ingredient production and recipe application. We will introduce knife handling skills, basic cooking skills, mise en place, plating, reinforcing food safety and sanitation practices, practical application of the chef's prep list, and industry terminology and standards.

Prerequisite(s): Required major in Baking and Pastry Certificate, Baking and Pastry, A.A.S., Catering & Hospitality Management, A.A.S., Culinary Arts Certificate, Culinary Arts, A.A.S., Food Service Retail Management Certificate, or Food Service Retail Management, A.A.S. is required.

Corequisite(s): CART 100 - Intro Culinary Food Service (2) and CART 245L - Cooking Fundamentals I Lab (2)

CART 245L - Cooking Fundamentals I Lab (2)

This course is the companion to CART 245 - Cooking Fundamentals I Lecture (1) and is concurrent with CART 100 - Intro Culinary Food Service (2) by engaging the student in a practical application of learned terminology, methods, and

techniques. Students will engage in ingredient production and recipe application. We will introduce knife handling skills, basic cooking skills, mise en place, plating, reinforcing food safety and sanitation practices, practical application of the chef's prep list, and industry terminology and standards

Prerequisite(s): Required major in Baking and Pastry Certificate, Baking and Pastry, A.A.S., Catering & Hospitality Management, A.A.S., Culinary Arts Certificate, Culinary Arts, A.A.S., Food Service Retail Management Certificate, or Food Service Retail Management, A.A.S. is required.

Corerequisite(s): CART 100 - Intro Culinary Food Service (2) and CART 245 - Cooking Fundamentals I Lecture (1)

CART 246 - Cooking Fundamentals II (1)

This course focuses on expanding the knowledge, skills, cooking techniques and principles learned in CART 245 - Cooking Fundamentals I Lecture (1) and CART 245L - Cooking Fundamentals I Lab (2). Special influences are put on knife skills, advanced cooking techniques, portioning and presentation, safety and sanitation. Students will learn to create balanced and eye appealing meals.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2), CART 245 - Cooking Fundamentals I Lecture (1), and CART 245L - Cooking Fundamentals I Lab (2)

Corerequisite(s): CART 246L - Cooking Fundamentals II Lab (2)

CART 246L - Cooking Fundamentals II Lab (2)

This course continues the development of Cooking Fundamentals II skills in a supervised laboratory setting. Specific skills are correlated to lecture content in CART 246 - Cooking Fundamentals II (1).

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2), CART 245 - Cooking Fundamentals I Lecture (1), and CART 245L - Cooking Fundamentals I Lab (2)

Corerequisite(s): CART 246 - Cooking Fundamentals II (1)

CART 264 - Catering Fundamentals (4)

This course focuses on the principles, techniques, and application for both on-premises and off-premises catering operations including food preparation, holding, transporting, and presentation techniques.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2), CART 245L - Cooking Fundamentals I Lab (2) , and CART 245 - Cooking Fundamentals I Lecture (1)

CART 280 - Cake Design and Professional Decorating (4)

This course focuses on the basic and advanced techniques used in wedding cake design, assembly, and construction. Areas of study include stacked and tiered cakes, decorating with buttercream and rolled fondant. Advanced cake decorating techniques will be used to produce upscale cakes to potential consumers.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2) and CART 212 - Baking Skills & Development (4)

CART 292 - Culinary Arts Internship (1–6)

The purpose of the internship is to allow the student to demonstrate his or her skills in an occupational setting. The internship is considered a capstone course of the A.A.S. degree program. Completion of the internship indicates to the college that the student has achieved a satisfactory level of skills to be successful in their degree field.

Prerequisite(s): CART 212 - Baking Skills & Development (4)

CART 294 - International Pastries and Desserts (4)

This course is a study of classical desserts, French and international pastries, hot and cold desserts, ice creams and ices, chocolate work, decorations, and plated dessert composition with emphasis on advanced techniques.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2) and CART 212 - Baking Skills & Development (4)

CART 295 - Pastry Showpieces (4)

In this class, the student will produce decorative showpieces in the mediums of sugar and chocolate. Students will also practice making candies and garnishes in both mediums.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2), CART 212 - Baking Skills & Development (4), and CART 280 - Cake Design and Professional Decorating (4)

CART 296 - Ala Carte (4)

This course provides practice in the art of ala carte food production and service as found in hospitality establishments. Menu design, planning, and execution will be part of this capstone class.

Prerequisite(s): CART 115 - Safety/Sanitation in Food Serv (2), CART 200 - International Cuisines Lecture (1), CART 200L - International Cuisines Lab (2), CART 245 - Cooking Fundamentals I Lecture (1), CART 245L - Cooking Fundamentals I Lab (2), CART 246 - Cooking Fundamentals II (1), and CART 246L - Cooking Fundamentals II Lab (2)

CART 299 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

Cyber Security

CYBR 101 - Intro to CyberSecurity (3)

This course provides an overview of the field of cybersecurity. It covers core cybersecurity topics including computer system architectures, critical infrastructures, cyber threats and vulnerabilities, cryptography, information assurance, network security, digital forensics, and risk assessment and management. Topics such as industrial espionage, hacking, and cyber terrorism and information warfare will be discussed.

CYBR 115 - Introduction to Physical and Technical Security (3)

An Introduction to Physical & Technical Security provides students with a solid foundation in both the technological and operational aspects of security through comprehensive coverage that explores such principal topics as security electronics, communications systems, test equipment, video and optics, alarm systems, computers and security software, access control, and more. Students will obtain an industry-based perspective and a practitioner's point of view on all phases of physical security, including what works and what does not, through a careful mix of theory and practical application.

CYBR 125 - Prin Incident Response & Recov (3)

This course presents methods of identifying vulnerabilities and taking appropriate measures to prevent and mitigate failure risks for an organization. The course presents a foundation in disaster recovery principles and planning and emphasizes the importance of incident response to minimize prolonged downtime that can potentially lead to irreparable loss. This course addresses the overall problem of contingency planning rather than focusing on specific tasks of incident response or disaster recovery.

Prerequisite(s): CYBR 101 - Intro to CyberSecurity (3)

CYBR 160 - Information Security Fundament (3)

This course offers in-depth coverage of the current risks and threats to an organization's data, combined with a structured way of addressing the safeguarding of these critical electronic assets. The course provides a foundation for those new to Information Security as well as those responsible for protecting network services, devices, traffic, and data. Additionally, the course provides the broad-based knowledge necessary to prepare students for further study in other specialized security fields.

Prerequisite(s): CYBR 101 - Intro to CyberSecurity (3) and CNET 111 - Networking Fundamentals (3)

CYBR 190 - Security Assessment (3)

This course will expose students to the process of creating a methodology and approach for conducting security assessments. Students will encounter a comprehensive step-by-step approach encompassing the entire security assessment process.

Pre-requisite/Co-requisite(s): CAS 111 - Information Literacy (3)

CYBR 192 - Practicum (3)

This course will cover testing methodologies and study techniques to assist in preparing students for the Security+ certification exam.

Prerequisite(s): CYBR 160 - Information Security Fundament (3)

CYBR 199 - Special Topics (1-6)

Special topic courses may be offered from time to time dependent upon current trends, employer needs, and student interests. The course description, objectives, and credit hours for each will vary based upon the topic and schedule.

CYBR 210 - Intrusion Detection (3)

This course provides an introduction to firewalls and other network security components that work together to create an in-depth defensive perimeter around a Local Area Network. This course examines firewalls in content with the other elements needed for effective perimeter security as well as security within a network. It incorporates an examination of technologies such as packet filtering, authentication, proxy servers, encryption, virtual private networks, log file maintenance, and intrusion detection and prevention systems.

Prerequisite(s): CYBR 160 - Information Security Fundament (3)

CYBR 220 - Wireless Security (3)

This course provides the information needed to protect a wireless network. The course takes a comprehensive view of attacks and defense of wireless networks and incorporates an examination of technology that helps make wireless networks secure, as well as offers practical tools, tips, and techniques to protect a Wireless Local Area Network. Course content includes a foundation of wireless security, WLAN vulnerabilities, passive wireless discovery, active wireless attacks, wireless security models, enterprise wireless hardware security, designing a secure wireless network, secure wireless authentication, and secure wireless transmissions.

Prerequisite(s): CYBR 160 - Information Security Fundament (3)

CYBR 250 - Internet Security (3)

This course provides students and professionals with the ability to develop the security program necessary for protecting data and reacting to threats as they occur. It maps to the Certified Internet Webmaster Security Professional certification exam objectives, and outlines various threats that exist in today's IT environment, and demonstrates how to defend an environment against them by developing the necessary security policies and processes. Content includes an introduction to information security and processes, threats to IT assets, encryption, fundamentals of network security and threats intrusion detection, fundamentals of system security, UNIX system security, Windows® system security, standards, compliance, and security testing.

Prerequisite(s): CYBR 160 - Information Security Fundament (3)

CYBR 280 - Network Defense and Countermeasures (3)

This course provides students and professionals with hands-on introductory experience installing firewalls and intrusion detection systems. This course maps to the Security Certified Network Professional certification exam objectives, and gives students a solid foundation in advanced network security fundamentals, incorporating examination of intrusion detection, network address translation, packet filtering, proxy servers, firewalls, and virtual private networks. Course content includes network defense fundamentals, risk analysis, security policy implementation, network traffic signatures, virtual private network concepts, VPN implementation, intrusion detection system concepts, incident response, choosing and designing firewalls, firewall topology, strengthening and managing firewalls, and strengthening defense through ongoing management.

Prerequisite(s): CYBR 192 - Practicum (3) and CYBR 220 - Wireless Security (3)

CYBR 281 - Ethical Hacking (3)

This course guides students toward becoming skilled security testers. Course content includes an ethical hacking overview, TCP/IP concepts review, network, and computer attacks, footprinting and social engineering, port scanning, enumeration, programming for security professionals, operating system vulnerabilities, hacking web servers, hacking wireless networks, cryptography, and protecting networks with security devices.

Prerequisite(s): CYBR 160 - Information Security Fundament (3)

CYBR 283 - Computer Forensics (3)

This course provides students and professionals with a solid foundation in computer forensics. The course is a guide toward becoming a skilled computer forensics investigator. Course content includes computer forensics and investigations as a profession, understanding computer investigations, an investigator's office and laboratory, data acquisition, processing crime and incident scenes, working with different operating systems, current computer forensics

analysis tools, boot processes and file systems, file recovery, network forensics, e-mail investigations, mobile device forensics, report writing, chain of custody, and expert testimony for high-tech investigations, and ethics for expert witnesses.

Prerequisite(s): CYBR 160 - Information Security Fundament (3)

CYBR 284 - Tactical Perimeter Defense (3)

This course provides students with hands-on introductory experience installing firewalls and intrusion detection systems. This course gives students a solid foundation in advanced network security fundamentals, incorporating an examination of intrusion detection, network address translation, advanced TCP/IP concepts, router security, packet filtering, proxy servers, firewall design and configuration, IPSec, and virtual private network design, and wireless design security.

Prerequisite(s): CYBR 160 - Information Security Fundament (3)

CYBR 290 - Applied Cybersecurity Concepts (3)

This course will cover securing computers, applications, networks, digital forensics, and the ethical and legal practices affecting all computer users. The course also covers the strategies, implementation, and management of a business information continuity plan; mitigation of cyber vulnerabilities, and incident response and analysis. This will be an advanced course that will be a pre-requisite to CYBR 291 - Applied Cybersecurity Implemen (3) and be built around lab scenarios that will prepare the student(s) to work independently and on teams with limited guidance and instruction.

Prerequisite(s): CYBR 210 - Intrusion Detection (3)

CYBR 291 - Applied Cybersecurity Implemen (3)

This hands-on course is designed to validate knowledge and skills of the student in administering and securing information systems and networks. Security topics such as vulnerability assessment, systems administration, network monitoring, incident response, and digital forensics will offer a comprehensive defense-in-depth experience. Each participant will have direct administrative access to a wide variety of networked systems (Windows, Linux and Cisco), which will be modified and instrumented throughout the course. Instruction will consist of individual labs and team-based exercises modeled from real-world threat scenarios.

Prerequisite(s): CYBR 290 - Applied Cybersecurity Concepts (3)

CYBR 299 - Special Topics (1-6)

Special topic courses may be offered from time to time dependent upon current trends, employer needs, and student interests. The course description, objectives, and credit hours for each will vary based upon the topic and schedule.

Database Management

DBM 101 - Database Concepts/SQL I (3)

Introduction to Database Concepts/SQL I provides a foundation in database design and implementation. The Relational model is analyzed along with SQL commands. Numerous database design methods are identified and applied. A discussion of the various levels of the normalization process is included. Additional topics include requirements gatherings, analysis, and trade-off discussions. SQL coverage includes hands-on problems with databases. Students are challenged with critical thinking questions utilizing problem-solving and analytical skills.

DBM 110 - Data Applications I (3)

The Data Applications I course examines many of the current applications including spreadsheets, database files, data tools, and programming codes to analyze business scenarios and develop solutions. Topics include data requirements, data collection, data processing, data cleaning, modeling, algorithms, data analysis, and communication. Various open resources and tools will be used.

DBM 120 - Data Analytics I (3)

The Data Analytics course examines the many processes of identifying useful information through a series of steps leading to supporting decision making. Topics include data requirements, data collection, data processing, data cleaning, modeling, algorithms, data analysis, and communication. A section on data mining will be included. Various open source resources and tools will be used.

Corequisite(s): MATH 100A - Algebra Essentials (3) or placement

DBM 199 - Special Topics (1-4)

A special topics course (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

DBM 201 - Database Concepts/SQL II (3)

This course continues to work from DBM 101 - Database Concepts/SQL I (3) with the study of database design and implementation and developing an understanding of the SQL language. Additional topics include DBMS functions and database administration. Special topics include discussion of various technologies. Numerous case problems reinforce key concepts that students put into real-world practice. A special section using scripting is included to provide additional experience with SQL.

Prerequisite(s): DBM 101 - Database Concepts/SQL I (3)

DBM 210 - Data Applications II (3)

The Data Applications II course examines the many current applications including spreadsheets, database files, data tools, and programming code used in current business environments. This course is a follow up to Data Applications I. Topics include data requirements, data collection, data processing, data learning, modeling, algorithms, data analysis, and communication. Various open-source resources and tools will be used. Includes discussion of the emerging family of data integrations. ETL (Expand, Transform, and Load) blends data from multiple sources.

Prerequisite(s): DBM 110 - Data Applications I (3)

DBM 220 - Data Analytics II (3)

The Data Analytics II course builds upon concepts presented in Data Analytics I. Data Analytics II examines methods for summarizing, visualizing, and understanding information from data. Topics include data mining, models for decision making, using spreadsheets for data visualization, big data concepts, and data cleansing. Various resources and tools will be used.

Prerequisite(s): DBM 120 - Data Analytics I (3)

Pre-requisite/Co-requisite(s): MATH 114 - ~Elem Probability & Statistics (3)

DBM 299 - Special Topics (1-4)

A special topics course (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

Early Childhood

ECED 101 - Found of Early Childhood Ed (3)

The course focuses on the history of early childhood education including the contributions of Froebel, Montessori Steiner, and Reggio Emilia. Coursework will concentrate on a diversity of programs and childcare settings: child care, Headstart, kindergarten, nursery, profit and non-profit. This course will include perspectives from the past, theories, and approaches to care, development and education of young children.

ECED 103 - Early Language and Literacy (3)

This course examines quality literature appropriate for children from infancy to age eight. Appropriate literacy experiences of reading, writing, and language are practiced in the student's communities. Students will also examine methods of presentation and the creation of literature based settings.

ECED 105 - Child Development (3)

This course explores knowing and understanding young children's characteristics and needs; the multiple influences on development and learning, and how to use this developmental knowledge to create healthy, respectful, supportive and challenging learning environments. The principles of child development are emphasized including language acquisition, creative expression, physical, cognitive and social/emotional development.

ECED 106 - Health, Nutrition and Safety (3)

This course provides a variety of health, nutrition and safety concepts that will enable the individual to implement preventive health and safety practices in the early childcare setting. Students will develop menus for meals and snacks which are nutritious, appealing, and age-appropriate for young children. Recognition and treatment of child abuse victims will be addressed.

ECED 107 - Early Childhood Curriculum (3)

This course provides the student with an introduction to methods and materials to assist young children in the learning process. Emphasis will be placed on arrangement of indoor/outdoor space, reading, music and movement, dramatic play, math, social studies, and art centers. Students will locate, plan, implement and evaluate creative learning activities using a variety of methods and materials.

ECED 165 - Assessment of Young Children (3)

This course will cover formal and informal assessment strategies appropriate for children birth through age eight. Assessment for children's cognitive, social, physical and motor development for curriculum planning will be addressed as well as identifying children with developmental needs.

ECED 199 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

ECED 206 - Family/Community Engagement (3)

This course addresses the role of the family and community in the physical, cognitive, social and emotional growth of the child in a diverse society. The areas of professionalism, program management, advocacy, family development and the structure of the family will be the main topics. Building partnerships with families of the children with special needs will also be included.

ECED 210 - Infant & Toddler Development (3)

Students focus on a comprehensive study of Infant and Toddler care ages 0 – 36 months. Topics covered are prenatal development and the physical, social, emotional, cognitive, and language development of the child from conception to age three. The course covers the effects of culture, families and quality programs on infant and toddler development.

Prerequisite(s): ECED 105 - Child Development (3)

ECED 220 - Early Childhood Inclusion (3)

This course prepares learners to understand their roles, including the history and legal implications, and the nature of students with special needs. Techniques for creating an educational environment where all students have equal opportunity to develop academically and socially are specifically addressed.

ECED 230 - Early Childhood Admin (3)

This course emphasizes the director's responsibility for administrative leadership roles in child development and education programs. The course covers business and interpersonal skills needed to successfully implement an effective program for young children and their families. Students will learn practical information for all aspects of directing a program, including funding and budgeting, selecting, training, and supervising staff, housing the program, purchasing equipment, and working with children and parents. Accrediting and licensing an early childhood center and carrying out program evaluation and quality improvement strategies will be addressed.

Prerequisite(s): ECED 107 - Early Childhood Curriculum (3)

ECED 235 - Current Topics ECED (3)

This course focuses on state, local and federal law updates that affect child care centers ages 0-6. The course focuses on required record keeping and documentation to meet legal requirements. The course focuses on recent research issues in early childcare development and center administration and safety. Safety updates and regulations are discussed.

Prerequisite(s): ECED 105 - Child Development (3)

ECED 292 - Early Childhood Internship (3)

Students obtain practical experience in a licensed child care center, as a teacher's aide assistant, or private nursery schools (home daycare does not qualify). The student engages in on-site activities of a practical nature. Students learn how to translate classroom theory and methods into professional skills and observe and record activities in a professional manner. Activities are under the supervision of trained personnel. Application for internship must be made to the Early Childhood advisor.

Prerequisite(s): ECED 105 - Child Development (3)

ECED 299 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

Economics

ECON 123 - ~Contemporary Economics (3)

This course introduces students to both macro and microeconomic concepts including the theory of the firm, consumer behavior, economic systems, and managerial economic principles that affect decisions in every venue of our lives.

Note: Not intended for students in majors that require ECON 205 - ~Principles of Macroeconomics (3) and ECON 206 - ~Principles of Microeconomics (3).

Note Not intended for A.S. Business Administration Students.

ECON 199 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

ECON 205 - ~Principles of Macroeconomics (3)

This class serves as an introduction to fundamental economic concepts including production possibilities and economic growth, market supply and demand analysis, money, banking, government, and monetary policies. Emphasis is placed upon fluctuations in national income, employment, and price level. Overall, the impact of scarcity and human decision making will be imparted.

ECON 206 - ~Principles of Microeconomics (3)

This course provides an introduction to microeconomic theory with a primary focus on the methodology of economics and the behaviors of individuals and firms. Fundamental concepts are covered including demand and supply analysis, marginal analysis, opportunity cost, market structure, pricing, labor markets, and government policy and regulation.

ECON 210 - Money and Banking (3)

This course looks at the concepts of money, banking, central banking, financial markets and global markets. Students will analyze all these systems and how they interact including financial instruments.

Prerequisite(s): ECON 205 - ~Principles of Macroeconomics (3)

ECON 299 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

Education

EDUC 150 - Seminar in Education (1)

This course introduces students to the field of education, including the nature of education in society and the practical and ethical issues that arise in the field with a focus on reflection and self as a learner. The purpose is for students to begin to develop a philosophical, socio-historical, and practical understanding of learning and teaching. The requirements for successful progress through the program and a successful experience on campus are also discussed. The course includes a one-day observation in a public school classroom.

Prerequisite(s): Must be a major in Education, A.S. or Social Sciences, A.S. (Education Concentration)

EDUC 199 - Special Topics (1-6)

Special topic courses may be offered dependent upon current trends, organizational or employer needs, and student interests. The course description, objectives, and credit hours for each will vary based upon the topic and schedule.

EDUC 200 - Foundations of Education (3)

This course examines the relationship between the school as a social institution and the larger society through a combination of philosophical, historical, and problem-oriented inquiry into that relationship. The assumption is that a teacher who has developed an understanding of the vital relationships between school and society is in a position to see his or her professional roles beyond the narrow confines of the classroom, and will emerge a more sensitive, responsive, and effective teacher. The course includes substantial reading and writing components and a field experience with an at-risk population.

Prerequisite(s): ENGL 100R - Reading Essentials (3) or placement, ENGL 101 - ~English Composition I (3), and EDUC 150 - Seminar in Education (1)

EDUC 204 - Development of Infant & Child (3)

This course examines topics of classic and contemporary developmental theories, research, and concepts as they apply to the developing person from conception through childhood. These topics will focus on the biological, cognitive, and psychosocial perspectives of human development. It includes a field component in a public school classroom.

Prerequisite(s): PSYC 203 - ~Introduction to Psychology (3)

EDUC 211 - Education Practicum I (1)

This course is to be taken with EDUC 200 - Foundations of Education (3), which is a field experience focusing on the application of learning models and strategies through observation and tutoring in an at-risk population.

Prerequisite(s): EDUC 150 - Seminar in Education (1)
Corequisite(s): EDUC 200 - Foundations of Education (3)

EDUC 220 - Soci & Psyc Cond of Learning (4)

This course is a reflective exploration of the knower (the learner), knowing (learning), the known (knowledge), and the contexts in which knowledge is constructed through teaching/learning. This course includes a field component in a public school classroom.

Prerequisite(s): EDUC 200 - Foundations of Education (3), COMM 202 - ~Fundamentals of Speech (3), ENGL 101 - ~English Composition I (3), and ENGL 102 - ~English Composition II (3)

EDUC 260 - Survey of Exceptional Child (3)

This is a course to familiarize the student with the nature, etiology, specific characteristics, and needs of the exceptional child. The course is designed to meet basic certification requirements in those states that require a minimum of three hours of course work in special education in order to be certified. It is equally relevant to early education, elementary education, secondary education, therapeutic recreation, psychology, and nursing. Includes a field component in a public school classroom.

Prerequisite(s): EDUC 200 - Foundations of Education (3)

EDUC 292 - Praxis Core Prep (1)

This course will review the main topics on the three Praxis Core Subject tests.

Prerequisite(s): Be a degree seeking student with a major in Education, A.S. or Social Sciences, A.S. with a concentration in Education.

EDUC 299 - Special Topics (1-6)

Special topic courses may be offered dependent upon current trends, organizational or employer needs, and student interests. The course description, objectives, and credit hours for each will vary based upon the topic and schedule.

Electric Distribution Engineering Technology

EDET 101 - Intro to Line Worker (2)

Intro to Line Worker is the first class in both the AAS and Certificate Line Worker Programs. It is intended to provide students with a basic awareness and function as gatekeeper for those seeking entry into the program (and career.) Some major focus areas are career awareness, wood pole climbing evaluation, claustrophobia evaluation, and industry skills (Edison Cast) testing.

Prerequisite(s): Current major declared of Electric Distribution Engineering Technology, A.A.S. or Electric Distribution Engineering Technology Certificate

EDET 102 - Fundamentals of Electric Power Distribution (2)

Fundamentals of Electric Power Distribution provides students with an overview of how electric power is distributed from generation to industrial and residential customers. The class will also introduce students to industry terminology and materials.

Prerequisite(s): Current major declared of Electric Distribution Engineering Technology, A.A.S. or Electric Distribution Engineering Technology Certificate

Pre-requisite/Co-requisite(s): EDET 101 - Intro to Line Worker (2)

EDET 103 - Heavy Equipment Familiarization (2)

Heavy Equipment Familiarization is designed to introduce students to different types of heavy equipment vehicles used in utility work. Basic operation of the most commonly used equipment vehicles will be demonstrated and practiced by students.

Prerequisite(s): Current major declared of Electric Distribution Engineering Technology, A.A.S., Electric Distribution Engineering Technology Certificate, Heavy Equipment Technician, A.A.S., or Mechatronics, A.A.S.

Pre-requisite/Co-requisite(s): EDET 101 - Intro to Line Worker (2)

EDET 120 - Adv Pole Working Workshop (1)

Advanced Pole Working is designed to teach practical skills and techniques used in constructing electric distribution systems while emphasizing the safe use of tools and equipment.

Prerequisite(s): Current major declared of Electric Distribution Engineering Technology, A.A.S. or Electric Distribution Engineering Technology Certificate

Pre-requisite/Co-requisite(s): EDET 102 - Fundamentals of Electric Power Distribution (2)

EDET 121 - Safety for Electrical Line Workers (2)

Safety for Electrical Line Workers is designed to introduce students to the necessary skills to safely work on electric distribution systems. Some major areas of studies include applying safe grounding practices, correctly using personal protective equipment, safely setting up traffic control work zone, pole top rescue, aerial lift rescue, and confined space rescue. Upon successful completion of this course, a 10 hour OSHA card will be earned.

Prerequisite(s): EDET 102 - Fundamentals of Electric Power Distribution (2) and current major declared of Electric Distribution Engineering Technology, A.A.S. or Electric Distribution Engineering Technology Certificate

EDET 130 - Underground Line Maintenance (2)

Underground Line Maintenance teaches practical underground distribution maintenance techniques while emphasizing the safe use of tools and equipment. Focus areas include the use of live-line tools and installing and repairing underground cables and equipment.

Prerequisite(s): Current major declared of Electric Distribution Engineering Technology, A.A.S. or Electric Distribution Engineering Technology Certificate

Pre-requisite/Co-requisite(s): EDET 120 - Adv Pole Working Workshop (1) and EDET 121 - Safety for Electrical Line Workers (2)

EDET 131 - Substation Basics (2)

Substation Basics teaches the purpose and operations of a substation. Particular attention is spent on how to safely enter and perform various tasks at a substation.

Prerequisite(s): Current major declared of Electric Distribution Engineering Technology, A.A.S. or Electric Distribution Engineering Technology Certificate

Pre-requisite/Co-requisite(s): EDET 120 - Adv Pole Working Workshop (1) and EDET 121 - Safety for Electrical Line Workers (2)

EDET 140 - Overhead Line Maintenance (1)

Overhead Line Maintenance teaches practical distribution line maintenance techniques with an emphasis on the safe use of tools and equipment. Focus areas include the use of live-line tools, safe rigging practices, troubleshooting (including switching & testing voltages), and replacing/repairing electrical equipment.

Prerequisite(s): Current major declared of Electric Distribution Engineering Technology, A.A.S. or Electric Distribution Engineering Technology Certificate

Pre-requisite/Co-requisite(s): EDET 120 - Adv Pole Working Workshop (1) and EDET 121 - Safety for Electrical Line Workers (2)

EDET 150 - Fundamentals of Electricity (4)

Fundamentals of Electricity provides students with an overview of the ways in which power is distributed from generation to industrial and residential customers. Students will be introduced to essential industry terminology and materials. Following this course, students will understand and be able to analyze Ohm's Law, Magnetism, DC Series & Parallel Circuits, Basic AC Series & Parallel Circuits, Inductance, Reactance, Capacitance, Poly-phase and 3 Phase Circuits, and Basic "Y" single- phase transform bank connections.

Prerequisite(s): Current degree seeking student with a major of Electric Utility Technology, A.A.S. and preemployment screening by First Energy or a degree seeking student in Electric Distribution Engineering Technology Certificate or Electric Distribution Engineering Technology, A.A.S.

EDET 151 - Circuit Analysis (4)

This course is designed to develop a comprehensive understanding of the activities associated with electric utility line work, specifically sub-transmission circuits, distribution substations, primary feeders, distribution transformers, secondary power systems, and customer connections. Students will engage in classroom and laboratory activities to develop the basic technical skills necessary to obtain a working knowledge and understanding of power distribution and transmission systems. Safety is strongly emphasized and special attention is given to explaining relevant electrical formulas and calculations. Hands-on use of equipment occurs in a lab setting.

Prerequisite(s): Current degree seeking student with a major of Electric Utility Technology, A.A.S. and preemployment screening by First Energy.

EDET 150 - Fundamentals of Electricity (4)

EDET 155 - Positive Workplace Comm (5)

This class prepares students to create better work relationships by becoming a "conscious communicator." Students will explore ways to enhance their self-knowledge, work effectively in teams, and cope with common workplace stresses and emotions. Students will also explore ways and develop tools to enhance their abilities to deal with conflict in the workplace.

Prerequisite(s): Current degree seeking student with a major of Electric Utility Technology, A.A.S. and preemployment screening by First Energy.

EDET 180 - Building Better Relationships (2)

This class prepares participants to create better work relationships by becoming a "conscious communicator". It includes taking a workplace personality identifier test. Participants will explore ways to enhance their self-knowledge, work effectively as a team and cope with the stresses and emotions that are often found in the work environment.

EDET 181 - Conflict Resolution (2)

Conflict resolution prepares participants to better deal with conflict in the workplace by helping them become a "conscious communicator". It includes taking a conflict assessment/evaluation. Participants will explore ways and develop tools to enhance their abilities to deal with conflict and reduces stresses and emotions that are often found in the work environment.

EDET 199 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

Prerequisite(s): Current major declared of Electric Distribution Engineering Technology, A.A.S. or Electric Distribution Engineering Technology Certificate

EDET 201 - Fundamentals of Electricity I (2)

Fundamentals of Electricity I provide students with an introduction to Ohms Law and the principles behind how DC and AC electric circuits work.

Prerequisite(s): Current major declared of Electric Distribution Engineering Technology, A.A.S. or Electric Distribution Engineering Technology Certificate

Corequisite(s): EDET 202 - Fundamentals of Electricity II (2)

EDET 202 - Fundamentals of Electricity II (2)

Fundamentals of Electricity II builds on the students learning in Fundamentals of Electricity I. Three phase circuits and transformer functions are covered.

Prerequisite(s): Current major declared of Electric Distribution Engineering Technology, A.A.S. or Electric Distribution Engineering Technology Certificate

Pre-requisite/Co-requisite(s): EDET 201 - Fundamentals of Electricity I (2)

EDET 293 - Practical Line Work Internship II (4)

Practical Line Work Internship is a paid internship to expand student's career awareness and further develop their practical hands-on experience. Internships consist of over 160 hours of onsite work with a local utility company. Students will be required to travel to an employer (off-campus) to work during normal business hours.

Prerequisite(s): Current major declared of Electric Distribution Engineering Technology, A.A.S. or Electric Distribution Engineering Technology Certificate

Pre-requisite/Co-requisite(s): EDET 102 - Fundamentals of Electric Power Distribution (2), EDET 103 - Heavy Equipment Familiarization (2), EDET 120 - Adv Pole Working Workshop (1), and EDET 121 - Safety for Electrical Line Workers (2)

EDET 295 - Practicum Skills Evaluations (1-4)

This course is designed to evaluate the skills learned each semester in all other EDET courses. A variety of topics will be covered depending on the student needs.

Prerequisite(s): Current major declared of Electric Distribution Engineering Technology, A.A.S. or Electric Distribution Engineering Technology Certificate

EDET 299 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

Prerequisite(s): Current major declared of Electric Distribution Engineering Technology, A.A.S. or Electric Distribution Engineering Technology Certificate

Electric Utility Technology

EUT 101 - Overhead Lines Technology I (3)

This course is a supervised practical application of electrical overhead lineworker job duties in a setting under the direct supervision of First Energy personnel. There is an emphasis on skills to safely climb wood poles, the operation of a line truck, setting poles, framing poles on the ground, and operation of a digger derrick. Upon completion of training, the students will successfully pass the Class "A" Commercial Driver's License skills test. Rigging, wire identification, and use of rubber goods will also be learned. Safety topics include rigging safety awareness, fall protection, flame retardant personal protective equipment, medic first-aid; bloodborne pathogens; and good housekeeping.

Prerequisite(s): Current degree seeking student with a major of Electric Utility Technology, A.A.S. and preemployment screening by First Energy.

EUT 102 - Overhead Lines Technology II (3)

This course provides practical applications of electrical overhead line technology under the direct supervision of First Energy personnel. Emphasis will be placed on skills required to perform work on secondary voltage circuits, bucket truck familiarization, and bucket rescue. Students will receive an overview of distribution electrical systems and the Occupational Safety and Health Administration (OSHA). Safety topics include work zone traffic control, minimum approach distances, rubber protective equipment, and knowledge of UD excavation/trenching/shoring.

Prerequisite(s): Current degree seeking student with a major of Electric Utility Technology, A.A.S. and preemployment screening by First Energy.

EUT 101 - Overhead Lines Technology I (3)

EUT 199 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

Prerequisite(s): Current degree seeking student with a major of Electric Utility Technology, A.A.S. and preemployment screening by First Energy.

EUT 201 - Overhead Lines Technology III (3)

This course provides practical applications of electrical overhead line technology under the direct supervision of First Energy personnel. Emphasis is placed on skills required to identify, install, and maintain primary underground residential distribution (URD) equipment, including various methods of troubleshooting URD primary and secondary units. Students learn grounding distribution circuits and will develop the knowledge and skills to safely perform rubber gloving assignments utilizing the insulate and isolate techniques. Students perform tasks while working on an energized three-phase circuit under controlled conditions. Safety topics include fire extinguisher safety, temporary protective grounds, stored energy devices, and protective service.

Prerequisite(s): Current degree seeking student with a major of Electric Utility Technology, A.A.S. and preemployment screening by First Energy.

EUT 101 - Overhead Lines Technology I (3) and EUT 102 - Overhead Lines Technology II (3)

EUT 202 - Overhead Lines Technology IV (3)

This course provides practical applications of electrical overhead line technology under the direct supervision of First Energy personnel. Emphasis will be on line equipment, hot line tools, power industrial trucks, and transmission (including wood pole, steel pole, ladder, and tower climbing). Bucket, pole top, and self-rescue will also be reviewed. Safety topics include spill response, live line tools, hazardous communications, and accident prevention handbook review.

Prerequisite(s): Current degree seeking student with a major of Electric Utility Technology, A.A.S. and preemployment screening by First Energy.

EUT 101 - Overhead Lines Technology I (3), EUT 102 - Overhead Lines Technology II (3), and EUT 201 - Overhead Lines Technology III (3)

EUT 299 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

Prerequisite(s): Current degree seeking student with a major of Electric Utility Technology, A.A.S. and preemployment screening by First Energy.

Emergency Medical Services

EMSP 100 - Emergency Medical Responder (3)

This is an introductory course to emergency medical care for individuals that in the course of their normal duties are likely to be the first individual on the scene of a medical emergency. The course will cover what should be done until the ambulance unit arrives and will include CPR, an overview of EMS systems, basic airway management, patient assessment, circulation and automatic defibrillation, illness, and injury prevention, childbirth and children and scene operations.

Corerequisite(s): EMSP 100L - EMR Lab (1)

EMSP 100L - EMR Lab (1)

This course affords the student the opportunity to apply and reinforce the skills learned in EMSP 100 in a laboratory setting. The student will participate in both scenario based training as well as skill specific review.

Corerequisite(s): EMSP 100 - Emergency Medical Responder (3)

EMSP 101 - Introduction to EMS (3)

This course is a survey course designed to acquaint the student with emergency medical services roles & responsibilities, well being of the EMS provider, illness and injury prevention, medical-legal issues, ethics, therapeutic communications, and life span development.

Pre-requisite/Co-requisite(s): Be a degree seeking student in Paramedic, A.A.S. or Paramedicine Certificate

EMSP 102 - Emergency Medical Technician (6)

The primary focus of the Emergency Medical Technician is to provide basic emergency medical care and transportation for critical and emergent patients who access the emergency medical system. This individual possesses the basic knowledge and skills necessary to provide patient care and transportation. Emergency Medical Technicians function as part of a comprehensive EMS response, under medical oversight. Emergency Medical Technicians perform interventions with the basic equipment typically found on an ambulance. The Emergency Medical Technician is a link from the scene to the emergency health care system. This course was previously known as EMT-Basic until the incorporation of the new curriculum and scope of practices. This course or the EMT-Basic is a required prerequisite for admission into the Paramedic Program.

Corerequisite(s): EMSP 102L - Emergency Medical Technician Lab (2)

Pre-requisite/Co-requisite(s): Be a degree seeking student in Paramedic, A.A.S. or Paramedicine Certificate

EMSP 102L - Emergency Medical Technician Lab (2)

This class is designed to follow the same chronological order as the Emergency Medical Technician (EMT) course. Items covered will be all of the hands-on experiences necessary to reinforce the didactic instruction as the student completes the classroom portion. This course will act as the second portion of the EMT course in order to meet both state and national standards and guidelines for an EMT.

Corerequisite(s): EMSP 102 - Emergency Medical Technician (6)

Pre-requisite/Co-requisite(s): Be a degree seeking student in Paramedic, A.A.S. or Paramedicine Certificate

EMSP 103 - EMS Operations (3)

This course will include in-depth review of such topics as emergency vehicle operations, medical incident command, rescue awareness and operations, hazardous materials recognition & identification and crime scene awareness.

Pre-requisite/Co-requisite(s): Be a degree seeking student in Paramedic, A.A.S. or Paramedicine Certificate

EMSP 104 - EMS Practicum (1)

This course provides the opportunity to observe and apply the skills learned in EMSP 102 in a supervised clinical setting including a local hospital emergency department, regional medical command center and on a field EMS unit. A minimum of fifty hours are required and will be scheduled by the student on an individual basis through the EMS Clinical Coordinator.

Pre-requisite/Co-requisite(s): Be a degree seeking student in Paramedic, A.A.S. or Paramedicine Certificate

EMSP 104L - EMS Lab I (1)

This course affords the student the opportunity to apply and reinforce the skills learned in EMSP 102 in a laboratory setting. The student will participate in both scenario based training as well as skill specific review.

Pre-requisite/Co-requisite(s): Be a degree seeking student in Paramedic, A.A.S. or Paramedicine Certificate

EMSP 199 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

EMSP 201 - Adv Airway Mgmt & Pt Assessmen (3)

This course provides a comprehensive understanding of the respiratory system and respiratory emergencies. Covered is an advanced approach to managing simple as well as difficult airways. The course includes advanced patient assessment skills and techniques for the paramedic to use while establishing their appropriate treatment modalities.

Prerequisite(s): EMSP 104 - EMS Practicum (1)

Pre-requisite/Co-requisite(s): Students must be accepted into Paramedic, A.A.S. or Paramedicine Certificate

EMSP 202 - Pathophysiology of Shock & Trauma Resuscitation (3)

This course provides a comprehensive understanding of the pathophysiology of shock, the different types of shock followed by appropriate treatment. The course also will give an in-depth look at all of the types of trauma and how our bodies react to absorbing energy. Our course will follow up with time management and treatment modalities for trauma care.

Prerequisite(s): EMSP 204 - EMS Practicum II (2)

EMSP 203 - Pre-Hospital Pharmacology (3)

This course provides topics to include pharmacokinetics, pharmacodynamics, drug calculations, and drug administration. The course provides the cognitive understanding of such skills as intravenous cannulation, intraosseous infusion, intramuscular medication injection, and subcutaneous medication injection, intranasal medication administration to mention a few. The student will be working with Crew Resource Management techniques to ensure the accuracy of patient care.

Prerequisite(s): EMSP 104 - EMS Practicum (1)

Pre-requisite/Co-requisite(s): Students must be accepted into Paramedic, A.A.S. or Paramedicine Certificate

EMSP 204 - EMS Practicum II (2)

This course provides the opportunity to observe and apply the skills learned in EMSP 201, EMSP 202, and EMSP 203 in a supervised clinical setting including a local hospital emergency department, respiratory therapy department, and operating room and on a field EMS unit. A minimum of one hundred clinical hours are required and will be scheduled by the student on an individual basis through the EMS Clinical Coordinator.

Prerequisite(s): EMSP 104 - EMS Practicum (1)

Pre-requisite/Co-requisite(s): Students must be accepted into Paramedic, A.A.S. or Paramedicine Certificate

EMSP 204L - EMS Lab II (1)

This course affords the student the opportunity to apply and reinforce the skills that they have learned in the EMS program to this point in a laboratory setting, concentrating on EMSP 201 and EMSP 203. The student will participate in both scenario based training as well as skill specific review.

Prerequisite(s): EMSP 104 - EMS Practicum (1)

Pre-requisite/Co-requisite(s): Students must be accepted into Paramedic, A.A.S. or Paramedicine Certificate

EMSP 205 - Medical Emergencies I (3)

This course provides a comprehensive review of the pathophysiology of the cardiovascular system. This will include assessment and treatment for cardiovascular emergencies. Within this course, you will become fluent in Electro Cardio Grams (ECG) and their interpretations. The course will conclude with a complete 12 Lead understanding and interpretation.

Prerequisite(s): EMSP 204 - EMS Practicum II (2)

Corequisite(s): EMSP 205L - Medical Emergencies I Lab (1)

Pre-requisite/Co-requisite(s): Be a degree seeking student in Paramedic, A.A.S. or Paramedicine Certificate

EMSP 205L - Medical Emergencies I Lab (1)

This course provides a comprehensive review and integration with patient care to the cardiac patient. This will include assessment and treatment for cardiovascular emergencies. Within this course, you will become fluent in Electro Cardio Grams (ECG) and their interpretations. The course will conclude with a complete 12 Lead understanding and interpretation.

Prerequisite(s): EMSP 204 - EMS Practicum II (2)

Corequisite(s): EMSP 205 - Medical Emergencies I (3)

Pre-requisite/Co-requisite(s): Be a degree seeking student in Paramedic, A.A.S. or Paramedicine Certificate

EMSP 206 - EMS Practicum III (2)

This course provides the opportunity to observe and apply the skills learned in EMSP 205 in a supervised clinical setting including a local hospital emergency department, respiratory therapy, cardiac service, and cardiac care unit and on a field EMS unit. A minimum of one hundred clinical hours are required and will be scheduled by the student on an individual basis through the EMS Clinical Coordinator.

Prerequisite(s): EMSP 204 - EMS Practicum II (2)

Pre-requisite/Co-requisite(s): Be a degree seeking student in Paramedic, A.A.S. or Paramedicine Certificate

EMSP 206L - EMS Lab III (1)

This course affords the student the opportunity to apply and reinforce the skills learned in the EMS program to this point in a laboratory setting, concentrating on EMSP 205 and EMSP 206. The student will participate in both scenario-based training as well as skill-specific review.

Prerequisite(s): EMSP 204 - EMS Practicum II (2)

Pre-requisite/Co-requisite(s): Be a degree seeking student in Paramedic, A.A.S. or Paramedicine Certificate

EMSP 207 - Medical Emergencies II (3)

This course reviews pathophysiology, assessment and management of medical patients with neurological and endocrinological emergencies, allergies, and anaphylaxis, gastroenterological, urological, toxicological, hematological, and environmental emergencies, infectious and communicable diseases, behavioral, gynecological, and obstetrical emergencies.

Prerequisite(s): EMSP 206 - EMS Practicum III (2)

Pre-requisite/Co-requisite(s): Be a degree seeking student in Paramedic, A.A.S. or Paramedicine Certificate

EMSP 208 - Special Patients & Situations (3)

This course takes an in depth look at the approach to patients with special needs such as neonatal, pediatric and geriatric patients, patients with mental or physical impairments, or patients with high technology medical devices in the out-of-hospital setting.

Prerequisite(s): EMSP 206 - EMS Practicum III (2)

Pre-requisite/Co-requisite(s): Be a degree seeking student in Paramedic, A.A.S. or Paramedicine Certificate

EMSP 209 - EMS Practicum IV (2)

This course provides the opportunity to observe and apply the skills learned in EMSP 207 and EMSP 208 in a supervised clinical setting including a local hospital emergency department, pediatric unit, obstetrical unit, psychiatric unit and on a field EMS unit. A minimum of one hundred clinical hours are required and will be scheduled by the student on an individual basis through the EMS Clinical Coordinator.

Prerequisite(s): EMSP 206 - EMS Practicum III (2)

Pre-requisite/Co-requisite(s): Be a degree seeking student in Paramedic, A.A.S. or Paramedicine Certificate

EMSP 209I - EMS Internship (1)

This course is an internship which takes place in the final weeks at the completion of the EMSP program. The student will be assigned an internship mentor and field unit with whom they will do a minimum of 48 hours, prior to graduation. This internship will give the student a chance to "put it all together" in real-life situations.

Prerequisite(s): EMSP 206 - EMS Practicum III (2)

Pre-requisite/Co-requisite(s): Be a degree seeking student in Paramedic, A.A.S. or Paramedicine Certificate

EMSP 210 - Paramedic Capstone (2)

This course serves as the cumulative review and remedial application of what the student has learned in EMSP 201-209. The course will focus on providing summative evaluation of the student's performance in simulated situations or scenarios. Successful completion of this course is required to obtain recommendation to sit for the National Registry Examination for Paramedic. This course is designed to meet the standards set forth by the National Registry of EMTs.

Prerequisite(s): EMSP 206 - EMS Practicum III (2)

Pre-requisite/Co-requisite(s): Be a degree seeking student in Paramedic, A.A.S. or Paramedicine Certificate

EMSP 211 - Field Research and Evaluation (2)

This course encourages the student to analytically evaluate EMS operations and pre-hospital medical care and to become an advocate for change within the EMS System. A focus of this course is on conducting and evaluating a group and an independent field research project as well as presentation of research results in both written and oral formats.

EMSP 288 - Paramedic Summer Practicum (1)

This class is designed to offer the current paramedic student an additional opportunity to enhance their clinic/field exposure. The student will continue to use their assessment and procedural skills previously learned in a direct patient care environment.

Prerequisite(s): EMSP 204 - EMS Practicum II (2)

Pre-requisite/Co-requisite(s): Be a degree seeking student in Paramedic, A.A.S. or Paramedicine Certificate

EMSP 299 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

English

ENGL 100 - English Essentials (3)

This course is designed to introduce students to essential English skills ranging from writing in the rhetorical modes of narration and argument to creating a rudimentary media-based presentation on a short expository essay (in the form of process, definition, or persuasion). Students will draw on accompanying readings. Briefly, instructors will introduce Internet Research, and MLA style will be taught in some depth. In addition to these written skills practiced, students will study and be quizzed on correct grammar, punctuation, and usage.

ENGL 100R - Reading Essentials (3)

The goal of this course is the development of effective college-level reading skills, which will enable the student to be successful in achieving both academic and career goals. The course provides the opportunity to learn and adopt reading skills that will promote success in college. It emphasizes pre-reading and comprehension strategies, identification of main ideas and supporting details, and development of college-level vocabulary. This course fosters effective reading habits and application of the skills to diverse texts, including those in a content area.

ENGL 100S - Developmental English (1)

This course is designed as a four-day intensive preparation for entrance into college-level English, specifically focusing on the skills measured by the Next Generation Accuplacer entrance exam. This course provides students the opportunity to enhance the following skills: organization and logic of composition, development of main ideas, paragraphing, sentence structure, grammar, mechanics, word choice, vocabulary in context, and punctuation.

ENGL 101 - ~English Composition I (3)

ENGL 101 is an introduction to college writing. This class emphasizes processes for drafting, revising, and editing. It develops a student's ability to read a passage, analyze its meaning, and write an intelligent response which shows not only an understanding of the passage but also a working knowledge of the writing and rhetorical strategies. Students will learn how to make effective arguments and how to locate, synthesize, and evaluate relevant information.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 101L - English Composition I Lab (3), or placement test scores

ENGL 101L - English Composition I Lab (3)

With an emphasis on mechanics, dictation, and paragraphing, ENGL 101L is designed to provide a co-requisite course of instruction for students enrolled in college-level ENGL 101. Students will complete a coordinated critical reading and essay writing to complement the work being completed in ENGL 101.

Corerequisite(s): ENGL 101 - ~English Composition I (3)

ENGL 102 - ~English Composition II (3)

ENGL 102 is a continuation of English Composition I that provides experience in analyzing and writing arguments and persuasive prose. A central feature of the course is library research that is intended to develop familiarity with reference sources and skill in summarizing the diverse points of view of multiple sources. Requires students to locate, evaluate, integrate, and document sources effectively.

Prerequisite(s): ENGL 101 - ~English Composition I (3)

ENGL 110 - ~Technical Writing & Communication (3)

This course is designed to prepare students to write technical reports and other technical documents. Emphasis is on audience, clarity, conciseness, and accuracy of expression. It covers research techniques, information design, writing style, and effective use of graphics.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

ENGL 110L - Tech Writing & Comm Lab (3)

This course is designed to provide a co-requisite course of instruction for students enrolled in college-level ENGL 110.

Corequisite(s): ENGL 110 - ~Technical Writing & Communication (3)

ENGL 111 - Applied Technical Writing (4)

Students explore techniques for improving the effectiveness of writing and communication common in the industries of Advanced Manufacturing and Energy. Students have the opportunity to improve their ability to write and communicate through critical thinking, writing, revising, and editing while exploring practical career scenarios.

Prerequisite(s): Must be enrolled in one of the following programs as a degree seeking student: Electric Distribution Engineering Technology Certificate, Electric Distribution Engineering Technology, A.A.S., Electric Utility Technology, A.A.S., Machine Operator/Mechatronics Assistant Certificate, and Mechatronics, A.A.S.

ENGL 150 - ~Play Production (3)

This course will prepare a reading play as well as the main production in the spring. By the time of the production, this will entail: (1) casting the play as well as assigning other functions to individuals or teams, e.g. stage manager(s), set designer(s), set construction (tear down), costume, props, make-up, publicity, lights, sounds, etc., each student in the class taking a role, on stage or behind the scenes, in the production; (2) rehearsing the plays, which will entail lessons in acting and all other facets of play production; (3) performing the plays; (4) discussing and critiquing the experience; and (5) writing an essay on some facet of the production.

ENGL 199 - Special Topics

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

ENGL 201 - Intro to Literary Study (3)

This course introduces students to the discourse, practices, and protocols associated with the study of literature. The course is a gateway to upper-division English courses and must be completed with a C or better in order to articulate to an upper-division transfer program.

Prerequisite(s): ENGL 102 - ~English Composition II (3)

ENGL 204 - ~Sur of American Lit (3)

This course is designed to familiarize students with the rich variety of literature produced in America-- from the Colonial through the Modern periods. Students are exposed to a range of writers and traditions that constitute the diverse and multicultural American experience. In addition to tests and quizzes, students are required to write and revise at least two critical essays or equivalent writings (one of which is 1,000-word computer drafted minimum); however, instructors are encouraged to assign significant amounts of writing beyond the required minimum in order to facilitate students' continued acquisition of critical thinking, reading, and writing skills.

Prerequisite(s): ENGL 102 - ~English Composition II (3)

ENGL 207 - Teach Rdg & Young Adult Lit (3)

Students will be exposed to reading pedagogy and the methods of teaching reading as well as the young adult literary canon and the reading and oral interpretation of classic and contemporary young adult literature.

Prerequisite(s): ENGL 102 - ~English Composition II (3)

ENGL 208 - ~Survey of World Literature I (3)

This course is designed to familiarize students with great works of world literature—both Western and Eastern traditions—representing Classical, Medieval, and Renaissance periods or non-Western chronological equivalents. Students are exposed to diverse literary traditions through discussion and through critical thinking and writing about significant literary works. In addition to essay tests and quizzes, students are required to write at least one formal, critical essay (1,000 –word computer drafted minimum); however, instructors are encouraged to assign significant amounts of writing beyond the required minimum in order to continue to develop students' critical thinking, reading, and writing skills.

Prerequisite(s): ENGL 102 - ~English Composition II (3)

ENGL 210 - Creative Writing (3)

This course will entail both reading and writing in the four literary genres. Students will read text materials in the techniques in and the practice of creative writing and will build a portfolio of their own work, which will contain samples from each of the four genres: poetry, fiction, drama, and literary non-fiction.

ENGL 211 - Intro to Horror Writing (3)

In this course, students will learn how to construct a horror premise, create atmosphere, and complete a final product. The course will allow for exploration of individual voice and sub-genre selection. Length impacts will be discussed as a matter of course; however, short stories and sample chapters of a full-length piece will be graded. Beginning with a review of popular authors in the horror genre and an exercise in reading and comparing authors of a similar sub-genre, students will understand their preferences and why they have them. An overall understanding of story construction as it pertains to horror fiction, to include character development, tone, and the use of dialogue, will be amassed by the completion of the course.

Prerequisite(s): ENGL 101 - ~English Composition I (3)

ENGL 212 - Shakespeare (3)

This course is a study of a selection of the great comedies, tragedies, and histories. Emphasis is placed on historical and contemporary Shakespearean criticism.

Prerequisite(s): ENGL 101 - ~English Composition I (3)

ENGL 215 - ~The Art of Literature (3)

This course explores the art of literature, specifically how a deeper understanding of form, genre, and style enhances our appreciation of literature and language and our understanding of artistic theory/aesthetics. Through a careful study of literature, students will understand the creative thinking of great writers and sharpen their own creative thinking skills.

Prerequisite(s): ENGL 100 - English Essentials (3), ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement test scores

ENGL 270 - Traditional Grammar (3)

Students will be exposed to methods of teaching grammar as well as certain approaches to linguistic grammar. This course will focus initially on the study of traditional grammar and English structures (parts of speech, phrases, and clauses), noting additionally the practical application of standard English usage as apparent in publication and print.

Prerequisite(s): ENGL 101 - ~English Composition I (3)

ENGL 299 - Special Topics (1-3)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

English as a Second Language

ESL 101 - ESL Transitions I (2)

This course is designed to assist students whose first language is not English. English mechanics and academic writing are emphasized. This course is designed to provide a foundation for ESL students as they transition into college level writing coursework. Teaching strategies include individualized, conference based instruction, writing assignments and review. The course is live classroom instruction with a personalized blended learning platform and speech trainer features available to students. This is a repeatable course.

ESL 102 - ESL Transitions II (2)

This is a course designed to assist students whose first language is not English. English mechanics and academic writing are emphasized. This course is a foundation for ESL students as they transition into college level writing coursework. Teaching strategies include individualized, conference-based instruction, writing assignment and review. The course is live classroom instruction with a personalized blended learning platform and speech trainer features available to students. This is a repeatable course.

Environmental Technician

ENVT 101 - Environmental Science (3)

This is an introductory course in environmental science. Students will develop an understanding of the interrelationships between human activities and the environment. Emphasis is on the physical, chemical, and biological principles and processes as they relate to human-environment interactions, the role of energy in human and natural systems, environmental legislation and human behavior.

ENVT 105 - Intro to Safety (1)

This course includes training in CPR, first aid, bloodborne pathogens for first responders, as well as introductory training in basic decontamination. Completers will receive CPR and First Aid cards.

ENVT 108 - Intro to OSHA and EPA (3)

This course provides an introduction to OSHA and EPA regulations pertaining to 29 CFR 1910 and 29 CFR 1926 record keeping, OSHA/EPA inspection, fire, chemical exposure, most frequent violations, and other topics.

ENVT 121 - OSHA 30 Construction (2)

This course covers federal construction regulations 29 CFR 1926 and the case law surrounding the construction industry.

ENVT 140 - Industrial Hygiene (3)

This course covers the methods of anticipating, recognizing, evaluation and controlling exposures in the workplace while exploring the toxicological effects of contaminants on the workforce.

ENVT 150 - Air and Water Permits (3)

This course focuses on the laws and policies applicable to air and National Pollution Discharge Elimination System (NPDES) permits. Students will learn types of emission sources, the purpose of air permits, the purpose of NPDES permits, and permitting requirements and compliance.

ENVT 199 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

ENVT 200 - HAZWOPER (3)

This HAZWOPER (Hazardous Waste Operations and Emergency Response) course provides a basic knowledge of the storage, transportation, and use of hazardous materials in business. The course introduces hazardous materials, including definitions, categories, properties, regulations, and evaluation. Critical principles of emergency management, including both private and public sector elements, are included.

ENVT 220 - Environmental Software (3)

This course is an introduction to common environmental software tools. Students will use selected software applications to process and analyze data efficiently.

ENVT 230 - Geoscience Studies (3)

This course is an introduction to the principles and practice of earth science as it relates to environmental problems, including water quality, soil management, and land use practice, landslides, subsidence, waste disposal, legal aspects, and geological aspects of land-use planning.

ENVT 235 - Pollution Studies (3)

This course provides an understanding of the types and sources of pollutants in the soil, water, and air, including their deposition and movement. An overview of current best management practices in prevention, mitigation, and restoration of soil-water-atmosphere is provided.

ENVT 240 - Watershed Studies (3)

This course is an introduction to water ecology, including watershed structural and functional characteristics, as well as the biotic and abiotic components of watersheds. The course emphasizes how human activities can degrade or improve the condition of a watershed, including water quality, fish and wildlife, forests, and other vegetation.

ENVT 250 - Industrial Fire Safety (3)

This introductory course in fire safety uses NFPA 1, NFPA 600, and other resources to introduce the many factors to be considered for fire safety. This includes engineering concerns as well as safe work practices. This course will also discuss confined space rescue and field applications.

ENVT 255 - Incident Investigation (3)

This course focuses on techniques for gathering complete, accurate, objective incident data, establishing root causes, reporting findings, and determining correction action. The student will learn how to uncover the who, what, why, when, and how of each incident. Students will also learn how to analyze data to prevent injuries, property damage and financial losses.

ENVT 260 - Environmental Safety Mgmt (3)

This course is an introductory examination of safety management principles and NIMS Incident Command Structure. This course emphasizes record keeping, hazard identification, product safety, and behavioral-based safety as it relates to preventing accidents through examination of historical incidents.

ENVT 270 - Environmental Grant MGT (3)

This course introduces students to monitoring and reporting practices for grants management, technician management, and provides exposure to corporate finance. Regulatory compliance, roles and responsibilities, implementation, and documentation are discussed with respect to grant management. Providing direction, promoting teamwork, and expressing a broader perspective as a new manager are discussed. Finance topics will include the time value of money and risks.

ENVT 292 - Internship in Env. Studies (1-4)

Students earn practical experience in the workplace. The student engages in on-site activities relating to environmental studies. Students learn how to translate classroom theory and methods into professional skills. Activities are under the supervision of trained personnel. Application for the internship must be made to the Environmental Science Technician Program Manager.

ENVT 299 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

Financial Management

FINC 201 - Principles of Finance I (3)

This course exposes students to corporate finance. Other items covered include risk exposure and the U.S. financial system. Topics touched on will be Time Value of Money and risk.

Pre-requisite/Co-requisite(s): ACCT 201 - Principles of Accounting I (3) and ECON 205 - ~Principles of Macroeconomics (3)

FINC 202 - Principles of Finance II (3)

As a follow up to FINC 201 - Principles of Finance I (3) this class is a continuation. It goes more in depth with corporate finance, banking, international finance, capital budgeting, mergers and acquisitions and the Time Value of Money.

Prerequisite(s): FINC 201 - Principles of Finance I (3)

FINC 215 - Small Business Finance (3)

The role of the finance cycle will be explored in detail. Various business entities will be examined as well as creating a business, buying a business and putting a value to an existing one. Funding sources for entities and financial statement analysis will be covered.

Prerequisite(s): BUSN 213 - Small Business Fundamentals (3)

Fire Science

FSCI 110 - Firefighter I (3)

This course is an introduction to basic firefighting skills and techniques and is equivalent to Firefighter Section I training requirements of the West Virginia State Fire Commission.

FSCI 111 - Firefighter II (3)

This course is a continuation of FSCI 110 - Firefighter I (3) and is an equivalent to Firefighter Section II training requirements of the West Virginia State Fire Commission.

FSCI 112 - Hazardous Materials I & II (3)

This course provides the basic skills required to properly identify hazardous materials and respond in a defensive fashion to contain or control releases of hazardous substances. This course satisfies the OSHA training requirements of 29 CFR 1910.120 for First Responder Awareness and Operations.

Prerequisite(s): FSCI 110 & FSCI 111.

FSCI 113 - Hazardous Materials III (3)

This course provides the basic skills required to properly contain and control releases of hazardous materials. This course satisfies the OSHA training requirements of 29 CFR 1910.120 for First Responder Operations.

Prerequisite(s): FSCI 112

FSCI 199 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

FSCI 299 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

Gaming Careers Institute

GAME 100 - Introduction to Table Games (1)

This course covers the general responsibilities of the dealer and is a pre-requisite for other table games training courses. Emphasis is placed on correct chip handling techniques, identifying the value of each color chip, learning to read the total value of a bet, and pit procedures.

GAME 101 - Blackjack (2)

This course covers the fundamentals of dealing Blackjack. Emphasis is placed on card totaling, chip handling and cutting, card shuffling and card placement. Attention is given to game and accounting procedures, accuracy, and speed.

GAME 102 - Midi Baccarat (2)

This course is designed to train students in all aspects of dealing Midi Baccarat. Students will learn about the equipment used, the rules and object of the game, check handling and odds. Extensive hands-on training is used to assist students in mastering all aspects of this exciting game.

GAME 103 - Poker (2)

This course covers the fundamentals of dealing Poker. Instruction is provided in the fundamentals of rake/antes/blind bets, game rules and regulations, dealer's responsibilities and game security.

GAME 104 - Roulette (2)

This course covers the fundamentals of dealing Roulette. Emphasis is placed on chip handling, table layout, accurate and quick mental multiplication, and accuracy in clearing the table.

GAME 105 - Craps (4)

This course covers the fundamentals of dealing craps. Emphasis is placed on the knowledge of the procedures on a variety of bets, accurate and quick mental multiplication and chip handling. Special attention is given to game procedures, accounting procedures, accuracy and speed.

GAME 106 - Novelty (2)

Novelty Game training focus' on a group of highly popular games including Let It Ride, Three Card Poker, Four Card Poker, Texas Hold Em Bonus, and the Big Six. Students will learn skills such as card delivery, rule sets, and payout structures for all five games.

GAME 199 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

GAME 299 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

General Education

CGEN 100 - First Year Experience (3)

This course will focus on crucial components for the first year of higher education: reading skills, study skills, critical thinking, and good habits for success. This course will provide the student with systematic exposure to successful study skills and will emphasize adaptation to individual learning styles. In addition, students will be required to apply critical reading and thinking skills to a variety of activities drawn from academic disciplines, contemporary issues, and individual life experiences.

CGEN 101 - Career Transition (3)

This course will provide a foundation of career development skills and exploration of life planning issues. Components will include self-assessment, academic exploration, study of career fields, and information interviewing. Job search areas of the course would include networking, resume and correspondence, writing interview preparation, job search etiquette, decision-making, work transition, and using the Internet in your search.

CGEN 110 - Portfolio Development I (2)

The Portfolio Development course is designed to assist adult students with the development of a comprehensive portfolio documenting knowledge acquired through life/work experiences and other formal or informal learning experiences. Students are guided through a series of group sessions on learning style, college-level learning, skill identification, goal setting, adult development and career changes and the portfolio development process.

Prerequisite(s): Grade of C or better ENGL 101.

CGEN 111 - Portfolio Development II (1)

This is the second half of a two-course series. In this course, the student is responsible for the development of a written portfolio which provides the description, analysis, and documentation of learning experiences appropriate for his/her own educational program of study. There is a \$300 Portfolio fee attached to this class.

Prerequisite(s): CGEN 110 - Portfolio Development I (2)

CGEN 112 - Prior Learning Development (3)

The Portfolio Development course is designed to assist adult students with the development of a comprehensive portfolio documenting knowledge acquired through life/work experiences and other formal or informal learning experiences. Students are guided through a series of group sessions on learning style, college-level learning, skill identification, goal setting, adult development, career changes, and the portfolio development process. In this course, the student is responsible for the development of a written portfolio, which provides the description, analysis, and documentation of learning experiences appropriate for his/her own educational program of study.

Prerequisite(s): ENGL 101 - ~English Composition I (3) with a grade of C or better

CGEN 115 - Technology Orientation (1)

Technology Orientation will train students to easily identify and use online content, which has a high priority for higher education institutions today. The course will focus on technology-enhanced educational methodologies to provide students with the skills they must develop to be successful in the academic environment. They will also develop familiarity with an online learning environment and online resources.

CGEN 116 - Developing Computer Fluency (3)

Developing Computer Fluency helps students develop skills necessary to work with computers at home, at school, and in the workplace. This course will introduce the student to computer terminology and help develop the skills necessary to succeed in the academic environment and workplace. Students will be introduced to word processing, spreadsheets, databases, and presentation software. It will train students to easily identify and use online content, which is a high priority for higher education institutions today. Students will also develop a familiarity with an online environment and online resources.

CGEN 120 - Student Leadership Academy

This course provides students with hands-on experience on being a leader, working together on a team, being responsible, serving as a liaison, and representing a large group of individuals and their views on specific issues. The student will also receive encouragement to grow personally, academically, and to be an active member of the community.

CGEN 199 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

CGEN 200 - Learning Online (1)

This course provides the necessary foundation for students to be successful in an online course environment. Required technical skills will be discussed and assessed, as well as study skills, time management techniques, and specific exceptions for teaching and learning online. An overview of the learning management system and directions for its use will also be covered.

CGEN 292 - Field Experience (1-6)

This is a capstone course in experiential learning. The student participates in an internship, externship, or cooperative with an appropriate agency, company, or organization. Students will develop professional and career readiness competencies.

Prerequisite(s): Must have completed over half of the requirements for degree completion and have above a 2.0 Overall GPA. CAS 192 - Computer Apps Practicum (1), CYBR 192 - Practicum (3), IT 191 - Practicum (2), OR MDIA 192 - Media Practicum (1)

CGEN 299 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

CMTC 156 - Real Estate (6)

This class will include the major aspects of real estate from broad perspectives through "fine print" detail. Students will acquire a ready understanding of legal and technical concepts, documents, and successful procedures. This course includes and satisfies the state requirement of 90 mandatory hours of classroom study in real estate.

CMTC 199 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

CMTC 299 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

General Physical Education

GSPE 124 - Zumba (1)

Zumba combines Latin and International music with a fun and effective high energy workout. Come Join the Party! Sneakers are required and bring water.

GSPE 129 - Beginning Tap Dancing (1)

This course will introduce the student to basic beginner level terminology and tap exercises. This course will be primarily a physical education/activity based course with some written supplementary activities to augment understanding of terminology and performance. It is mandatory for each student to have tap shoes.

GSPE 147 - Women's Self-Defense (1-2)

This class is a beginner-level women's self defense class that is tailored to suit the needs of the students. Students will use exercise activities to gain awareness of their surroundings, increase self-confidence, identify danger areas, develop poise, and achieve a positive state-of-mind. The skills gained in this class can be applied to everyday life. Principles of self defense will be learned in a controlled simulated environment with cool down exercises to relieve stress through partner stretching. Loose fitting clothing is recommended.

GSPE 197 - Beginning Yoga (1-2)

This class is a beginner-level hatha yoga class and is based on teachings by B.K.S. Iyengar that uses yoga to unite the movement of the body with the rhythm of the breath through continuous exploration of pranayama/mantras, sun salutations, standing and balancing postures, back and forward bends, twists, hip openers, inversions, and meditation. A yoga mat and yoga block are required. A yoga strap and wool blanket are recommended.

GSPE 198 - Intermediate Yoga (1-2)

This class is an intermediate hatha yoga class and is based on teachings by B.K.S. Iyengar that uses yoga to unite the movement of the body with the rhythm of the breath through continuous exploration of pranayama/mantras, sun salutations, standing and balancing postures, back and forward bends, twists, hip openers, inversions, and meditation. A yoga mat and yoga block are required. A yoga strap and wool blanket are recommended.

GSPE 199 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

GSPE 204 - Walking and Fitness (1)

This course develops a foundation for good health and wellness that must be maintained on a daily basis and throughout life. The course lecture emphasis is on fitness as an investment and a building block to a successful life. Topics include principles of walking and wellness and developing a lifestyle that includes walking. Students must participate in regularly scheduled walks outside of class as well as during class. Students must demonstrate improved walking pace and timing as the course progresses.

GSPE 210 - Fitness for Life (3)

This course is designed to assist participants in developing a healthier lifestyle through appropriate exercise programs, nutrition and behaviors that contribute to optimal health and wellness.

GSPE 299 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

Geography

GEOG 105 - ~World Cultural Geography (3)

This course introduces students to fundamental issues and concepts that explain the dynamic and complex relationships between people and the environments they inhabit. Students will explore the ways in which geography affects human settlement, health, diets, language, religion, and overall social, political, and economic development.

Geology

GEOL 101 - ~Geological Sciences (4)

This is a combined course in physical and historical geology dealing with the composition, structure, and history of planet Earth. Minerals, rocks, tectonic processes, and physical characteristics of the earth's surface will be emphasized in the physical component. Evolution, fossils, and the changing conditions and organisms throughout geologic time constitute the historical component. This class is comprised of three hours lecture and two hours lab per week.

GEOL 103 - Historical Geology (4)

Historical Geology is a course dealing with the history of planet earth focusing on the interplay between plate tectonics and life. Plate boundary positions throughout geologic time will be covered as well as life on the planet over the last 3.7 billion years. Evolution, fossils, and the changing conditions and organisms throughout geologic time will be emphasized. This is comprised of three hours lecture and two hours lab per week.

GEOL 199 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

GEOL 299 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

Health Information Management

HIM 101 - Fundamentals of HIM (2)

This course is an introduction to the Health Information Management (HIM) profession and the patient health record. The course will emphasize the importance of patient-centered care and the role health information plays in care. Topics introduced are functions of the health record, content and structure of the electronic health record (EHR), health information and standards, regulations and initiatives, payment and reimbursement systems, health providers, and disciplines. Upon completion, students should demonstrate an understanding of the HIM profession and healthcare organizations, professions, and the life cycle of EHR's.

HIM 199 - Special Topics (1-6)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

HIM 200 - Coding I (3)

This course focuses on the current classification systems used in the healthcare industry for diagnostic and procedure coding purposes. This course will emphasize applying ethical coding standards while adhering to current regulations and established guidelines. Upon completion, students should be able to accurately assign and sequence diagnostic and procedural codes for patient outcomes, statistical, and reimbursement purposes.

Prerequisite(s): BIOL 120 - ^Human Anatomy & Physiology I (3), BIOL 122 - ^Human Anatomy & Physiology II (3), BIOL 123 - ^Human Anatomy & Phys II Lab (1), CAHS 141 - Intro to Pharmacology (3), CAHS 142 - Pathophysiology of Disease (3), and HIM 101 - Fundamentals of HIM (2) with a grade of C or better

HIM 201 - Coding II (3)

The course focuses on the current CPT/HCPCS coding classification system used for outpatient/professional fees and ambulatory billing of medical services provided to the patient. This course will emphasize applying ethical coding standards while adhering to current regulations and established guidelines. Upon completion, students should be able to apply coding principles to correctly assign CPT/HCPCS codes. The focus will be on the CPT/HCPCS coding classification system used for outpatient/professional fees and ambulatory billing of medical service provided to the patient.

Prerequisite(s): HIM 200 - Coding I (3)

HIM 202 - Healthcare Information Systems (3)

This course explores how healthcare information systems are designed and implemented. Topics include system selection and implementation, information integrity, data governance, data quality, databases, and security. Upon completion, students should be able to facilitate the use of different health information systems.

Prerequisite(s): HIM 101 - Fundamentals of HIM (2)

HIM 203 - Basic Pharmacology for HIM (2)

This course emphasizes general pharmacology for HIM professionals covering general principles of drug interactions, adverse reactions, major drug classes and specific agents within each class.

Prerequisite(s): CAS 111 - Information Literacy (3) and HIM 200 - Coding I (3)

HIM 204 - Healthcare Law & Ethics (3)

This course focuses on legal requirements associated with health records documentation.

Prerequisite(s): HIM 200 - Coding I (3) and ENGL 101L - English Composition I Lab (3), or ENGL 110L - Tech Writing & Comm Lab (3), or placement

HIM 205 - HC Stats & Perf Improvement (4)

This course focuses on quality assessment, performance improvement, resource management, and risk management in healthcare settings. Students will learn statistical computation at the introductory level to inform performance improvement programs. Upon completion, students should be able to abstract, analyze, and report clinical data for facility-wide quality management/ performance improvement programs and monitor compliance measures.

Prerequisite(s): MATH 114 - ~Elem Probability & Statistics (3) or placement

HIM 206 - Supervision & Leadership (3)

This course focuses on supervision and management concepts, skills, and theory. This course will emphasize the application of these principles in the health information management setting. Upon completion, students should be able to apply management, leadership, and supervisory concepts to various healthcare settings.

Prerequisite(s): HIM 200 - Coding I (3)

HIM 207 - Advanced Coding (3)

This course focuses on the application of ICD, CPT/HCPCS coding through practical exercises using actual medical records. Emphasis will be placed on applying ethical coding standards. Upon completion, students will be able to validate coding accuracy while adhering to current regulations and established guidelines.

Prerequisite(s): HIM 201 - Coding II (3)

HIM 208 - Externship (2)

The HIM Externship is designed to give the student an opportunity to observe and perform hands-on tasks related to Health Information Management. Emphasis is placed on practical application of curriculum concepts to the healthcare setting. The student will be placed in a community healthcare setting coordinated by the school. Upon completion, students should be able to apply health information theory to healthcare facility practices. The HIM Internship is designed to give the student an opportunity to observe and perform hands-on tasks related to Health Information Management. The student may be placed in a community healthcare setting coordinated by the school.

Prerequisite(s): HIM 200 - Coding I (3)

Corequisite(s): HIM 207 - Advanced Coding (3) and HIM 209 - Capstone (3)

HIM 209 - Capstone (3)

This course focuses on integrating the theoretical and practical knowledge gained throughout the HIM Program. The student will complete an approved academic project or paper that demonstrates mastery of their program of study in a meaningful culmination of their learning, as well as assess their level of mastery of the stated outcomes of their degree requirements. This course will include review and prep for a mock certification exam.

Prerequisite(s): HIM 201 - Coding II (3)

Corequisite(s): HIM 207 - Advanced Coding (3) and HIM 208 - Externship (2)

HIM 220 - HIM Reimbursement Methods (3)

This course covers reimbursement methodologies and revenue cycle used in all healthcare settings as they relate to national billing, compliance, and reporting requirements. Topics include prospective payment systems, billing process and procedures, charge master maintenance, regulatory guidelines, reimbursement monitoring, and compliance strategies and reporting. Upon completion, students should be able to perform data quality reviews to validate code assignment and comply with reimbursement and reporting requirements.

Prerequisite(s): HIM 200 - Coding I (3)

HIM 299 - Special Topics (1-6)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

Heavy Equipment Technician

HET 110 - Welding I (2)

This course introduces students to the basic processes in the welding field and emphasizes welding safety. Students receive an introduction to welding equipment, identification and selection of electrodes, types of welds, and welding positions. Students explore basic metallurgy (weldability), and welding defects and problems. GMAW (MIG), GTAW (TIG), and SMAW/MMA (Stick) welding will be introduced.

HET 120 - Fabrication (2)

Students will learn the basics of metal fabrication safety including production, measuring, hand tools, and layout. Students will demonstrate proficiency in fabrication through related projects.

Prerequisite(s): CAD 201 - 3D Modeling (1), CAD 201L - 3D Modeling Lab (2), and HET 110 - Welding I (2)

HET 199 - Special Topics (1-4)

A special topics course (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

HET 206 - Heavy Equipment Electronics (3)

Students enrolled in this course will engage in theories, system testing, and troubleshooting of simulators and equipment. Additionally, students will receive an introduction to controls.

HET 210 - Welding II (2)

This course will focus on more advanced welding topics including the operation of AC and DC power sources, weld heat, polarities, and electrodes for use in joining various alloys. This course will also include weld analysis and an AWS welding certification simulation. Certification will not be granted upon this course.

Prerequisite(s): HET 110 - Welding I (2)

HET 211 - Advanced Welding (3)

Advanced welding techniques are taught in this course. This will include different methodologies which can include Stick, arc, MIG, or TIG. It also reviews how to weld various materials and shapes which can include steel, stainless steel, aluminum, alloy, nickel, copper, titanium, or cast iron.

Prerequisite(s): HET 210 - Welding II (2)

HET 212 - Weld Certification Prep (3)

This course prepares students for various AWS (American Welding Society) welding certifications. There is no certification given in this course nor guarantee of passage.

Prerequisite(s): HET 210 - Welding II (2)

HET 220 - Mobile Hydraulics (3)

Advanced Hydraulics covers a range of topics such as hydraulic motor types; external mechanical pumps with external gear, orbiting gerotor, and roller vane pumps assembly and disassembly; the study of hydraulic formulas; theory of operations; troubleshooting techniques, cylinder repair, includes oil samples, photo tachometer, return line filter, and viscosity gauge.

Prerequisite(s): MECH 120 - Fluid Power (3)

HET 292 - Internship (1-4)

Students will obtain a paid or unpaid internship that expands students' career awareness and further develops practical, hands-on experience. The number of credits earned will be determined by the hours of employment.

HET 299 - Special Topics (1-4)

A special topics course (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

History

HIST 101 - ~World History to 1500: Early Man Through the Renaissance (3)

This course is a survey of World History covering the development of ancient civilizations and cultures to the year 1500, beginning with prehistoric humans and the rise of the first civilizations, including Ancient Mesopotamia, Egypt, the Indus River Valley, and Early China. Continuing with the Classical Era, the survey encompasses the Greek and Roman, Indian, Japanese, and Saharan African Civilizations. The course then examines World Civilizations in the Middle Ages, including the Middle East, Europe, Asia, the Americas, and Africa, before concluding with the European Renaissance. The course compares the development and philosophical foundations of all the major world religions including Judaism, Hinduism, Buddhism, Christianity, and Islam, as well as the major political, economic, social, and cultural systems to the year 1500.

HIST 102 - ~World History Since 1500: The Renaissance Through the Present (3)

This course is a survey of World History from the European Renaissance to the present. At the beginning of the course, developments in the Western World between 1500 and 1800 receive special attention, including the Renaissance, Reformation, Scientific Revolutions, Age of Exploration, Enlightenment, colonization of America, and the transition from mercantilism to capitalism. Having identified the dramatic transition taking place in the West, the course then looks at the impact of those changes around the globe through the trans-Atlantic Slave Trade, political revolutions in the Americas and Europe, industrialization, 19th-century imperialism, World Wars I and II, communist revolutions, the rise of fascism, the Cold War, and the 19th and 20th-century decolonization efforts in India, Africa, Southeast Asia, and the Middle East. The course closes with a review of economic and political globalization since the 1970s. Thematically, the course explores the nature of political, economic, and technological power and the relationship of that power to issues of race, class, gender, religion, and environment.

HIST 199 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

HIST 201 - ~US History to 1877 (3)

This course will introduce students to the period of United States History until the end of Reconstruction. Special emphasis will be placed upon the political, economic, and social aspects of the nation from the Colonial period until the Civil War era.

HIST 202 - ~US History Since 1877 (3)

This course will explore the Post-Reconstruction era of United States History. Special emphasis will be placed on the political, economic, and social effects upon the United States during the Gilded, Progressive, Depression, World War, and Cold War eras.

HIST 206 - American Women's History (3)

This course introduces students to the experience of women in American society from the colonial period to present. Women's struggle for social, economic, and political equality will be a major focus of the course, as well as class distinctions, race, and ethnicity. Other topics include gender roles, family, feminism, and women's art and literature.

HIST 207 - African American History (3)

This course introduces students to the history of African Americans from the 16th century to present. Economic, political, and cultural influences on the black historical experience will be studied as well as historical factors that shape black cultural identity. Major topics include slavery in the New World, black migration, the Civil Rights Movement, race relations, black nationalism, and African American artists.

HIST 210 - ~WV and Appalachian History (3)

This course studies diverse elements of the history of West Virginia including economic, cultural, geographic, and political factors that have impacted the development of the state since the colonial period. Emphasis will be placed on patterns of colonial settlement, the statehood movement, industrialization and exploitation, and current conditions in the state and Appalachian region. A survey of West Virginia will be conducted in relation to the Appalachian region, the nation, and the world.

HIST 225 - Gender & Sexuality in the U.S. (3)

This course examines the history and culture of those who identify as LGBTQ+ living within the borders of the United States. Each subpopulation will be examined through ancient history to the present day. The historical role of LGBTQ+ individuals throughout history will be surveyed to understand their contribution and exclusion. The major focus of the second half will be on the origins, development, and status of LGBTQ+ rights in the United States.

HIST 299 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

Human Services

HSRV 101 - Intro to Social Work & HSRV (3)

Students will be introduced to human services and the major policies and practices used to understand human services as a profession. Students will study the evolution and history of human services and social welfare policy. Students will begin the process of self-awareness and growth in relation to helping others. The course explores the skills, ethics, values, and knowledge needed to work effectively as a culturally competent human service professional in a multidisciplinary setting.

Pre-requisite/Co-requisite(s): PSYC 203 - ~Introduction to Psychology (3) and SOCI 203 - ~General Sociology (3)

HSRV 201 - Interview, Intake, Case Mgmt (3)

This course focuses on case management and the interviewing process. Students develop a basic understanding of the concepts and processes of case management. The course will focus on documentation, the interview, assessment, developing a service plan, managing information, problem solving, networking, monitoring services, referral and successful termination, and discharge. Students will study and apply various interviewing, intake, and assessment techniques specifically used in the human services field as well as topics relevant to interviewing, such as confidentiality, recording of interviews and nonverbal communication.

Prerequisite(s): HSRV 101 - Intro to Social Work & HSRV (3)

HSRV 210 - Ethics, Values, Cultural Compt (3)

This course provides a framework of human services practice intended to prepare students for their actual experience in a human services agency. Students will explore moral, cultural, and ethical issues in the human services and addiction counseling fields, as well the core concepts related to ethics. Students will learn the historical development of informed consent and the codes of conduct, examining legal obligations and ethical codes, exploring ethical dilemmas and decision making, and becoming a culturally competent worker.

Prerequisite(s): HSRV 101 - Intro to Social Work & HSRV (3)

HSRV 220 - Internship (3)

Students complete 100 internship hours in a community agency to develop an awareness of issues that arise in the human service field. Students will also participate in weekly classroom meetings for additional personal/professional support, supervision, feedback, and exploration of field-related experiences. This gives students the opportunity to enhance knowledge and skills related to specific client populations. Confidentiality, professionalism, ethical principles, self-awareness, and critical thinking skills will be emphasized. Supervision of skill development and an introduction to the network of community services will be introduced.

Prerequisite(s): HSRV 101 - Intro to Social Work & HSRV (3)

Corequisite(s): HSRV 201 - Interview, Intake, Case Mgmt (3) and HSRV 210 - Ethics, Values, Cultural Compt (3)

HSRV 230 - Community Org & Advocacy (3)

This course will develop an understanding of the history and values of community resources designed to meet the needs of at-risk populations. Students will learn key principles, strategies, and hands-on skills frequently used in human service advocacy. This course will explore ways through which groups advocate for themselves and help build organizations and develop communities. The course highlights strategies used in advocacy, and the challenges and dilemmas organizers face in the field. Emphasis will be on agency, legislative, legal and community advocacy. The course will connect students with local social service agencies/organizations and provide them with information about

making appropriate referrals for services.

Prerequisite(s): HSRV 101 - Intro to Social Work & HSRV (3)

HSRV 240 - Research in Human Services (3)

This course introduces current research methods and techniques used in the human service field, with an emphasis on evidence-based practice. This course provides students with a basic theoretical understanding of research, practical aspects of research, and ethical and diversity considerations necessary in the proper implementation of research.

Prerequisite(s): HSRV 101 - Intro to Social Work & HSRV (3)

HSRV 250 - Crisis Intervention (3)

This course prepares students to give immediate help to people experiencing crises and introduces the basic theories and principles of crisis intervention. Emphasis is placed on identifying and demonstrating appropriate and differential techniques for intervening in various crisis situations. Material is presented on initial intervention, defusing and assessment, and resolution and/or referral, with emphasis on safety.

Prerequisite(s): HSRV 101 - Intro to Social Work & HSRV (3) or CJST 200 - Intro Crim Justice Sys (3)

HSRV 260 - Introduction to Addiction (3)

This course will present an overview of substance use disorders, addictive disorder, chemical dependency, and the addictive process. This course provides an introduction to the history, theories, current research and treatment practices, and the nature of successful recovery and prevention concepts. Students will also learn the influence of family history, culture, state and federal laws, ethical issues, and current treatment options.

Prerequisite(s): HSRV 101 - Intro to Social Work & HSRV (3)

HSRV 270 - Psychopharm of Addiction (3)

This course studies behavioral and cognitive effects of psychoactive drugs, including both illicit drugs and use of drugs in treating psychological disorders. Content includes psychology and physiology of addictions, information on drug use, misuse, abuse, and addiction, socially abused chemicals and historical background, pharmacology, psychological and physiological effects, medical uses, dependence patterns and toxicity.

Corequisite(s): HSRV 260 - Introduction to Addiction (3)

HSRV 280 - Addiction Counseling (3)

The course introduces students to the theories, concepts, and delivery of addiction counseling, including various therapies, motivational interviewing, harm reduction, addiction-specific assessments, 12-step programs, and group work. Additionally, the course will develop knowledge and skills in the relapse prevention of addiction.

Corequisite(s): HSRV 260 - Introduction to Addiction (3)

HSRV 292 - Practicum/Field Work II (3)

This course is a capstone course in experiential learning within a community human service agency. Students observe and learn from working professionals and apply knowledge and theory from the classroom to supervised work in

community settings. This course provides opportunities to identify and practice skills in the areas of interviewing, communications, human relations, research, ethics, and professional standards required of human services. Students will participate in a once-weekly classroom meeting to review fundamental principles of practice and are provided opportunities to discuss varying topics.

Prerequisite(s): HSRV 220 - Internship (3)

Information Technology

IT 102 - IT Fundamentals (3)

The IT Fundamentals course covers foundational IT concepts including identifying and explaining computer components, installing software, establishing network connectivity and preventing security risks. The course focuses on the knowledge and skills required to identify and explain the basics of computing, IT infrastructure, software development, and database use. IT Fundamentals prepares the student for the CompTIA IT Fundamentals certification exam.

IT 105 - Computer Ethics (3)

This course is designed to educate existing and future Information Technology professionals on the tremendous impact ethical issues have on the use of information technology in the modern business world. The topics covered include an overview of ethics, ethics for IT professionals and IT users, computer internet and crime, privacy, freedom of expression, intellectual property, software development, and employer/employee Issues. Individual case examinations will be presented to more closely represent real-life examples of each of these topics.

IT 180 - A+ Core 1 (3)

This course, along with IT 181 - A+ Core 2 (3), prepares students with skills needed to be a successful computer repair technician and also prepares students for CompTIA's A+ certification exams. In this course, the domains covered include mobile devices, networking, hardware, virtualization and cloud computing, and network and hardware troubleshooting. Topics include comparing and contrasting various type of mobile devices, TCP and UDP ports, protocols and their purpose, common networking hardware devices, wireless networking protocols, and internet connection types, network types and their features.

Corerequisite(s): CAS 111 - Information Literacy (3)

IT 181 - A+ Core 2 (3)

This course, along with IT 180 - A+ Core 1 (3), prepares students with skills needed to be a computer support technician and also prepares students for CompTIA's A+ certification exams. In this course, domains covered include operating systems, security, software troubleshooting and operational procedures. Students will compare and contrast common operating system types, features, tools, and their purposes, security protocols and authentication methods, social engineering, threats and vulnerabilities, and best practices with change management and documentation. Topics covered include physical security measures, logical security concepts, data destruction, and disposal methods, malware removal and disaster recovery planning.

Corerequisite(s): CAS 111 - Information Literacy (3)

IT 185 - Introduction to Linux (3)

This course will prepare students to work with the Linux operating system and help them prepare for the Linux+ CompTIA certification exams. The course does not assume any prior knowledge of Linux and is geared toward those interested in systems administration as well as those who will use or develop programs for Linux systems. The course provides coverage of topics related to Linux certification, including Linux distributions, installation, administration, networking and security.

Prerequisite(s): CAS 111 - Information Literacy (3)

IT 189 - Operating Sys Fundamentals (3)

This course is an introduction to the basics of computer operating systems. Topics include operating system principles, CPU, file systems, input and output devices, disk management, virtualization, sharing resources, and system maintenance.

Prerequisite(s): CAS 111 - Information Literacy (3)

IT 191 - Practicum (2)

This course will cover testing methodologies and study techniques to assist in preparing students for an IT industry certification exam.

Prerequisite(s): IT 102 - IT Fundamentals (3)

IT 199 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

IT 210 - Help Desk Technician (3)

This course prepares the student to help and support non-technical people with computer related problems in the workplace. Students will learn the fundamentals of help desk organization; the role of technology and computer support personnel in a business organization; software technologies to track and monitor the help desk infrastructure; integration of telephony and web-based support into the help desk environment; effective use of basic tools and technologies required for end user support; and positive, effective methods for meeting customer expectations and needs.

Prerequisite(s): IT 180 - A+ Core 1 (3) or IT 181 - A+ Core 2 (3)

IT 244 - Cloud/Virtualization (4)

This course serves as a basis for understanding the standard cloud terminologies and methodologies needed to implement, maintain, and support cloud technologies and infrastructure. Also discussed will be the relevant aspects of IT Security and the use of industry best practices related to the application of virtualization. Topics include cloud service and delivery models, virtualization components, and current virtualization options.

Prerequisite(s): CNET 111 - Networking Fundamentals (3), CNET 121 - Network+ (3), IT 102 - IT Fundamentals (3), or IT 180 - A+ Core 1 (3)

IT 245 - Cloud/Virtualization II (4)

Cloud/Virtualization II course continues building on the concepts covered in Cloud/Virtualization I. This course examines:

- Preparation for deploying cloud solutions
- Designing, implementing, and maintaining a secure cloud environment
- Determining memory, storage, and workload requirements
- Developing backup, disaster recovery, and business continuity measures
- Troubleshooting deployment, connectivity, and security issues

Prerequisite(s): IT 244 - Cloud/Virtualization (4)

IT 253 - TCP/IP (3)

TCP/IP (Transmission Control Protocol/Internet Protocol) defines the broad family of protocols and services that make the Internet possible. The course covers concepts, terminology, models, protocols, services, and standards that govern TCP/IP and that guide its behaviors on modern networks. Real world and interactive examples are offered in addition to hands-on projects to reinforce key concepts and to demonstrate the use of monitoring and managing TCP/IP in its native environment.

Prerequisite(s): CNET 111 - Networking Fundamentals (3), CNET 121 - Network+ (3), or IT 180 - A+ Core 1 (3)

IT 269 - Project Management (3)

This comprehensive course examines the various models used to develop and control the Work Breakdown Structure (WBS), Schedule, and Cost. Additionally, the class will perform an analysis on the time, cost models, and evaluate the outcome. There will be case problems and labs utilizing various processing tools.

Prerequisite(s): CAS 111 - Information Literacy (3), ENGL 110 - ~Technical Writing & Communication (3), and completion of a minimum of 45 credits

IT 270 - Server I (3)

This course is a beginning course in server management. Domains include server architecture, server administration, storage, security, networking, disaster recovery, and troubleshooting. Topics include form factors and components, server roles, maintenance, virtualization, storage technologies, server hardening, protocols, IP addressing, disaster recovery principles and troubleshooting methodologies.

Prerequisite(s): IT 189 - Operating Sys Fundamentals (3)

IT 285 - Advanced Linux (3)

This course will be a continuation course to IT 185 - Introduction to Linux (3). More advanced concepts will be presented to prepare the student for the Linux+ certification exam from CompTIA and are geared toward those interested in systems administration as well as those who will use or develop programs for Linux systems. This course provides comprehensive coverage of topics related to Linux certification, including Linux distributions, installation, administration, networking and security.

Prerequisite(s): IT 185 - Introduction to Linux (3)

IT 289 - Server II (3)

This course is the second course in server management. Domains include server architecture, server administration, storage, security, networking, disaster recovery, and troubleshooting. Topics include server roles, maintenance, performance monitoring, virtualization, storage technologies, DNS, DHCP, IP addressing, print management, and group policies.

Prerequisite(s): IT 270 - Server I (3)

IT 299 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

Instrumentation

INST 165 - Instrumentation I (2)

This course explores basic instrumentation concepts and electrical process control. Topics include instrumentation history and fundamentals, safety, instrumentation classification, power sources, the operation of instrumentation systems (pneumatic, electrical, and electronic) and applications in the workplace. Standard maintenance procedures, and installation and calibration practices will be introduced on the state-the-art training equipment.

INST 199 - Special Topics (1-4)

A special topics course (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

INST 265 - Instrumentation II (3)

This course explores the analysis and control of process control systems. Topics include: safety, control device fundamentals, control loops, data acquisition and transmission, troubleshooting, record keeping, and report writing.

Prerequisite(s): INST 165 - Instrumentation I (2)

INST 299 - Special Topics (1-4)

A special topics course (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

Language

ASL 101 - Sign Language I (3)

In this course, students develop communicative capabilities utilizing American Sign Language (ASL). In addition to learning about deaf culture, students will acquire functional sign phonology, vocabulary, and grammatical skills adequate to receive and convey information and ideas in professional and social situations.

ASL 102 - Sign Language II (3)

This course will continue with sign vocabulary growth and an introduction to idiomatic phrases. Emphasis will be placed on the use of classifiers, expression, body postures, and the signing space.

Prerequisite(s): ASL 101 - Sign Language I (3)

ASL 103 - Sign Language III (3)

This course is a continuation of Sign Language II. The course emphasizes grammar, vocabulary, development and the deaf culture. Students will expand dialogues, short stories, narratives, short conversations that include both receptive and expressive skills. Emphasis will be placed on signing techniques as well as signing speed and accuracy.

Prerequisite(s): ASL 102 - Sign Language II (3)

ASL 104 - Sign Language IV (3)

This course provides a continuation of instruction in the grammatical features of American Sign Language (ASL), vocabulary development, and conversational skills. Students increase comprehension of medium and longer stories, narratives and dialogues presented by the instructor and deaf ASL users. Students express self-generated stories. Students are presented with hypothetical issues and problems, as well as more extensive exposure to the Deaf community, including both directed and non-directed activities.

Prerequisite(s): ASL 103 - Sign Language III (3)

FREN 101 - French I (3)

This is a basic, culturally-oriented course in conversational French designed for beginning students who wish to develop skills in speaking, writing, and comprehending the French language. Emphasis is placed on oral communication through dialogue and guided compositions. French culture is introduced.

FREN 102 - French II (3)

This course allows students to strengthen their comprehension and speaking proficiency in French by providing extensive practice in oral and written communication and self-expression and through discussions and oral presentations of readings in French and Canadian culture.

Prerequisite(s): FREN 101 - French I (3)

GRMN 101 - German I (3)

Students will be introduced to German by way of all four language skills: listening, speaking, reading, and writing. The course will concentrate on the cultures of the German-speaking world while practicing language skills.

GRMN 102 - German II (3)

Students will continue their study of German by way of all four language skills: listening, speaking, reading, and writing. In addition, the course will continue to concentrate on the cultures of the German-speaking world while practicing language skills.

Prerequisite(s): GRMN 101 - German I (3)

JAPN 101 - Japanese I (3)

The goal of this course is for the student to gain oral fluency in basic Japanese. The student will engage in constant oral drills and practice. The sentence/word repetition drill, word substitution drill, and structure expansion drill are used to achieve fluency. The basic grammar and vocabulary are interwoven into patterned dialogs. By doing these drills, the student will be making active use of vocabulary words without translating. At the same time, the student will internalize the grammar of basic sentence structure.

JAPN 102 - Japanese II (3)

Students learn new sentence structure and vocabulary. They also learn and practice HIRAGANA and KATAKANA using FUDEPEN, a brush pen, throughout the semester.

Prerequisite(s): JAPN 101 - Japanese I (3)

LANG 105 - Deaf Culture & History (3)

This course gives an understanding of the deaf community and culture and reviews the history of deaf education in the United States as well as how technology has impacted the deaf community. The course discusses important topics like languages, communication methods, laws concerning the deaf, professions within the deaf community, and education. Deaf history explores the foundation of the first deaf school and universities for the deaf and technology impacts on deaf community development. Deaf culture studies include understanding the unique culture of the deaf community, attitudes from and toward the deaf, family values, social, political, humor, performing arts, jokes, organizations, clubs, and educational issues.

LANG 141 - Russian I (3)

This course lays the foundations for learning the Russian language and culture, with an emphasis on proficiency in communication. Students study Russian pronunciation, communication, and basic grammar. Students will also learn to read and write the Cyrillic alphabet.

LANG 199 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep record of every special topics course offered with this subject code, including the course description.

LANG 299 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep record of every special topics course offered with this subject code, including the course description.

SPAN 101 - Spanish I (3)

Spanish I is an introductory course designed to expose beginning students to basic language skills. In this course, students develop the fundamentals of communication, listening and comprehension, speaking, and reading. Spanish culture is introduced as well as composition writing.

SPAN 102 - Spanish II (3)

Spanish II builds upon the basic grammatical structures introduced in Spanish I and continues to develop skills such as pronunciation practice, listening comprehension, and "guided" composition. Correct speaking is emphasized. The study of Hispanic countries and cultures continues to be covered in the course.

Prerequisite(s): SPAN 101 - Spanish I (3)

Leadership Development

LEAD 101 - Understanding Leadership (1-2)

This course will clarify why and how to use the mission, vision, and values of the company in focused leadership development. Each participant's role in Leadership Development will be clarified.

LEAD 102 - Leading by Communication (1-2)

This course teaches leaders how to get results through people. A personality assessment tool will assist participants to improve work productivity, teamwork, and communication by discovering and respecting behavioral styles.

LEAD 103 - Improving Personal Productivity (1-2)

This course is a part of the Leadership Development Training program used by Economic and Workforce Development for training in business and industry and is being considered as part of the Organizational Leadership Development certificate.

LEAD 104 - Project Management (3)

This course will help leaders learn how to set measurable project objectives and create a practical plan to achieve them.

LEAD 105 - Performance Management (1-2)

In this course students will learn that performance management is an ongoing, continuous process of communicating and clarifying job responsibilities, priorities, and performance expectations in order to ensure mutual understanding between a supervisor and employee.

LEAD 106 - Customer Service (1-2)

Exceptional customer service is pertinent to an organization's success. Supervisors must understand their role in creating and sustaining standards of excellent customer service in their business operation. To effectively influence customers, supervisors must develop and provide effective ways of developing and motivating employees, and measuring service levels.

LEAD 107 - Coaching & Retaining Talent (1-2)

This course helps leaders create an environment in which people feel valued and satisfied in their jobs. Leaders will gain an understanding of their critical role in retaining organizational talent.

LEAD 108 - Building & Leading Teams (1-2)

Build a high-performance team by understanding team dynamics, evaluating your team's performance, and developing an action plan for continued team success.

LEAD 109 - Leading & Sustaining Change (1-2)

Key leaders will learn about and practice the skills that will enable them to deal with change more effectively. This course will help individuals, teams, and organizations understand, accept and successfully transition through change in turbulent times.

LEAD 110 - Problem Solving, Brainstorming, & Critical Thinking (1-2)

Utilizing training and practice, develop teams that solve problems through brainstorming and critical thinking.

LEAD 111 - Managing Conflict & Difficult Situations (1-2)

Learn strategies of conflict management to develop professional skills needed to manage disputes and disagreements positively and proactively.

LEAD 112 - Leading Multi-Generational Workforce (1)

Managing age diversity within the workplace is an essential skill for all those who supervise others. There are four generations working within most organizations. As each group ages thru its lifecycle, its members will evolve in their attitudes, values, and expectations. Learning to manage in a cross-generational environment requires perspective, patience, and a set of skills that enable nurturing the best from each age group and fostering collaboration at the same time.

LEAD 113 - Effective Presentation Skills (2)

Plan, prepare, practice and present more effective presentations. Participants apply what they have learned, practice their skills, and gather feedback from an audience of peers and supervisors.

LEAD 114 - Preventing Harassment & Diversity Awareness (1)

A diverse workforce provides a larger pool of ideas and experiences. Organizations can draw from that pool to meet business strategy needs and meet the needs of customers and employees more effectively. Individuals must be treated with respect and dignity in any work environment.

Legal Studies

LGST 100 - Intro to Law & Legal Systems (3)

This introductory course will provide students with information on the legal structure of American society. The emphasis is on how the law really works in everyday life. A vital feature of the course is an understanding of legal terminology and active inquiry by the students. The students will analyze authentic and fictional cases and examine common legal forms. The different topics will cover criminal, civil, juvenile, and consumer law. The goal of this

course is to prepare the students with a functional knowledge of the everyday law and the Bill of Rights in the United States Constitution.

LGST 103 - Legal Terminology (3)

This course serves to introduce students to terms used in the legal field. The student will learn spelling, pronunciation, and definitions of commonly used terms within various components of the field, including constitutional law, criminal law, family law, business organizations, and courts.

LGST 105 - Legal Office Technology (3)

This course will provide students with an introduction to technologies used in the law office. Students will explore legal software, legal research tools, and legal document preparation. The role of social media, ethics and internet use will also be discussed.

LGST 150 - Legal Research and Writing (3)

This course is designed to familiarize the student with legal research, legal analysis, and legal writing. Topics covered will include utilizing print and online resources, legal citation, legal memorandum, and legal correspondence.

LGST 192 - Legal Studies Practicum (1)

This course will cover testing methodologies and study techniques to assist in preparing the student for a certifying exam.

Prerequisite(s): LGST 230 - Criminal Law and Procedure (3) and completion of 30 credit hours.

LGST 199 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

LGST 200 - Legal Ethics (3)

Legal Ethics provides an examination of contemporary ethical issues and conduct relevant to the legal profession. This course will discuss ethics from a variety of viewpoints including law enforcement, corrections, and courtroom personnel.

Corerequisite(s): LGST 100 - Intro to Law & Legal Systems (3) or CJST 200 - Intro Crim Justice Sys (3)

LGST 210 - Laws of Domestic Relations (3)

This course examines domestic relations law including case preparation and the rules and procedures of the family court system. Topics covered include child custody, divorce procedures, and dispute resolution options such as mediation and arbitration.

Corerequisite(s): LGST 100 - Intro to Law & Legal Systems (3)

LGST 212 - Business Law (3)

This course is an introduction to the American legal system and its impact on the business environment. Topics considered include contracts, employment law, antitrust law, torts, consumer protection, and the business organization. This study prepares students to identify and limit risk in business dealings.

LGST 213 - American Court System (3)

This course provides an overview of the American court system. Students will be introduced to the actors in the system, including judges, prosecutors, and defense attorneys. Courtroom processes from pretrial through sentencing and appeals will be discussed. The course will review the history of the court system and the different types of courts within the state and federal levels.

Corerequisite(s): LGST 100 - Intro to Law & Legal Systems (3) or CJST 200 - Intro Crim Justice Sys (3)

LGST 220 - Civil Litigation (3)

This course provides an overview of the civil litigation process from initial interview through trial procedures including the preparation of pleadings and trial documents. Topics covered include civil procedure, discovery, and statutes relevant to the civil litigation process.

Corerequisite(s): LGST 100 - Intro to Law & Legal Systems (3)

LGST 230 - Criminal Law and Procedure (3)

This course provides an overview of criminal law beginning with the arrest and investigation through the trial process. Case studies and historical cases in criminal law will be reviewed and analyzed. Other topics covered include legal terminology, rights of criminal defendants, and courtroom activities.

Corerequisite(s): LGST 100 - Intro to Law & Legal Systems (3) or CJST 200 - Intro Crim Justice Sys (3)

LGST 240 - Administrative Law (3)

This course introduces the body of law created by administrative agencies to implement their power and duties. Procedures and application of administrative rules, regulations, orders, and decisions will be examined.

Corerequisite(s): LGST 100 - Intro to Law & Legal Systems (3)

LGST 260 - Constitutional Law (3)

An introduction to American constitutional law, with an emphasis on constitutional amendments and U.S. Supreme Court decisions. The course will explore the constitutional interpretation perspectives of textualism, originalism, and the living constitution. Using a case law approach, students will investigate the power of judicial review, individual rights and freedoms, due process, and current issues in constitutional law.

Prerequisite(s): LGST 100 - Intro to Law & Legal Systems (3), CJST 200 - Intro Crim Justice Sys (3), or PSCI 101 - ~American Federal Government (3)

LGST 272 - Real Estate & Property Law (3)

This course introduces students to the role of the paralegal in real estate and property law. Topics covered include basic concepts concerning titles to property, rights that attach to real property, care with respect to property, real estate closings, and rental property procedures.

Corerequisite(s): LGST 100 - Intro to Law & Legal Systems (3)

LGST 275 - Wills, Trusts, & Estates (3)

This course introduces students to the role of legal assistants in estate and planning practice. Topics covered include the rules governing control and disposition of property, forms of property ownership, wills, trusts, estate succession, and federal gift and estate taxes.

Corerequisite(s): LGST 100 - Intro to Law & Legal Systems (3)

LGST 292 - Field Experience (1-6)

Cooperative education allows students to acquire essential practical skills by being exposed to the reality of the work world beyond the boundaries of campus. Students will be required to complete a minimum of 100 hours working in the field.

Prerequisite(s): Minimum 2.0 overall GPA is required as well as completion of 30 credit hours.

LGST 299 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

Manufacturing Technology

MTEC 101 - Master Planning of Resources (2)

This course explains the principles and processes of master planning of resources; describes the techniques and methods of demand management, sales and operations planning, and master scheduling; examines the development of operations plans in differing operational environments; and explains the process for developing, validating, and evaluating performance at all levels of master planning of resources.

MTEC 102 - Basic Supply Chain Management (2)

This course will define the role, objectives and responsibilities of materials management. The course will describe and compare basic forecasting techniques; explain the materials requirements planning (MRP) process; describe the objectives of capacity management and its relation to priority planning; review the function of inventories and the objectives of inventory management; identify the costs of quality; explain the importance of purchasing, its objectives, and the steps in the purchasing process; define JIT; and show how TQM can reduce lead-times, lot size, and work in process.

MTEC 103 - Execution & Control of Operations (2)

This course explains how to schedule production and process manufacturing plans relative to authorizing, releasing, prioritizing, and sequencing work; identifies the interfaces and data exchanges required to execute a plan; demonstrates how various facility layouts influence scheduling and workflow; explains bottleneck resource management and lead time control techniques; identifies reporting activities and collection techniques; identifies appropriate requirements for storage, location, and transportation; explains how to execute quality initiatives; and describes process capabilities, quantity audits and ways to assess supplier performance.

MTEC 104 - Just-in-Time/Total Quality Management (2)

This course defines the concept of JIT including implementation and principles and discusses the concept of TQM. Topics covered include continuous improvement methodologies and techniques; root cause analysis; the importance of using statistical methods for control processes (SPC); how to perform a process capability analysis; layout and workplace organization; and the importance of involvement and empowerment of employees for JIT and TQM to be successful.

MTEC 105 - Detailed Scheduling/Planning (2)

This course is designed to identify types of inventory and how they are assessed; describe order review methodologies and how to apply them in different types of inventory strategies; identify lot sizing techniques and the effects of order quantity constraints and modifiers; describe safety stock processes; explain how to calculate inventory performance; review MRP; define capacity measurement tools and how to use capacity data for decision making; and explain why and how to develop relationships with suppliers.

MTEC 106 - Strategic Management of Resources (2)

This course teaches students how to recognize the need for integration of the manufacturing process with the company strategy. Students learn how to identify strategy components; understand the alignment of resources with strategic marketing objectives; review JIT and TQM; learn how forecast accuracy is measured; identify the elements of customer service; learn the concepts of supply chain management; identify the phases of project management; understand performance measurement systems; and learn the roles and responsibilities of change management.

MTEC 110 - Brain Smart Management (2)

This course is designed to teach specific behaviors to alter one's own behavior as the first and most important factor in influencing the behavior of others. The focus of the course is to change oneself in order to change corporate culture.

MTEC 111 - Quality of Leadership (2)

This course introduces the student to the concepts of leadership including influence, characteristics, and dimensions of leadership. The course reviews the situational leadership model and promotes exemplary leadership practices. The student learns the methods to challenge the process, inspire a shared vision, enable others to act, provide feedback, model the way for success, and encourage the heart. The student will leave the course with a personal action plan for further implementation.

MTEC 199 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

MTEC 292 - Manufacturing Occupational Internship (1-6)

Students learn how to translate classroom theory and methods into professional skills and opportunities.

MTEC 293 - Manufacturing On-the-Job Training (1-15)

This course is designed to award credit to those employees who have to participate in a supervised on-the-job training program within the manufacturing facility. Credit is awarded upon receipt of a letter from the director of human

resources stating successful completion of on-the-job training assignments and the total number of actual hours involved in the training. Credit hours earned for On-the-Job Training are calculated as 1 credit hour = 160 actual hours. Therefore, a student must work 2400 actual hours to receive 15 credit hours.

Mathematics

MATH 100 - Math Essentials (3)

Students will learn how to perform operations on real numbers, the implications of exponents and the order of operations and how to evaluate algebraic expressions. The concepts of percents and their applications, introductory geometry, statistics, and problem-solving skills will all be incorporated. Students will solve equations in one variable, solve literal equations for a variable, and evaluate/graph inequalities. Students will translate and solve algebraic equations, and learn the skills required to solve application problems in one and two variables. Students will interpret and graph linear equations as well as solving and analyzing systems of equations. Students may also be introduced to operations on polynomials.

MATH 100A - Algebra Essentials (3)

Students will perform operations on polynomials, rational, and radical expressions. Students will use various methods to factor polynomials. Students will solve polynomial, rational and radical equations, and apply these skills to solving application problems. The concept of functions will be introduced as well as their operations. Students will use interval notation to express the domain and range of a function.

Prerequisite(s): MATH 100 - Math Essentials (3) or proper placement on test scores

MATH 100S - Developmental Mathematics (1)

This is a seminar in developmental mathematics. Students will learn how to perform operations on real numbers, the implications of exponents and the order of operations, and how to evaluate algebraic expressions. The concepts of percents and their applications, introductory geometry, statistics, and problem-solving skills will all be incorporated. Students will solve equations one variable, solve literal equations for a variable, and evaluate/graph inequalities. Students will translate and solve algebraic equations, and learn the skills required to solve application problems in one and two variables. Students will interpret and graph linear equations as well as solving and analyzing systems of equations. Students will perform operations on polynomial, rational, and radical expressions. Students will use various methods to factor polynomials. Students will solve polynomial, rational, and radical equations, and apply these skills to solving application problems. The concept of functions will be introduced as well as their operations. Linear inequalities will be revisited with interval notation and applications.

MATH 101 - ~Introduction to Mathematics (3)

During this course topics to be covered are sets, mathematical logic, mathematical systems, the real number system, systematic counting, probability, measurement, and consumer mathematics. History of mathematics, critical thinking skills, problem solving, and use of technology will be incorporated throughout the course.

Prerequisite(s): MATH 100 - Math Essentials (3) or proper placement on test scores

MATH 102 - Technical Mathematics (3)

This course focuses on computational fluency and applied problem solving with emphasis on the following topics: real numbers, ratios, percents, proportions, estimation, exponents, roots, scientific notation, applied algebra, measurement, applied geometry, electrical formulas and laws, basic statistics, basic trigonometry and vectors.

Prerequisite(s): MATH 100 - Math Essentials (3) or proper placement on test scores

MATH 105 - ^Algebra (3)

Topics explored in this course include properties of the real numbers, operations on polynomials, rational and radical expressions, solutions of linear, quadratic, polynomial, radical and absolute value equations and inequalities. Coordinate geometry including distance, midpoint, lines, and circles will also be explored. Additional topics include systems of linear equations and their applications, analysis of functions, operations on functions, transformations of functions, and properties of linear, piecewise, quadratic, polynomial, rational, exponential and logarithmic functions.

Prerequisite(s): MATH 100A - Algebra Essentials (3) or proper placement on test scores

MATH 106 - ^Trigonometry (3)

Topics explored in this course include the study of angles in radians and degrees and evaluating trigonometric functions using the right triangle and a unit circle approaches. Other topics to be explored include verifying trigonometric identities, solving trigonometric equations, solving applied problems using right triangles and oblique triangles, analyzing the graphs and characteristics of trigonometric and inverse trigonometric functions, performing composition and transformations on trigonometric functions, and evaluating inverse trigonometric functions. Time permitting topics include polar coordinates, complex numbers, deMoivre's Theorem, and vectors.

Prerequisite(s): MATH 105 - ^Algebra (3) or proper placement on test scores

MATH 108 - ^Pre-Calculus (4)

This course is a one-semester preparation for calculus, which includes various algebra and trigonometry topics. Algebra topics include the analysis of linear, quadratic, polynomial, radical, rational, absolute value, piecewise, exponential and logarithmic functions and their graphs along with applications. Trigonometry topics include the study of angles using both the unit circle and right triangle approaches, verifying trigonometric identities, solving trigonometric equations, solving right and oblique triangles with applications, and analyzing the characteristics of trigonometric and inverse trigonometric functions. Additional topics include complex numbers, systems of equations, partial fractions, conic sections, sequences, and series. As time permits, vectors, polar coordinates, mathematical induction, and limits may also be explored.

Prerequisite(s): MATH 105 - ^Algebra (3) or proper placement on test scores

MATH 114 - ~Elem Probability & Statistics (3)

This course introduces the fundamental concepts of probability and statistics. Topics include descriptive statistics, random sampling methods, frequency distributions, measures of central tendency and variability, set theory, probability, permutations and combinations, random variables, probability and sampling distributions, expectation, central limit theorem, confidence intervals and hypothesis testing for means and proportions (one and two sample) and simple linear regression and correlation. Time permitting, one-way ANOVA and non-parametric techniques may be discussed. Appropriate application software will be utilized, and applications from a variety of disciplines will be presented.

Prerequisite(s): MATH 100A - Algebra Essentials (3) or proper placement on test scores

MATH 154 - ~Finite Mathematics (3)

This course introduces students to selected topics from finite mathematics. Mathematical models for the analysis of decision-making problems are examined. Topics include analyzing linear functions with applications, solving systems of linear equations using the Echelon and Gauss-Jordan methods, matrix operations and inverses, systems of linear inequalities, linear programming optimization by graphing and the simplex method, risk decisions using counting methods and probability. Additional topics may be chosen from financial mathematics, logic, or statistics.

Prerequisite(s): MATH 100A - Algebra Essentials (3) or proper placement on test scores

MATH 199 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

MATH 200 - College Geometry (3)

This course explores the fundamental ideas of geometry. Content includes the analysis and classification of geometric figures; the study of geometry transformations, congruence, and similarity; the application of formulas related area, perimeter, surface area, and volume; the development of proofs; and an overview of measurement. The course also incorporates technology to aid in solving problems.

Prerequisite(s): MATH 105 - Algebra (3)

MATH 207 - Calculus I (4)

This course is an introduction to the fundamental concepts of differential and integral calculus from algebraic, numerical, and graphical points of view. Topics covered include functions, trigonometry, limits, continuity, differentiation, and integration of elementary algebraic, transcendental, and inverse functions. Other topics include implicit differentiation, the Fundamental Theorem of Calculus, Mean Value Theorem, differentials, linear approximation, and L'Hopital's Rule. Applications will be incorporated throughout the course such as velocity, acceleration, the slope of a curve at a point, curve sketching, absolute and relative extrema, related rates, optimization, areas, volume, and arc length.

Prerequisite(s): MATH 108 - Pre-Calculus (4) or proper placement on test scores

MATH 232 - Math for Elem Teachers I (3)

This course is designed for Education majors in the Elementary (K-6) specialization as an introduction to selected topics in mathematics, including reasoning and problem solving skills, patterns and relations, elementary set theory & number theory, number systems other than base 10, algorithms, rational numbers, real numbers, estimation, and functions. The history of mathematics will be presented throughout the course, as well as the appropriate use of technology and manipulatives.

Prerequisite(s): MATH 105 - Algebra (3)

MATH 233 - Math for Elem Teachers II (3)

This course is designed for Education majors in the Elementary (K-6) specialization as an introduction to selected topics in mathematics, including elementary probability and statistics, data analysis, and basic geometry and measurement. The history of mathematics will be presented throughout the course, as well as the appropriate use of technology and manipulatives.

Prerequisite(s): MATH 105 - ^Algebra (3)

MATH 299 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

Mechanical Engineering Tech

MET 105 - Introduction to Machining (3)

In this introductory course, students will learn to safely operate equipment in a machining environment. Students will also learn about hand tools, saw types, saw blades, installation and removal and welding. This course also concentrates on the proper care and use of semi-precision measuring equipment. The machining industry requires daily use of mathematics. In this course, students will learn to demonstrate proficiency using fractions and use mathematics, precision measuring equipment and proper workpiece layout for manual machining.

Prerequisite(s): MATH 100A - Algebra Essentials (3) OR MATH 102 - Technical Mathematics (3) OR MATH 105 - ^Algebra (3)

MET 120 - Statics (3)

This is a Vector mechanics course covering concepts of forces, moments, couples, resultants; equilibrium of particles and rigid bodies in two and three dimensions; forces in trusses, frames and machines; centroids and centers of mass for lines, areas and volumes; distributed loads, internal shear-force and bending-moment calculations for beams; dry friction; area moments of inertia and the parallel-axis theorem.

Prerequisite(s): MATH 100A - Algebra Essentials (3), MATH 102 - Technical Mathematics (3), MATH 105 - ^Algebra (3), or placement

MET 199 - Special Topics (1-4)

A special topics course (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

MET 200 - Introduction to CAM (2)

This course is a study of the basic concepts of automation. These concepts include machine language computer programming, computer process monitoring, process-computer interfaces, and automation problem-solving. The laboratory will consist of team problem-solving in automation and operation of computer-aided manufacturing systems.

Pre-requisite/Co-requisite(s): MATH 100A - Algebra Essentials (3), MATH 102 - Technical Mathematics (3), or placement

MET 201 - Intro to CNC Programming (2)

In this course, students will create basic programs for CNC mills and lathes. Students will generate industry standard G and M code programs. Programs are run on verification software to ensure accuracy. Additionally, students will study speed and feed calculations, operator notes and start-up lines, mill and lathe tooling types and procedures, rectangular

coordinates, canned (drill) cycles, and file management.

Pre-requisite/Co-requisite(s): MATH 102 - Technical Mathematics (3), MATH 106 - ^Trigonometry (3) or placement

MET 202 - CNC Programming II (3)

This course expands on the MET 201 - Intro to CNC Programming (2) course, providing further study in computer-aided numerical control programming of CNC Lathes. It concentrates on the lathe series of machines and includes set-up, centering, turning, facing, filing, polishing, burning, thread cutting, and other processes common to the lathe series.

Prerequisite(s): MET 201 - Intro to CNC Programming (2)

MET 220 - Strength of Materials (4)

This course is a mechanics of materials course covering concepts of normal and shear stress and strain, deformation, factors of safety and stress, axially-loaded members, torsionally-loaded members, shearing and bending of beams, internal shear-force and bending-moment diagrams, stresses resulting from combined loading, statically-indeterminate loading, thin-walled pressure vessels, stress transformation via equation and Mohr's circle, beam deflection, column buckling, and thin-walled pressure vessels.

Prerequisite(s): MET 120 - Statics (3)

MET 299 - Special Topics (1-4)

A special topics course (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

Mechatronics

MECH 101 - Introduction to Mechatronics (1)

Introduction to Mechatronics is an overview course that introduces students to the field of Mechatronics. Students will rotate through modules that will give them insight into the skills, concepts, equipment, and challenges they will encounter as a mechatronics technician. Modules will include design process, basic tool use, laboratory safety, precision measurement, fluid power, robotics, and programmable logic controllers. Included will be basic professional preparation topics such as resume writing, job readiness, interviewing and portfolio development. MECH 101L - Intro to Mechatronics Lab (2) is the laboratory component of this class.

Corerequisite(s): MECH 101L - Intro to Mechatronics Lab (2)

MECH 101L - Intro to Mechatronics Lab (2)

This course is the lab component of MECH 101 - Introduction to Mechatronics (1). The course contains an overview course that introduces students to the field of Mechatronics. Students will rotate through modules that will give them insight into the skills, concepts, equipment, and challenges they will encounter as a mechatronics technician. Modules will include design process, basic tool use, laboratory safety, engineering journaling, precision measurement, fluid power, robotics, and programmable logic controllers. Included will be basic professional preparation topics such as resume writing, job readiness, interviewing and portfolio development.

Corerequisite(s): MECH 101 - Introduction to Mechatronics (1)

MECH 102 - Technical Physics (2)

Technical Physics emphasizes physical concepts as applied to technical fields. The five major areas on concentration include mechanics, matter and heat, wave motion and sound, electricity and magnetism, and light. Lab activities will provide hands on discovery of the concepts covered in the course. MECH 102L - Technical Physics Lab (2) is the laboratory portion of the class.

Corerequisite(s): MECH 102L - Technical Physics Lab (2)

Pre-requisite/Co-requisite(s): MATH 102 - Technical Mathematics (3), MATH 105 - ^Algebra (3), MATH 106 - ^Trigonometry (3), MATH 108 - ^Pre-Calculus (4), or MATH 114 - ~Elem Probability & Statistics (3)

MECH 102L - Technical Physics Lab (2)

Technical Physics emphasizes physical concepts as applied to technical fields. The five major areas on concentration include mechanics, matter and heat, wave motion and sound, electricity and magnetism, and light. This laboratory portion will include activities that will provide hands on discovery of the concepts covered in the course.

Corerequisite(s): MECH 102 - Technical Physics (2)

Pre-requisite/Co-requisite(s): MATH 102 - Technical Mathematics (3), MATH 105 - ^Algebra (3), MATH 106 - ^Trigonometry (3), MATH 108 - ^Pre-Calculus (4), or MATH 114 - ~Elem Probability & Statistics (3)

MECH 105 - Electricity & Commercial Wiring (1)

Electricity and Commercial Wiring is an introduction to AC electrical applications and commercial wiring practices. This course is paired with MECH 106 - Electricity & Electronics (2) to form a complete electricity/electronic experience for the mechatronics technician. This course introduces the fundamental concepts of and computations related to AC electricity. Emphasis is placed on AC circuits, components, operation of test equipment; and other related topics. Devices such as transformers, AC motors, and solenoids are covered. Commercial wiring tools and practices are introduced to prepare the student for the NEC exam. MECH 105L is the laboratory portion of the class.

Corerequisite(s): MECH 105L - Electricity & Comme Wiring Lab (1)

Pre-requisite/Co-requisite(s): MATH 102 - Technical Mathematics (3)

MECH 105L - Electricity & Comme Wiring Lab (1)

Electricity and Commercial Wiring is an introduction to AC electrical applications and commercial wiring practices. This course is paired with MECH 106 to form a complete electricity/electronic experience for the mechatronics technician. This course introduces the fundamental concepts of and computations related to AC electricity. Emphasis is placed on AC circuits, components, operation of test equipment; and other related topics. Devices such as transformers, AC motors, and solenoids are covered. Commercial wiring tools and practices are introduced to prepare the student for the NEC exam.

Corerequisite(s): MECH 105 - Electricity & Commercial Wiring (1)

Pre-requisite/Co-requisite(s): MATH 102 - Technical Mathematics (3)

MECH 106 - Electricity & Electronics (2)

Electricity & Electronics is an introduction to AC electrical applications and commercial wiring practices. This course is paired with MECH 105 - Electricity & Commercial Wiring (1) to form a complete electricity/electronic experience for the mechatronics technician. This course introduces the fundamental concepts of and computations related to AC

electricity. Emphasis is placed on AC circuits, components, operation of test equipment; and other related topics. Devices such as transformers, AC motors, and solenoids are covered. Commercial wiring tools and practices are introduced to prepare the student for the NEC exam. MECH 106L - Electricity & Electronics Lab (2) is the laboratory portion of this course.

Corequisite(s): MECH 106L - Electricity & Electronics Lab (2)

Pre-requisite/Co-requisite(s): MATH 102 - Technical Mathematics (3), MATH 105 - ^Algebra (3), MATH 106 - ^Trigonometry (3), or MATH 108 - ^Pre-Calculus (4)

MECH 106L - Electricity & Electronics Lab (2)

Electricity & Electronics is an introduction to AC electrical applications and commercial wiring practices. This course is paired with MECH 105 - Electricity & Commercial Wiring (1) to form a complete electricity/electronic experience for the mechatronics technician. This course introduces the fundamental concepts of and computations related to AC electricity. Emphasis is placed on AC circuits, components, operation of test equipment; and other related topics. Devices such as transformers, AC motors, and solenoids are covered. Commercial wiring tools and practices are introduced to prepare the student for the NEC exam. This laboratory component provides hands-on experiences necessary for complete concept attainment.

Corequisite(s): MECH 106 - Electricity & Electronics (2)

Pre-requisite/Co-requisite(s): MATH 102 - Technical Mathematics (3), MATH 105 - ^Algebra (3), MATH 106 - ^Trigonometry (3), or MATH 108 - ^Pre-Calculus (4)

MECH 110 - Mechanical Systems I (3)

Mechanics I is a comprehensive introduction to fundamentals of industrial mechanical concepts, principles, and equipment. The course covers safety, lubrication, bearing installation and removal, proper installation and adjustment of belt and chain drives, as well as coupling and shaft alignment.

Prerequisite(s): MECH 101 - Introduction to Mechatronics (1)

MECH 120 - Fluid Power (3)

The Fluid Power course is designed to provide students with a basic understanding of the concepts and applications of fluid power technology including hydraulics and pneumatics. The course is an overview of fluid power technology applications; the general concept of fluid power systems; an introduction to energy input, energy output, energy control, and systems auxiliary components; as well as the design and function of components.

MECH 121 - Safety Awareness & OSHA 10 (2)

Safety Awareness is designed to introduce students to the necessary skills to safely work in the industrial setting. Some major areas of studies include: Fall Protection, Fire Prevention and Protection, Electrical Safety, Personal Protective Equipment, Hazard Communication, and other elective topics. Upon successfully passing the OSHA exam the student will earn a 10 hour OSHA card.

MECH 130 - Plastics Technology (3)

This course is a survey of the plastics industry, including a study of materials with reference to their properties, processing, and uses. Fabrication, finishing, and fastening methods and plastic product design will be included in this course.

MECH 140 - Robotics (1)

This course explores basic robotic concepts and studies robots in typical application environments. Topics include: robot history and fundamentals, robot classification, power sources, robot applications in the workplace, robot control techniques, path control, end of arm tooling, robot operation and robot controllers, controller architecture in a system, robotic language programming, and human interface issues.

Corequisite(s): MECH 140L - Robotics Lab (2)

MECH 140L - Robotics Lab (2)

This course is the laboratory portion of Robotics. Students will apply concepts to program and control robotic animation, as well as, plan out robotic applications.

Corequisite(s): MECH 140 - Robotics (1)

MECH 180 - Introduction to PLC (1)

This online based class will introduce the concept of PLCs and how they are used to control automation equipment in the industrial setting. Practical labs will be included to help students assess their knowledge.

Prerequisite(s): MECH 105 - Electricity & Commercial Wiring (1) or MECH 106 - Electricity & Electronics (2)

MECH 199 - Special Topics (1-4)

A special topics course (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

MECH 201 - Systematic Troubleshooting (3)

This course will provide the students with a systematic process, utilizing critical thinking skills to diagnose, analyze, and solve complex problems. Several problem solving models will be presented. Students will work through case studies to develop their problem solving skills. This course will also prepare students to take the Work-keys Applied Technology test which is required by several local employers. This is a good course for anyone who has to analyze and troubleshoot problems within their normal work routine.

Pre-requisite/Co-requisite(s): MECH 250 - Intro to PLC (3)

MECH 207 - Advanced Electronics (1)

Advanced electronics is a continuation and expansion of MECH 106 - Electricity & Electronics (2). This course expands on the fundamental concepts of and computations related to AC and DC electricity. Emphasis is placed on AC and DC circuits, components, operation of test equipment, and other related topics. Devices such as transformers, AC and DC motors, servos and discrete components are investigated.

Prerequisite(s): MECH 106 - Electricity & Electronics (2)

Corequisite(s): MECH 207L - Advanced Electronics Lab (2)

MECH 207L - Advanced Electronics Lab (2)

Advanced electronics is a continuation and expansion of MECH 106L - Electricity & Electronics Lab (2). This course expands on the fundamentals concepts of and computations related to AC and DC electricity in a hands-on environment. Emphasis is placed on AC and DC circuits, components, operation of test equipment, and other related topics. Devices such as transformers, AC and DC motors, servos and discrete components are investigated.

Prerequisite(s): MECH 106L - Electricity & Electronics Lab (2)

Corerequisite(s): MECH 207 - Advanced Electronics (1)

MECH 210 - Mechanical Systems II (3)

This course is a further investigation of industrial mechanical concepts, principles, and equipment. The course covers advanced topics including PLC's, laser alignment, and vibration analysis.

Prerequisite(s): MECH 110 - Mechanical Systems I (3)

MECH 220 - Advanced Fluid Power with PLC (2)

The Advanced Fluid Power course is a continuation of MECH 120 introducing advanced concepts and applications of fluid power technology including hydraulics and pneumatics. The course will introduce the application of PLC's to energy input, energy output, energy control, and systems auxiliary components as well as the design and function of components.

Prerequisite(s): MECH 120 - Fluid Power (3)

MECH 230 - Industrial Controls (2)

Industrial Controls introduces the students to the basics of AC motor applications and control. This course teaches electric relay control of AC electric motors found in industrial, commercial, and residential applications. Students learn industry-relevant skills including how to operate, install, design, and troubleshoot AC electric motor control circuits for various applications.

Prerequisite(s): MECH 105 - Electricity & Commercial Wiring (1) or MECH 106 - Electricity & Electronics (2)

MECH 235 - Indust Wiring & Controls (3)

Industrial Wiring and Controls introduces students to electrical panels, panel wiring fundamentals, sizing disconnects and overcurrent devices. This course teaches grounding control systems, internal panel wiring, wire bundling, wiring a motor, and wire bundling. Students learn industry-relevant skills including how to operate, install, design, and troubleshoot AC electrical panels.

Prerequisite(s): MECH 106 - Electricity & Electronics (2) and MECH 106L - Electricity & Electronics Lab (2)

MECH 250 - Intro to PLC (3)

The PLC course will prepare students to install, maintain and program Programmable Logic Controllers. Students will learn about both Allen-Bradley and Seimens PLC systems.

Prerequisite(s): MECH 105 - Electricity & Commercial Wiring (1) or MECH 106 - Electricity & Electronics (2)

MECH 255 - Adv PLC & Int Automation (2)

This course focuses on working with analog modules in PLC systems. The course begins with connecting analog sensors to analog modules and writing programs to control these devices. Program functions such as comparison, memory, arithmetic, conversion, and jump will be introduced. The basis of bus systems, bus cables, and network connectivity will be included.

Prerequisite(s): MECH 250 - Intro to PLC (3)

MECH 260 - Process Control & Instrumentation (3)

Process Controls cover a wide range of topics such as measurement methods, pressure measurement devices, temperature measurement devices, flow measurement devices, level measurement devices, pilot valves, pneumatic controls, electronic controls, and process controls. Students will learn to install, maintain, monitor and troubleshoot process control equipment.

Prerequisite(s): MECH 105 - Electricity & Commercial Wiring (1) or MECH 106 - Electricity & Electronics (2)

MECH 270 - Manufac Proc & Quality Control (3)

Manufacturing Process and Quality Control has two components. For the process management component, a factory simulation is conducted. Concepts presented include: Cycle Time, Production Time, First Pass Yield, and Barrier Identification. In the QC component, students will learn how to process map, analyze costs, and develop team organization and optimization. The QC component emphasizes fundamentals of total quality assurance for product and process control. Students will make extensive use of electronic spreadsheets.

MECH 280 - Integrated Manufacturing Systems (1)

Integrated Manufacturing Systems is a capstone course where students will apply the sum of their knowledge to set up, program, operate, maintain and troubleshoot a scaled manufacturing system. Students will be expected to learn all parts of the system as well as design systematic improvements. MECH 280L - Integrated Manuf Systems Lab (2) is the laboratory portion of the class.

Corerequisite(s): MECH 280L - Integrated Manuf Systems Lab (2)

Pre-requisite/Co-requisite(s): MECH 210 - Mechanical Systems II (3) and MECH 250 - Intro to PLC (3)

MECH 280L - Integrated Manuf Systems Lab (2)

Integrated Manufacturing Systems is a capstone course where students will apply the sum of their knowledge to set up, program, operate, maintain and troubleshoot a scaled manufacturing system. Students will be expected to learn all parts of the system as well as design systematic improvements. In this laboratory portion students will work in cooperative groups to apply their skills to solve assigned practical problems as well as troubleshoot systems.

Corerequisite(s): MECH 280 - Integrated Manufacturing Systems (1)

Pre-requisite/Co-requisite(s): MECH 210 - Mechanical Systems II (3) and MECH 250 - Intro to PLC (3)

MECH 292 - Internship (1-4)

This course corresponds to a paid internship that expands the students' career awareness and further develops their practical hands-on experience. The number of credits earned will be based on the numbers of hours of employment.

MECH 299 - Special Topics (1-4)

A special topics course (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

Media Studies

MDIA 101 - Introduction to Media Studies (3)

This course introduces students to the concepts and theories of media and society and surveys their systems and roles in society. Emphasis is placed on media in the United States, including historic development and technological innovation of conventional print and electronic media.

MDIA 102 - Intro to Adobe Photoshop (3)

The course will introduce students to working with photographs and drawings focusing on website graphics. Basics of the digital image, photo collage, banner graphics, and simple animation for websites will also be covered. Topics to be covered include file formats, scanning, digital retouching, image selections and masking, layering, vector graphics, creating symbols, working with a timeline and creating an interactive file.

MDIA 104 - Web Page Design (3)

In this course, students learn how to code web pages from scratch using HTML, XHTML, and XML incorporating Java Scripting. Students will explore basic and advanced tags by creating web pages utilizing tables, frames, audio, video, and Java scripting.

MDIA 105 - Internet Foundation (4)

This is the foundation course for CIW (Certified Internet Webmaster) certification. Students learn how to use key Internet technologies, such as Web browsers, e-mail, newsgroups, File Transfer Protocol (FTP), Telnet and search engines. Students will learn how to create simple Web pages containing text, graphics, hyperlinks, tables, forms, and frames. Students also learn fundamental networking concepts and practices, including network architecture and standards, networking protocols, TPC/IP, Internet servers, server-side scripting, database connectivity, and security.

MDIA 107 - Into to Illustrator/InDesign (3)

This course covers introductory knowledge of Adobe Illustrator and Adobe InDesign. Students will focus on the basic techniques that they need to get started with Illustrator and InDesign. Students will focus on the workspace, tools, and techniques.

MDIA 108 - Multimedia Presentation Develo (3)

Using current graphics presentation software, including Microsoft PowerPoint and Prezi, students will create interactive, multimedia-based presentations for real world application. Basic processes such as preparing, formatting and customizing presentations will be studied.

Prerequisite(s): CAS 111 - Information Literacy (3)

MDIA 109 - Intro to Design Principles (3)

This course introduces students to the principles of design which are used to organize or arrange the structural elements of a presentation or publication. Students will learn the elements of design, such as color, imagery, typography, space, symmetry, balance, etc. and how they are implemented and applied effectively in graphic design and web design.

MDIA 121 - Intro to Digital Photography (3)

This course is an introduction to the use of digital photography techniques. This course will emphasize visualization, composition, and the aesthetics of digital photography. This course will also introduce the basic operations of the camera and electronic imaging as well as software applications to produce quality digital images.

MDIA 192 - Media Practicum (1)

The course will cover testing methodologies and study techniques to assist in preparing students for the ACA (Adobe Certified Associate) Exam for Adobe Photoshop.

Prerequisite(s): MDIA 102 - Intro to Adobe Photoshop (3) and MDIA 203 - Advanced Photoshop & Animate (3)

MDIA 199 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

MDIA 201 - Digital Branding (3)

This course will introduce brand management techniques and technologies that allow consumers to establish and promote their online presence. Topics covered include branding, visual storytelling, social media presence, digital freelancing, and online entrepreneurship.

MDIA 202 - Video Production (3)

This course is an introduction to analog and digital video production and editing theories, effects, and techniques. Students will develop video products using analog and digital recording methods and computerized video editing systems and digital video effects programs and hardware and software issues relating to 3-dimensional graphics manipulation, video compression, and recording.

MDIA 203 - Advanced Photoshop & Animate (3)

This project-based course will begin with a review of Adobe Photoshop basics and quickly move into intermediate and advanced concepts of layering, masks, paths, and shapes. Students practice image surgery techniques using enhanced tools, transforming and warping types, annotating within the project file, and apply color correction across color spaces of RGB, CMYK, HSB, and LAB. Students will work with the animation and video components of Photoshop then on to create vector graphics and animation with Adobe Animate. Team and independent projects at both mid-term and finals will replace a traditional written exam.

Prerequisite(s): MDIA 102 - Intro to Adobe Photoshop (3)

MDIA 206 - Site Designer (3)

This course focuses on theory, design, and web construction along with information on architecture concepts, website management, scenario development, and performance evaluations. Students learn how to create and manage Web sites

with GUI editor based software programs. Students will learn and implement the latest strategies to develop websites, evaluate design tools, discuss future technology standards, and explore the incompatibility issues surrounding current browsers.

Prerequisite(s): MDIA 104 - Web Page Design (3)

MDIA 220 - Publication Design (3)

Through a practical hands-on approach, students in this course will use current design software to publish their own digital and print publications, to include websites, book covers, pamphlets, newsletters, letterheads, flyers, business cards, announcements, and advertisements. Basic publishing processes, design, and layout will be studied. This course will serve as the capstone course for the AAS Digital Media Specialist degree.

Prerequisite(s): MDIA 107 - Into to Illustrator/InDesign (3) or MDIA 203 - Advanced Photoshop & Animate (3)

MDIA 299 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

Medical Assisting

MAST 101 - Introduction to Medical Assisting (3)

This course is a foundation course for all medical assisting programs (clinical and/or administrative). Topics include medical assisting and other allied health disciplines as a profession, health care settings, communication skills, coping skills, topics in psychology, and medical law and ethics. Emphasis is also placed on professionalism topics including personal traits of the health care professional, work place dynamics, career planning and employment. In addition, basic keyboarding skills and 10 key skills are reviewed and competency is required.

MAST 102 - Medical Terminology (3)

This course is an integral component in understanding the language of medicine. It is designed to give the student a foundation in the basic structure of medical terms, word building and definitions as well as the applications of medical terminology. A human body systems approach is utilized and topics covered in each system include anatomy and physiology overview, medical terms, symptoms and signs, diseases and disorders, treatments, procedures and devices.

MAST 105 - Insurance Billing & Coding (3)

The focus of this course is on the process of using source documents to apply diagnostic and procedural codes to patient records for the purpose of filing insurance claims. Topics covered include introduction to health insurance, managed health care, life cycle of an insurance claim, legal and regulatory issues, ICD-9-CM coding, ICD-10 coding, CPT coding, HCPCS coding, CMS reimbursement methodologies, coding for medical necessity and the essentials of CMS-1500 claim instructions. Also, insurance carriers such as Blue Cross and Blue Shield, Medicare, Medicaid and others are covered.

Prerequisite(s): MAST 101 - Introduction to Medical Assisting (3), MAST 102 - Medical Terminology (3), MAST 106 - Medical Office Management (2), and MAST 106L - Medical Office Management Lab (1)

MAST 106 - Medical Office Management (2)

This course is a foundational course in administrative medical assisting. Topics include the facility environment, computers in the ambulatory care setting, electronic medical records (EMR), telecommunications, patient scheduling, medical records management, written communications, daily financial practices, introduction to medical coding, insurance, billing and collections, accounting practices, and facility and equipment management. In addition, more advanced topics are covered: management styles, risk management, the importance of teamwork, supervising personnel, procedure manual, HIPAA implications, marketing functions, records and financial management, liability coverage, human resource management such as recruiting and hiring office personnel, dismissing employees, and complying with personnel laws. Good record keeping principles are stressed in this course. Emphasis is placed on applications of electronic technology and fundamental writing skills as well as basic medical assisting clerical and operational functions.

Corerequisite(s): MAST 101 - Introduction to Medical Assisting (3), MAST 102 - Medical Terminology (3), and MAST 106L - Medical Office Management Lab (1)

MAST 106L - Medical Office Management Lab (1)

This course is taken in conjunction with MAST 106 Medical Office Management. It emphasizes hands-on demographic data entry, billing and coding, insurance filing, reporting, as well as other electronic data functions of medical information management systems.

Corerequisite(s): MAST 106 - Medical Office Management (2)

MAST 199 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

MAST 202 - Clinical Medical Assistant I (2)

This course offers the medical assistant student the opportunity to learn basic clinical theory that is utilized within medical practices. Areas covered include principals of asepsis including sterilization, infection control, blood borne pathogens, emergency/first aid procedures, skills for interviewing patients, taking a medical history, patient charts and documentation, vital signs and measurements, physical examination, specialty examinations and assisting with minor surgeries including identification of surgical instruments.

Prerequisite(s): MAST 101 - Introduction to Medical Assisting (3), MAST 102 - Medical Terminology (3), MAST 106 - Medical Office Management (2), and MAST 106L - Medical Office Management Lab (1)

Corerequisite(s): MAST 202L - Clinical Medical Assistant I Lab (1)

MAST 202L - Clinical Medical Assistant I Lab (1)

This course is taken in conjunction with MAST 202 - Clinical Medical Assistant I (2). Emphasis is placed on hands-on learning of skills related to the lecture portion including blood pressure, pulse, respiration, temperature, height, weight, and pain level. Additional hands-on learning skills covered are observation skills, patient care, patient positioning for examinations, vision screening, patient education instructions, and pre-surgical patient preparation procedures. Students must be competent in all skills tested.

Prerequisite(s): MAST 102 - Medical Terminology (3)

Corerequisite(s): MAST 202 - Clinical Medical Assistant I (2)

MAST 206 - Clinical Medical Assistant II (2)

This course builds on topics covered in MAST 202 - Clinical Medical Assistant I (2) and introduces new information including an introduction to the medical laboratory, lab equipment, and safety, microbiology, collecting, processing, and testing of blood and urine specimens, nutrition and special diets, principles of pharmacology, and drug administration. The course also includes topics on the anatomy of the heart, cardiac cycle, 12-lead ECG, lead identification, ECG tracing troubleshooting, cardiac dysrhythmias, Holter monitors, and stress testing. Additional topics covered are anatomy of the respiratory system, symptoms of respiratory conditions/disorders, pulmonary function testing including Spirometry, peak flow meters, pulse oximetry and the medical assistant's role in diagnostic radiology.

Prerequisite(s): MAST 202 - Clinical Medical Assistant I (2) .

Corequisite(s): MAST 206L - Clinical Medical Assistant II Lab (1)

MAST 206L - Clinical Medical Assistant II Lab (1)

This course is taken in conjunction with MAST 206 - Clinical Medical Assistant II (2). Emphasis is placed on hands-on learning of skills covered in MAST 206 lecture. These skills include performing hematology tests, urinalysis, basic microbiology testing, and CLIA waived tests such as blood glucose, Strep-A, and pregnancy testing. Additional hands-on skills covered in the course are the administration of oral and paternal (injections) patient medications, and performing ECG tests including electrode placement and lead connection. Pulmonary function testing is introduced using peak flow meters and respiratory treatment including the proper use of a nebulizer and pulse oximetry.

Prerequisite(s): MAST 202 - Clinical Medical Assistant I (2)

Corequisite(s): MAST 206 - Clinical Medical Assistant II (2)

MAST 214 - MA Review and Certification Prep (2)

This course provides the student with a review of all of the major administrative, clinical and general competencies covered in the medical assistant program. Upon successful completion of this course and all other program requirements, the medical assistant certificate and degree students are required to sit for national certification as a Registered Medical Assistant (RMA) through American Medical Technologists.

Prerequisite(s): BIOL 100 - The Human Body (3) , CAHS 141 - Intro to Pharmacology (3), ENGL 101 - ~English Composition I (3), MAST 101 - Introduction to Medical Assisting (3), MAST 102 - Medical Terminology (3), MAST 105 - Insurance Billing & Coding (3), MAST 106 - Medical Office Management (2), MAST 106L - Medical Office Management Lab (1), MAST 202 - Clinical Medical Assistant I (2), MAST 202L - Clinical Medical Assistant I Lab (1), MAST 206 - Clinical Medical Assistant II (2), MAST 206L - Clinical Medical Assistant II Lab (1), MATH 101 - ~Introduction to Mathematics (3) or higher, and PLBT 101 - Phlebotomy (3)

Corequisite(s): MAST 216 - Clinical & Administrative Externship (4)

MAST 216 - Clinical & Administrative Externship (4)

The course coordinates with local medical office sites to provide students with hands-on clinical and administrative experience in a medical office setting. The student will work for a total of one hundred sixty (160) uncompensated hours at the assigned site. Clinical and administrative competencies will be evaluated by a medical office preceptor(s) and under the direction of the Medical Assistant Externship Coordinator. The student is required to be in contact with the Medical Assistant Externship Coordinator prior to registering for this course. Early registration is encouraged to allow time to complete requirements and to make schedule arrangements with the assigned medical office site. Students must have received a grade of "C" or better in ALL MAST and PLBT courses prior to registering for this course. In addition, students must provide proof of valid/current BLS for Healthcare Providers and have documentation of a recent (within past 6 months) physical and provide proof of required immunizations. Students are required to have their own stethoscope and required uniforms for the course.

Prerequisite(s): BIOL 100 - The Human Body (3) , CAHS 141 - Intro to Pharmacology (3), ENGL 101 - ~English Composition I (3), MAST 101 - Introduction to Medical Assisting (3), MAST 102 - Medical Terminology (3), MAST 105 - Insurance Billing & Coding (3), MAST 106 - Medical Office Management (2), MAST 106L - Medical Office Management Lab (1), MAST 202 - Clinical Medical Assistant I (2), MAST 202L - Clinical Medical Assistant I Lab (1), MAST 206 - Clinical Medical Assistant II (2), MAST 206L - Clinical Medical Assistant II Lab (1), MATH 101 - ~Introduction to Mathematics (3) or higher, and PLBT 101 - Phlebotomy (3)
Corerequisite(s): MAST 214 - MA Review and Certification Prep (2)

MAST 299 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

Medical Laboratory Technician

MLT 101 - Intro to Medical Laboratory Technician (2)

This course is an orientation to general laboratory practice and explores the profession of medical laboratory technician for students interested in the medical laboratory technician program. This course includes laboratory safety, lab math, health care ethics, and the divisions of the clinical laboratory.

Prerequisite(s): Limited to students enrolled with an employer and degree seeking in Healthcare Professions, A.A.S. with a concentration in Medical Laboratory Technician.

MLT 102 - Medical Laboratory Techniques (2)

This course will study the essential laboratory skills such as pipet techniques, proper safety, and protective equipment procedures, operating a centrifuge, preparing reagents and solutions, laboratory mathematics and measurement, infectious disease precautions, medical terminology, clinical urinalysis and body fluids.

Prerequisite(s): Limited to students enrolled with an employer and degree seeking in Healthcare Professions, A.A.S. with a concentration in Medical Laboratory Technician.

MLT 199 - Special Topics (1-6)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

Prerequisite(s): Limited to students enrolled with an employer and degree seeking in Healthcare Professions, A.A.S. with a concentration in Medical Laboratory Technician.

MLT 200 - Hematology/Coagulation (3)

This course will study the fundamental concepts in hematology and hemostasis, to include hemoglobinopathies, hematopoiesis, anemias, leukocyte disorders, leukemias and other hematological disorders. This includes the study of normal platelet and clotting physiology as well as disorders of the clotting mechanisms and will continue the study of cellular identification in body fluids.

Prerequisite(s): Limited to students enrolled with an employer and degree seeking in Healthcare Professions, A.A.S. with a concentration in Medical Laboratory Technician, MLT 101 - Intro to Medical Laboratory Technician (2), and MLT 102 - Medical Laboratory Techniques (2)

MLT 201 - Applied Immunology (3)

This course will analyze the basic principles of the human immune system and explore the role of the immune system in normal and abnormal immune responses and how this system manifests in laboratory tests. It will examine and analyze techniques and applications of immunochemistry in the medical diagnostic process.

Prerequisite(s): Limited to students enrolled with an employer and degree seeking in Healthcare Professions, A.A.S. with a concentration in Medical Laboratory Technician, MLT 101 - Intro to Medical Laboratory Technician (2), and MLT 102 - Medical Laboratory Techniques (2).

MLT 202 - Medical Microbiology (4)

This course will study the clinical aspects of infectious disease, to include bacteriology, mycology, parasitology, and virology. The course will include specimen collection and handling of normal flora and pathogens within the body and will explore the laboratory identification of different microorganisms, pathogenesis, clinical syndromes, epidemiology and medical treatment.

Prerequisite(s): Limited to students enrolled with an employer and degree seeking in Healthcare Professions, A.A.S. with a concentration in Medical Laboratory Technician, MLT 101 - Intro to Medical Laboratory Technician (2), and MLT 102 - Medical Laboratory Techniques (2).

MLT 203 - Immunohematology (3)

This course will explore the basic principles of blood banking and immunology to include the organization and functions of the immune system, antigen/antibodies, complement, humoral and immunity of cell-mediated and disorders of the immune system and will present the theoretical and practical concepts of blood bank/transfusion medicine.

Prerequisite(s): Limited to students enrolled with an employer and degree seeking in Healthcare Professions, A.A.S. with a concentration in Medical Laboratory Technician, MLT 101 - Intro to Medical Laboratory Technician (2), and MLT 102 - Medical Laboratory Techniques (2).

MLT 204 - Clinical Chemistry (4)

This course will study the analysis of the chemical constituents of blood to include specimen collection, processing, correlation of normal and pathological physiology and the diagnostic correlations in health and disease. The laboratory will emphasize the analytical accuracy and precision by using manual and automated laboratory techniques.

Prerequisite(s): Limited to students enrolled with an employer and degree seeking in Healthcare Professions, A.A.S. with a concentration in Medical Laboratory Technician, MLT 101 - Intro to Medical Laboratory Technician (2), and MLT 102 - Medical Laboratory Techniques (2).

MLT 205 - Review & Certification Preparation (3)

This course provides the student with a review of all major clinical laboratory procedures, clinical and general competencies covered in the medical laboratory technician program. Upon successful completion of courses, students will be prepared for National Certification and State Licensure.

Prerequisite(s): Limited to students enrolled with an employer and degree seeking in Healthcare Professions, A.A.S. with a concentration in Medical Laboratory Technician, MLT 101 - Intro to Medical Laboratory Technician (2), and MLT 102 - Medical Laboratory Techniques (2).

MLT 210 - Clinical Practice I-Internship (4)

Students will experience an internship at an affiliated hospital. This will provide the students the opportunity to gain practical skills experience in manual and automated procedures in two specified departments. Students will experience problem-solving, evaluation of quality control and learn instrument maintenance.

Prerequisite(s): Limited to students enrolled with an employer and degree seeking in Healthcare Professions, A.A.S. with a concentration in Medical Laboratory Technician, MLT 101 - Intro to Medical Laboratory Technician (2), and MLT 102 - Medical Laboratory Techniques (2).

MLT 211 - Clinical Practice II-Internship (4)

Students will experience an internship at an affiliated hospital. This will provide the students the opportunity to gain practical skills experience in manual and automated procedures in two specified departments. Students will experience problem-solving, evaluation of quality control and learn instrument maintenance.

Prerequisite(s): Limited to students enrolled with an employer and degree seeking in Healthcare Professions, A.A.S. with a concentration in Medical Laboratory Technician, MLT 101 - Intro to Medical Laboratory Technician (2), and MLT 102 - Medical Laboratory Techniques (2).

MLT 299 - Special Topics (1-6)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

Music

MUSC 111 - ~Introduction to Music (3)

This course provides training and experiences which will enable the student to acquire a historical-social-aesthetic perspective, to comprehend musical concepts, to discriminate quality levels, to select satisfying and stimulating musical experiences, and to empathize with the creators and performers of music.

MUSC 199 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

MUSC 299 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

Nursing

NURS 111 - Introduction to Nursing (3)

This hands-on course is designed as an introduction to the skills used to provide functional nursing care across the lifespan. This course has a lab component for teaching and demonstrating skill proficiency.

Prerequisite(s): Must be a degree-seeking student enrolled in Medical Assisting, A.A.S. - Nursing Foundation, Healthcare Professions, A.A.S., or Nursing A.S.N.

Pre-requisite/Co-requisite(s): BIOL 120 - ^Human Anatomy & Physiology I (3) and BIOL 121 - ^Human Anatomy & Phys I Lab (1)

NURS 115 - Nursing Care I (6)

This course builds on the skills learned in NURS 111 - Introduction to Nursing (3) and introduces professional and patient concepts across the lifespan for providing nursing care. This course has a clinical component for application of acquired skills in patient care situations. Classroom: 3 hours per week; clinical: 4.5 clock hours per week. Clinical hours will be aggregated throughout the semester.

Prerequisite(s): NURS 111 - Introduction to Nursing (3) and acceptance into Nursing A.S.N.

NURS 135 - Nursing Care II (8)

This course continues to build on lifespan concepts of health and illness with related exemplars. The student will integrate conceptual learning with skills and knowledge learned in previous nursing courses. This course has a clinical component that provides for the application of learning to direct and simulated patient care experience. Classroom: 6 hours per week; Clinical: 9 hours per week. Clinical hours will be aggregated throughout the semester.

Prerequisite(s): NURS 115 - Nursing Care I (6) and admission to Nursing A.S.N.

NURS 199 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

NURS 215 - Nursing Care III (8)

This course continues to build on lifespan concepts of health and illness with related exemplars. The student will integrate conceptual learning with skills and knowledge learned in previous nursing courses. This course has a clinical component that provides for the application of learning to direct and simulated patient care experiences. Classroom: 5 hours per week; Clinical: 12 hours per week. Clinical hours will be aggregated throughout the semester.

NURS 240 - Nursing Care IV (10)

This course is designed to prepare the student to transition from the role of nursing student to a professional registered nurse. The student will be expected to apply and analyze concepts related to patient care, professionalism, and health care. The student will integrate interrelated concepts encompassing multiple health and illness concepts across the lifespan. Knowledge and skills learned in previous nursing courses will be utilized. This course has a clinical component that provides for application of learning to direct and simulated patient care experiences. Classroom: 7.5 hours per week; Clinical: 2.7 hours per week; and 120 hours of preceptor/capstone experience. Clinical hours will be aggregated throughout the semester.

Prerequisite(s): NURS 215 - Nursing Care III (8) and admission to Nursing A.S.N.

NURS 299 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

Orientation

ORIE 101 - Orientation to College (1-6)

A course designed to help the student bridge the transition to the college environment.

ORIE 199 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

Philosophy

PHIL 101 - Introduction to Philosophy (3)

This course introduces students to the major fields, problems, theories, and personalities of philosophy through the biographies and writing of leading thinkers.

PHIL 111 - Phil of World Religions (3)

This course will introduce the study of religion from several disciplinary approaches, including psychology, sociology, philosophy, and history and gender studies.

PHIL 199 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

PHIL 205 - Introduction to Ethics (3)

The goals for Introduction to Ethics are to familiarize students with major traditional theories, thinkers, and concepts in ethics and to build students' skills in analyzing and solving ethical problems, defending views both orally and in writing. The study of ethics will enable students to understand, criticize, and construct philosophical arguments. This course will introduce students to questions about right and wrong that have puzzled and provoked thinkers for hundreds of years.

Prerequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement

PHIL 299 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

Phlebotomy

PLBT 101 - Phlebotomy (3)

This course prepares students with the fundamentals of phlebotomy. Both theory and hands-on experience are provided. Course content includes the history of phlebotomy, basic anatomy and physiology, infection control, specimen collection, various venipuncture techniques, dermal punctures, venipuncture complications, point-of-care testing, legal issues, and special non-blood specimen collection techniques.

Prerequisite(s): MAST 102 - Medical Terminology (3)

PLBT 102 - Phlebotomy Clinical Externship (3)

This course requires students to work in a CLIA approved laboratory setting and function under direct supervision of a phlebotomist. The externship is one hundred (100) uncompensated hours in length. Students are expected to perform a minimum of 100 successful blood collection procedures including venipunctures and dermal punctures. Phlebotomy competencies will be evaluated by a phlebotomy preceptor(s) and under the direction of a phlebotomy instructor. The student needs to contact the Phlebotomy Externship Coordinator prior to registering for this course. Early registration is encouraged to allow time to make arrangements for the externship experience. The student is expected to follow all policies and procedures of their designated externship site.

Prerequisite(s): PLBT 101 - Phlebotomy (3)

Physical Therapist Assistant

PTA 101 - Intro to Physical Therapy (2)

In this course, the history of the physical therapy profession and survey of general physical therapy services as well as the legal and ethical requirements for the physical therapist assistant are introduced. The Americans with Disabilities Act and architectural barriers are studied.

Prerequisite(s): Acceptance into PTA program.

PTA 102 - Patient & Professional Relationship (2)

Recognition of the reactions of the health care worker, patient, and family to illness and disability is discussed. The influence of race, class, age, ethnic origin, and gender on the physical therapist assistant and patient relationship is explored. The stages of adjustment to disability and death and dying are described. Communication skills between PTA, patient, family and other health care providers are developed.

Prerequisite(s): Acceptance into PTA program.

PTA 103 - Intro to Patient Care (3)

This course is an introduction to basic patient care procedures such as positioning, transferring, ambulating, dressing, fitting ambulation aids, and taking vital signs. Universal Precautions, isolation, and aseptic principles will be presented. Skills in basic note writing will be developed.

Prerequisite(s): Acceptance into PTA program.

PTA 104 - Physical Agents (4)

This course includes the lecture and lab study of thermal agents, compression, and massage. Skills in surface anatomy and goniometry are developed. Topics include electrical stimulation, traction, and manual muscle testing. Upon completion, students are able to correctly and safely apply these techniques in a laboratory setting while assessing the physiologic response and observing indications and contraindications. Also, students can write appropriate progress notes, and demonstrate knowledge of the physiological principles involved.

Prerequisite(s): Acceptance into PTA program.

PTA 105 - Kinesiology (3)

This course provides a study of human movement and related mechanical principles. Topics include detailed musculoskeletal anatomy and physiology. Upon completion, student will be able to analyze a functional task and identify component joint motions and muscle actions.

Prerequisite(s): Acceptance into PTA program.

PTA 106 - Clinical Education I (1)

This course is an initial clinical experience for students. Forty hours spaced throughout the semester introduces the various settings of a physical therapy practice - acute care, transitional care, out-patient clinic, home health, skilled nursing facility, rehabilitation unit, and the school system. The student may participate in the clinic's activities only if their skills have been checked-off in the course laboratory setting.

Prerequisite(s): Acceptance into PTA program.

PTA 107 - Clinical Education II (3)

This course is a concentrated fifteen day, 120 hour clinical experience. Students will be assigned to a variety of inpatient and outpatient facilities. They are expected to demonstrate beginner level intervention and patient management skills. The student will begin to assess patient response to treatment and be prepared to adjust the therapeutic intervention accordingly.

Prerequisite(s): Acceptance into PTA program.

PTA 108 - Patho of Disease for PTA (3)

Pathophysiology of diseases for the PTA will build upon previously learned knowledge of normal anatomy and normal physiology. This course will discuss pathologies and abnormalities that are deviations from the norm. For all pathologies, we will discuss causes, signs and symptoms, diagnosis, diagnostic tests, treatments, and prognosis. The pathologies will be organized according to the body system, including cardiovascular, respiratory, immune, gastrointestinal, urinary, reproductive, endocrine, nervous, musculoskeletal, and integumentary with emphasis placed on how these are addressed by PTA's. Other topics will include infectious diseases, neoplasms, hereditary diseases, diseases of the blood, and mental/cognitive disorders.

Prerequisite(s): BIOL 100 - The Human Body (3), or BIOL 120 - ^Human Anatomy & Physiology I (3) and BIOL 121 - ^Human Anatomy & Phys I Lab (1)

Corequisite(s): PTA 111 - Anatomy & Physiology for PTA (4)

Pre-requisite/Co-requisite(s): Healthcare Professions, A.A.S., PTA Concentration Students Only

PTA 109 - Physics for PTA (1)

This is an introductory physics course for students wishing to enter the PTA program. Students will be introduced to the following concepts: Newton's Laws of Motion, Linear Motion, Circular Motion, Gravity, Work and Energy, Momentum, Vectors, Rotational Motion, Energy, Waves and Sound, Heat, and Heat Transfer.

PTA 110 - Musculoskeletal Review (3)

Musculoskeletal Review will build upon previously learned knowledge of normal anatomy and normal physiology. This course was designed for the physical therapist assistant student to learn attachments, actions and innervations of selected muscles. Group activity utilizing anatomical models and palpation on classmates will be key components to learning in this course. Units of study are divided up according to joints/areas of the body, as follows: shoulder girdle, shoulder, elbow, wrist, hand, hip, knee, ankle, foot, and pelvis. Muscular system, articular system, and skeletal system will be our main focus in this course.

Prerequisite(s): Acceptance into PTA program.

PTA 111 - Anatomy & Physiology for PTA (4)

This course is specifically designed for the Physical Therapist Assistant (PTA) student, to build upon basic anatomy and physiology material from the pre-requisite, BIOL 100 The Human Body. More specifically, in-depth knowledge of the muscular, skeletal, and nervous systems are essential to the success of future PTAs and will therefore guide the overall course learning objectives and the specific unit learning objectives.

Prerequisite(s): BIOL 100 - The Human Body (3)

PTA 199 - Special Topics (1-4)

A special topics course will have a different course description for each course offered under this special topics code. The division will keep a record of every special topics course offered with this subject code, including course description.

Prerequisite(s): Acceptance into PTA program.

PTA 201 - Therapeutic Exercise (4)

The principles and techniques of therapeutic exercise will be introduced. Topics also include gait analysis, posture assessment, and chest physical therapy. Upon completion the student will plan, implement, and assess the response to an exercise plan in a laboratory setting.

Prerequisite(s): PTA 101 - Intro to Physical Therapy (2)

PTA 202 - Orthopedics (4)

The dysfunctions caused by and intervention strategies for musculoskeletal disorders, amputations, wounds, and burns will be examined. Upon completion, the student will be able to combine previously and newly learned procedures and strategies to carry out an orthopedic care plan in a laboratory setting.

Prerequisite(s): PTA 101 - Intro to Physical Therapy (2)

PTA 203 - Neurology (4)

The dysfunctions caused by and intervention strategies for peripheral and nervous system disorders will be examined. Upon completion the student will be able to combine previously and newly learned procedures and strategies to carry out a neurologic care plan in a laboratory setting.

Prerequisite(s): PTA 101 - Intro to Physical Therapy (2)

PTA 204 - Clinical Education III (5)

This rotation consists of two hundred hours over a five week period that will allow the student to begin the process of working within the physical therapy Plan of Care. The emphasis will be to implement, develop, and progress a therapeutic exercise program for the patient to address the impairments of decreased range of motion, decreased strength, decreased endurance, or motor control deficit.

Prerequisite(s): PTA 101 - Intro to Physical Therapy (2)

PTA 205 - Capstone Seminar (1)

This intense five week seminar examines the expectations for an entry level physical therapist assistant and focuses on preparation for clinical rotations and entry into the profession. Previously learned and new material relating to safety, plan of care, communication, professional behavior, and knowledge are tied to the role of the PTA.

Prerequisite(s): PTA 101 - Intro to Physical Therapy (2)

PTA 206 - Clinical Education IV (5)

This five week, 200 hour clinical assignment allows the student to apply all previously learned theory and skills to patient care in a clinical setting. Each student is assigned to a clinical center to perform physical therapy modalities and procedures on a variety of patients.

Prerequisite(s): PTA 101 - Intro to Physical Therapy (2)

PTA 299 - Special Topics (1-4)

A special topics course will have a different course description for each course offered under this special topics code. The division will keep a record of every special topics course offered with this subject code, including course description.

Prerequisite(s): PTA 101 - Intro to Physical Therapy (2)

Physics

PHYS 103 - ~General Physical Science I (4)

This is an introductory survey course which explores the major concepts in physics and chemistry. Topics covered will include motion, matter and energy, atomic models, nuclear structure, waves, and electricity. A combination of conceptual framework, practical applications, and problem solving will be utilized in the integrated laboratory and lecture course.

PHYS 104 - ~General Physical Science II (4)

This is an introductory survey course which explores the major concepts in geology, astronomy, and meteorology. Topics covered will include rocks and minerals, weathering and erosion, surface and groundwater, geologic time, plate tectonics, earthquakes, volcanoes, and mountains; light and telescopes, the solar system, stars, nebulae, and galaxies; the origin of the universe; the basics of meteorology, and the effects of weather and climate. A combination of the conceptual framework, practical applications, and problem-solving will be utilized in the integrated laboratory and lecture course.

PHYS 199 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

PHYS 201 - General Physics I (4)

This is a calculus-based physics course covering topics of motion, force, Newton's laws, energy, momentum, gravitation, rotation, acoustics, fluid dynamics, and thermodynamics. The course includes a lab component.

Prerequisite(s): MATH 207 - ^Calculus I (4)

PHYS 299 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

Plastics Engineering Technology

PLET 120 - Introduction to Plastics (3)

Students will learn the fundamentals of plastics processing. Additionally, students will learn the basic characterizations of polymeric materials, as well as aspects of quality control.

PLET 199 - Special Topics (1-4)

A special topics course (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

PLET 200 - Plastics Processing (3)

Students will gain the necessary skills for various plastics processing methods including injection and blow molding. Students will also be introduced to maintenance practices of materials. Students are also introduced to tooling and design.

Prerequisite(s): PLET 120 - Introduction to Plastics (3)

PLET 210 - Plastics Design (3)

Students are introduced to the design of molds, tools, and plastic parts. CAS and CAW are used to construct a various mold and plastic part designs.

Prerequisite(s): MECH 201 - Systematic Troubleshooting (3) and PLET 120 - Introduction to Plastics (3)

PLET 292 - Internship (1-4)

This course should expand the students' career awareness and further develop their practical, hands-on experience. The number of credits will be based on the number of hours of employment.

PLET 299 - Special Topics (1-4)

A special topics course (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

Political Science

PSCI 100 - ~Introduction to Political Ideology (3)

This course provides an overview of major political ideologies that shaped the historical political landscape of the world and the United States and will give shape to the 21st century. An examination of liberalism, conservatism, nationalism, multiculturalism, feminism, and Islamism (along with many other 'isms') provide the student with a sense of history and structure.

PSCI 101 - ~American Federal Government (3)

This course involves the study of the functions and administration of government in the United States. The course is designed to provide an introduction to the structure, organization and functioning of the national government of the United States. It will examine the powers and relationships of the executive, legislative, and judicial branches of government with special emphasis given to the role that history, political parties, pressure groups, etc. play in influencing these relationships.

PSCI 102 - ~State & Local Government (3)

This survey course covers the history and operations of state and local government. Some of the topics include state & local politics, state constitutions, state legislation, state governors, the justice system, and financing of state and local government.

PSCI 199 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

PSCI 201 - Intro to Int'l Relations (3)

Making sense of contemporary world affairs involves understanding the history of int'l relations (IR). The primary tool for examining the broader patterns in IR will be the three major theories of IR: Realism, Liberalism, and Neo-Marxism. Through these lenses, this course will examine the defining events of the 20th Century including World War I, the League of Nations, World War II, the UN, and the Cold War together with the contemporary phenomena of globalization, climate change, the rise of the BRICs, and modern int'l warfare/terrorism.

PSCI 210 - Intro to Comp Politics (3)

This course introduces the central concepts and debates in the field of comparative politics. Through the examination of various countries in Europe, Latin America, Asia, the Middle East, and Africa, it will explore topics including variations among industrialized democracies as well as the rise, fall, and transformations of former communist regimes (e.g. the Soviet Union and China). The course will also look at the challenges of the developing world, including the legacy of colonialism, the different paths to democracy, and the problems of economic reform.

PSCI 220 - Intro to Political Theory (3)

This course offers an introduction to the field of political theory, focusing on three major themes – power and freedom, social justice, and democracy. It is designed to promote critical thinking about the ideas and philosophies that have shaped, and will continue to guide, contemporary political systems. The readings are selected from the texts of influential thinkers, such as Bentham's Theory of Legislation and Marx's Capital, but emphasize contemporary works, such as those of Michel Foucault, John Rawls, and Robert Dahl.

Prerequisite(s): ENGL 100R - Reading Essentials (3) or test scores

PSCI 299 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

Psychology

PSYC 199 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

PSYC 203 - ~Introduction to Psychology (3)

This course will introduce the student to basic psychological principals and to enable the student to examine current thinking about development, personality, sensation and perception, cognition, learning, psychological disorders, and their treatment, and influence.

Corerequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement

PSYC 205 - Abnormal Psychology (3)

This course introduces students to both the science and the personal aspects of abnormal psychology through developing an understanding that abnormal psychology is about understanding the individual in society. This course will emphasize the use of case studies to present the most cutting edge information on abnormal psychology by covering methods and treatment in context. Material presented will integrate the biological, psychological, and social perspectives associated with abnormal psychological study.

Prerequisite(s): PSYC 203 - ~Introduction to Psychology (3)

PSYC 210 - Human Growth & Development (3)

This course explores the basic principles of human growth and development throughout the lifespan. Prenatal development, as well as physical, emotional, mental, and social changes in children, adolescents, and adults will be reviewed. The multiple factors that influence development and shape personality will be considered.

PSYC 240 - Social Psych of Substance Use (3)

This course is designed to introduce students to the social reality of substance abuse. The course will address the social and personal dynamics involved in the phenomena of substance use. In addition, this course will look at the issues surrounding substance use and its relationship to crime, rehabilitation, medicalization in our society, and various movements aimed at drugs.

Prerequisite(s): PSYC 203 - ~Introduction to Psychology (3) and SOCI 203 - ~General Sociology (3)

PSYC 299 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

Renewable Energy Systems

RENG 101 - Renewable Energy Technology (1)

This course explores basic Renewable energy concepts and studies Photovoltaics, Wind Turbine and Solar Thermal systems in typical application environments. Topics include a site plan, sizing, safety, regulations, and grid connection. Small scale PV, wind turbine, solar thermal and controllers will be utilized to provide hands-on training. Systems simulation will also be incorporated. This will be a 1 credit hour class, encompassing 1 hour of lecture.

RENG 101L - Renewable Energy Tech Lab (2)

This course explores basic Renewable energy concepts and studies Photovoltaics, Wind Turbine and Solar Thermal systems in typical application environments. Topics include a site plan, sizing, safety, regulations, and grid connection. Small scale PV, wind turbine, solar thermal and controllers will be utilized to provide hands-on training. Systems simulation will also be incorporated. This will be a 2 credit hour class, encompassing 4 hours of Lab.

RENG 199 - Special Topics (1-4)

A special topics course (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

RENG 201 - Solar Thermal Energy (1)

This course explores Solar Thermal systems in typical application environments. Topics include a site plan, sizing, safety, regulations, and connection, Flat panel, Evacuated Tube as well as geothermal systems will be utilized to provide hands-on training. Systems simulation will also be incorporated. We are planning to acquire an enclosed equipment trailer to build a rolling classroom for hands-on installation of PV, wind turbine, solar thermal and geothermal systems. This will be a 1 credit hour class, encompassing 1 hour of lecture.

RENG 201L - Solar Thermal Energy Lab (2)

This course explores Solar Thermal systems in typical application environments. Topics include a site plan, sizing, safety, regulations, and connection, Flat panel, Evacuated Tube as well as geothermal systems will be utilized to provide hands-on training. Systems simulation will also be incorporated. We are planning to acquire an enclosed equipment trailer to build a rolling classroom for hands-on installation of PV, wind turbine, solar thermal and geothermal systems. This will be a 2 credit hour class, encompassing 4 hours of lab.

RENG 299 - Special Topics (1-4)

A special topics course (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

Robotics

ROB 199 - Special Topics (1-4)

A special topics course (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

ROB 210 - Robotics I (2)

This course is designed to introduce the student to industrial robotics applications typical environments. Topics include: robot history and fundamentals, robot classification, power sources, robot applications in the workplace, robot control techniques, path control, end of arm tooling, robot operation, and robot controllers, controller architecture in a system, robotic language programming, and human interface issues.

ROB 220 - Robotics II (3)

This course expands on Robotics I and will focus on industrial robotics installation, application, programming, and maintenance. Course topics will include programming in a C-type language to read sensors and control outputs, and troubleshooting software and hardware using functional testing. Large scale robots and controllers will be utilized to provide hands-on training. Systems simulation will also be incorporated.

Prerequisite(s): ROB 210 - Robotics I (2)

ROB 299 - Special Topics (1-4)

A special topics course (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

Software Development

SDE 188 - Intro to Programming Logic (3)

This course introduces the basic concepts of programming logic. Students will examine the basic constructs of selection, sequence, and repetition, abstract data structures of records, arrays, and linked lists, and file access methods.

Corerequisite(s): MATH 100 - Math Essentials (3) or appropriate test scores

SDE 193 - Programming in C# (3)

This course provides students with a thorough understanding of the basic principles of C# programming language. It covers the basic syntax and structure of the language with an emphasis on problem-solving techniques. Students create programs using input/output statements; if-while, do-while, and for-loop logic structures, arrays, functions, pointers and reference variables, record structures, header files, file I/O, and basic object-oriented programming techniques. Students will be able to recognize and correct common programming errors.

Prerequisite(s): SDE 188 - Intro to Programming Logic (3)

Corequisite(s): MATH 100A - Algebra Essentials (3) or higher, or appropriate test scores

SDE 194 - Programming in Java (3)

This course provides students with a basic understanding of the principles of JAVA programming. It covers syntax, structure and emphasizes problem-solving techniques. Students create programs using input/output statement; if, while, do while, and for-loop logic structure; arrays, functions, and basic object-oriented programming techniques. Students will be able to recognize and correct common programming errors.

Prerequisite(s): SDE 188 - Intro to Programming Logic (3)

Corequisite(s): MATH 100A - Algebra Essentials (3) or higher, or appropriate test scores

SDE 195 - Programming in Python (3)

This course provides an introduction to the Python language. Students will explore its most important libraries and practice recommended programming styles and idioms, using a hands-on approach to how the various language features can be used together to best achieve efficient, secure programs. Topics covered include variables, expressions, statements, data structures, lists, dictionaries, tuples, functions, arguments, conditionals, recursion, strings, regular expressions, object-oriented development, classes, inheritance, iterators, generators, and decorators. This course is not intended for absolute beginners in programming but includes a self-contained review of elementary features.

Prerequisite(s): SDE 188 - Intro to Programming Logic (3)

Corequisite(s): MATH 100A - Algebra Essentials (3) or higher, or appropriate test scores

SDE 199 - Special Topics (1-4)

A special topics course (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

SDE 200 - Mobile App Development (4)

This course acquaints students with the design, development, testing, and debugging of mobile applications for multi-platform (i.e. Android, IOS, etc.) deployment. It will use the object-oriented programming along with current languages and scripts to create the applications and their interfaces. Multiple mobile user interface elements are used to gather input and drive the application. This course covers application development phases, terminologies, application design, and coding.

Prerequisite(s): SDE 193 - Programming in C# (3), SDE 194 - Programming in Java (3), or SDE 195 - Programming in Python (3)

SDE 204 - Server Side Web Development (3)

This course covers aspects of server-side scripting application development for web purposes. It will focus on program statements and techniques to manipulate database information. Students will explore topics such as logins, dynamic

pages, content management, search engine creation, secure on-line coding and working with form data. Emphasis will be placed on the use of programming that can be utilized without limitation to a particular database management system.

Prerequisite(s): MDIA 104 - Web Page Design (3) and SDE 193 - Programming in C# (3) or SDE 194 - Programming in Java (3) or SDE 195 - Programming in Python (3)
OR

MDIA 206 - Site Designer (3) and SDE 188 - Intro to Programming Logic (3)

SDE 209 - Applied App Development (4)

This hands-on capstone course is designed to validate the knowledge and skills of the student in application development. It will utilize concepts learned through Mobile Application Development, Server-Side Web Development, and Project Management courses. It will require the student to develop, design, implement, and user test an application development project. Students will be required to work both independently and on teams with limited guidance and instruction and solve business requirements based on "real world" scenarios.

Prerequisite(s): IT 269 - Project Management (3) AND SDE 200 - Mobile App Development (4) OR SDE 204 - Server Side Web Development (3)

SDE 299 - Special Topics (1-4)

A special topics course (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

Sociology

SOCI 120 - Applied SOCI in Heathcare (3)

This course will introduce students to emotional, psychological, and physical trauma in relation to gender inequality, poverty, under/uninsured populations, and drug misuse, using the sociological theories of functionalism and conflict theory. The students will explore how trauma influences the patient perspective of medical care and patient health, as well as reflect on their own unconscious biases. Additionally, the course will prepare students to provide trauma-informed care.

SOCI 120 - Applied SOCI in Heathcare (3)

This course will introduce students to emotional, psychological, and physical trauma in relation to gender inequality, poverty, under/uninsured populations, and drug misuse, using the sociological theories of functionalism and conflict theory. The students will explore how trauma influences the patient perspective of medical care and patient health, as well as reflect on their own unconscious biases. Additionally, the course will prepare students to provide trauma-informed care.

SOCI 199 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

SOCI 203 - ~General Sociology (3)

This course introduces students to the core concepts and perspectives of sociology, the study of human social environments and of human interactions within those environments. The course will explore a number of sociological topics to develop a sociological imagination, an ability to understand the effects of group membership on behavior, attitudes, beliefs, and life chances.

Corerequisite(s): ENGL 101L - English Composition I Lab (3), ENGL 110L - Tech Writing & Comm Lab (3), or placement

SOCI 205 - ~Social Problems (3)

This course provides an in-depth study of current social problems. Emphasis is on causes, consequences, and possible solutions to problems associated with major social institutions.

Prerequisite(s): SOCI 203 - ~General Sociology (3)

SOCI 215 - ~Human Relations (3)

Human Relations instructs students on the relationship between self-esteem and human relations and consequently between human relations skills and career success. Emphasis is on strategies for personal and professional growth based on advancing skills in individual, group, and organizational contexts. The topics looked at include self-esteem, attitudes, values, communications, leadership, emotional control, creativity, conflict and stress management, diversity, business ethics, and productivity.

SOCI 220 - Sociology of Diverse Groups (3)

Sociology of diverse groups offers special topics in the sociology of diversity for in-depth study. This course explores multiculturalism, the presence of multiple diverse groups in society, and the varied social identities found among communities and groups. The course includes an overview of key concepts in discussions of diversity.

SOCI 299 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

Theatre

THEA 101 - ~Introduction to Theatre (3)

This course is an analytical approach to the understanding and appreciation of theatre as an art form. The course is designed for students who wish to improve their understanding of theatre, both historically and aesthetically. The format of the course is a lecture focusing on the major historic periods in theatre, with representative plays being studied. No acting is required for this class.

Prerequisite(s): ENGL 101L - English Composition I Lab (3) or placement

Tri-County Education Workshops

EDTR 199 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

EDTR 299 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

Unmanned Aerial Systems

UAS 101 - Intro to Drone Applications (2)

This course will introduce students to basic drone applications. This course will include the history of UAVs, careers in UAV technicians, and GIS technicians, and a brief introduction into coding and GIS/UAV based software.

UAS 102 - Drone Operations I (3)

This course provides a practical UAV application including UAV flight training, project planning, data creation, data management, and data processing. This course prepares students to take the FAA Remote Pilot Certification exam.

UAS 103 - Drone Operations II (3)

This course is a continuation of the applications side of UAS 102 - Drone Operations I (3). The class will also include how to properly maintain and repair UAVs and related electric motors.

Prerequisite(s): UAS 102 - Drone Operations I (3)

UAS 105 - Introduction to GIS (3)

This course will provide a basic introduction to the geographic information system (GIS) software, ArcGIS. Students will perform labs teaching them how to use the software to make basic maps. Introductory information into the history of GIS as well as the basic information surrounding how a GIS works will be covered.

UAS 199 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

UAS 201 - Private Pilot Ground School (3)

This course will focus on providing students with the information required for the Private Pilot License. This course covers the written material for the private pilot examination but does not include the private pilot exam or provide the flight hours needed to obtain the license. The course will cover aerodynamics, parts of the airplane, weather, and other factors that affect performance and flight operations.

UAS 205 - Environmental GIS (3)

Remote sensing will be the main focus of this course. Students will use satellite imagery derived from the Landsat series, AVHRR, UAV data, and others to remotely sense different phenomena on Earth's surface as well as establish

and manage time series to find changes over time. Student's will be supplemented with introductory information on how remote sensing works.

Prerequisite(s): UAS 105 - Introduction to GIS (3)

UAS 206 - GIS for Urban Planning (3)

Urban planning is a growing career in the field of GIS. This course will teach the concept of proximity in a GIS. It will teach students to make spatially informed decisions in developing a city. It will focus on spatial analysis tools to help with ideas such as stormwater management, construction sites, disaster relief, population density, and other concepts caused by civilization.

Prerequisite(s): UAS 105 - Introduction to GIS (3)

UAS 230 - Aviation Meteorology (3)

This course is designed to teach the principles of meteorology and how it applies to aviation technology and flight safety. The topics covered will include the study of air masses, atmospheric stability, fronts, precipitation development, and temperature.

Prerequisite(s): UAS 201 - Private Pilot Ground School (3)

UAS 240 - Drone Imaging (3)

This course will cover photography and videography elements to give students the ability to take professional quality pictures and videos using UAS. This course will also cover the skills needed to use UAS pictures and videos to inspect certain areas of interest such as construction sites, trash dumps, pollution dumping sites, and others. The course will also introduce students to structure from motion (SfM) which will teach them to build 3D models using UAS imagery.

Prerequisite(s): UAS 103 - Drone Operations II (3)

UAS 250 - Intro to Small Electronics (3)

Small electronics containing a system on a chip (SoC) are a growing part in environmental monitoring. This course will provide information in designing and controlling single board computers such as Arduino and Raspberry Pi to monitor environmental conditions.

Prerequisite(s): UAS 103 - Drone Operations II (3)

UAS 270 - Drone Project Planning (3)

This course will cover the skills needed when planning an applied drone or GIS project. This will include the steps of the beginning stages, such as goals and objectives and instruments needed. Then it will move toward flight planning, data needed, data collection, and data manipulation. Then finally the class will cover map and data creation and publishing.

UAS 292 - Internship in Applied UAS (1-4)

Students get practical experience in the workplace. The student will engage in on-the-site activities relating to applied UAS technologies. Interns learn how to translate classroom theory and methods into professional skills. Activities are

under the supervision of a trained professional. Application for the internship must be made to the applied UAS Technologies Program Coordinator.

UAS 299 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

Workforce Development

WORK 101 - Workplace Readiness (1-4)

This workforce-based course enhances employees' outcomes and duties at their current positions.

WORK 102 - Microsoft Office (1-4)

This workforce-based course enhances employees' computer efficiency in the workplace.

WORK 199 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

WORK 299 - Special Topics (1-4)

A special topic (ST) has a different course description for each course offered under the ST code. The division will keep a record of every special topics course offered with this subject code, including the course description.

Other Courses

~ Core Coursework - Transfer Agreement

The Higher Education Policy Commission is charged by statute with ensuring that undergraduate core coursework completed at any of its institutions is transferable as general studies credit to all other state institutions of higher education in West Virginia for credit with the grade earned. Though system policy provides that undergraduate coursework is generally transferable among state institutions, there is no requirement that courses transferred will meet the general studies requirements at receiving institutions. The purpose of this procedure is to establish a process and format which will enable students who transfer from one state college or university to another to transfer core coursework that will count toward fulfillment of general studies requirements at the receiving institutions. To facilitate the discharge of this statutory responsibility, the following agreement for transfer of core coursework at state higher education institutions in West Virginia and listing of institutional courses that are acceptable for transfer under this agreement has been developed. Each institution shall be responsible for identifying each course listed in its course catalog that is also listed as a CCTA course. Such courses shall be identified on the official and unofficial school transcript with a tilde (~) as the lead character on the course title.

Faculty

Dr. Peter G. Checkovich (1987)

President

Professor of Education

B.A. University of Virginia (1971)

M.Ed. University of Virginia (1975)

Ed.S. University of Virginia (1979)

Ed.D. University of Virginia (1985)

School of Professional Studies and University Transfer

Dr. R. Craig Miller (2005)

Chief Finance and Administrative Officer/Vice President of the School of Professional Studies and University Transfer

Professor

B.S. Shepherd College (1998)

M.B.A. Frostburg University (2003)

Ed.D. West Virginia University (2013)

Megan Anderson (2021)

Program Coordinator of Criminal Justice

Lecturer

M.A. Sam Houston State University (2014)

B.S. Old Dominion University (2011)

Amanda Burnell (2012)

E-Learning Academic Administrator

Assistant Professor

R.B.A. Shepherd University (2013)

M.A. Shepherd University (2020)

Dr. Todd Cimino-Johnson (2016)

Program Coordinator of Business and Economics

Assistant Professor

B.S. Shepherd University (2005)

M.B.A. Shepherd University (2006)

M.A. American Public University (2017)

Ph.D. Old Dominion University (2021)

Dr. Katherine Cox (2013)

Associate Dean of Humanities

Associate Professor

B.A. Harvard University (1987)

M.A. University of Virginia (2002)

Ed.D. West Virginia University (2009)

Brett Gallagher (2008)

Dean of the School of Professional Studies and University Transfer

Associate Professor

B.A. West Virginia University (2007)

M.A.T. Shepherd University (2011)

M.A. West Virginia University (2015)

Jackie Griggs (2013)

Coordinator of Academic Affairs

Assistant Professor

A.A. Hagerstown Community College (2002)

B.S. Shepherd University (2005)
M.A. West Virginia University (2017)

Heather Huggett (2015)

English Coordinator

Assistant Professor

B.A. Virginia Polytechnic Institute and State University (1995)
M.A. Virginia Polytechnic Institute and State University (1997)

Challice LaRose (2017)

Human Services Program Coordinator

Assistant Professor

B.A. West Virginia University (2013)
M.S.W. West Virginia University (2017)

Dr. K. Page Moore (2015)

Associate Dean of Business & Social Sciences

Associate Professor

B.A. West Virginia University (2011)
M.A. West Virginia University (2011)
Ph.D. Old Dominion University (2021)

Rebecca Moore (1992)

Associate Professor

B.S. Shepherd College (1990)
M.B.A. West Virginia University (1994)
Ed.S. George Washington University (2005)

Seth Mose (2019)

Instructor

B.A. Bridgewater College (2005)
M.S. Towson University (2011)

Kerri Namolik (2007)

Assistant Professor

B.A. The University of Pittsburgh (2003)
M.L.S. West Virginia University (2010)

Ann Price (2011)

Program Coordinator of Accounting

Associate Professor

Certified Public Accountant (1989)
B.S. Shepherd College (1987)
M.B.A. West Virginia University (1987)

Dr. Holley Ralston (2017)

Program Coordinator of Social Sciences

Assistant Professor

B.A. West Virginia Wesleyan University (1995)
M.A. West Virginia University (1999)
Ph.D. Free University of Berlin (2012)

James Ralston (1984)

Assistant Professor

B.A. Alma College (1966)
M.A. Wayne State University (1967)

Joshua Rider (2018)

Education Program Coordinator

Assistant Professor

B.A. West Virginia Wesleyan College (2010)

M.A.T. Marshall University (2015)

Sara Shade (2011)

Instructional Technologist

Assistant Professor

A.A.S. Blue Ridge Community & Technical College (2011)

R.B.A. Shepherd University (2014)

M.S. Purdue University (2019)

Dr. Billie A. Unger (1993)

Program Coordinator of Liberal Arts

Professor

B.A. Shepherd College (1981)

M.A. West Virginia University (1990)

Ed.D. West Virginia University (2003)

Steven Wolfe (2018)

Assistant Professor

B.S. Bridgewater College (2013)

M.A. The University of Texas at Tyler (2016)

Workforce and Engineering Technologies

Dr. Ann Shipway (2002)

Vice President of Workforce and Engineering Technologies

Professor

A.A.S. Allegany College of Maryland (1986)

A.A. Allegany College of Maryland (1986)

B.A. College of Notre Dame of Maryland (1988)

M.A. College of Notre Dame of Maryland (1993)

Ed.D. West Virginia University (2009)

Amanda Alford

Academic Advisor, ASCEND

Lecturer

B.A. Fairleigh Dickinson University (2013)

Michael Allenbaugh (2017)

Instructional Specialist of Advanced Manufacturing

Instructor

A.A.S. Blue Ridge CTC (2016)

Eric Arsenault (2021)

Instructional Specialist of Mechatronics, Engineering, & Plastics

Lecturer

A.A.S. Blue Ridge (2017)

B.S. Fairmont State University (2021)

James Bayly (2014)

Energy Coordinator

Instructor

A.A.S. Blue Ridge CTC (2015)

Sandra Baker (2007)

Instructor

A.A.S. Blue Ridge Community and Technical College (2007)

Larry Bickett (2013)

Director of Facilities and Campus Security

Instructor

Facilities Director

A.A.S. Blue Ridge Community and Technical College (2013)

Richard Biggs (2020)

Lecturer

B.S. Carnegie Mellon University (2008)

M.A. John Hopkins University (2014)

Mark Bittner (2021)

Instructional Specialist

Lecturer

Janet Branch (2014)

Division Chair of Information Technology

Program Coordinator of Digital Media Studies and Software Development Engineering

Assistant Professor

B.S. Virginia Commonwealth University (1985)

M.S. Old Dominion University (2005)

Adam Bridendolph (2017)

Associate Dean of Mechatronics and Engineering Technology

Instructor

B.S. Old Dominion University (2010)

M.E. Old Dominion University (2013)

Lisha Burks (2016)

Director of Accelerated Study in Associate Programs

Instructor

R.B.A. Shepherd University (2009)

M.S. Capella University (2014)

Laura Busey (2009)

Dean of Instruction

Instructor

B.A. Shepherd University (2008)

Amber Butcher (2018)

Director of STEM Internships and Alumni Outreach Coordinator

Instructor

B.S. West Virginia University (1991)

M.S. West Virginia University (1994)

Annette Cain (2019)

Culinary Instructional Specialist

Lecturer

B.A. Shepherd University (1995)

Kathy Collis (2013)

Assistant Professor

B.S. Cedarville University (1987)

M.S. Shippensburg University (1989)

Matthew Collis (2019)

Lecturer

A.A.S Hagerstown Community College (2018)

Miriam Conroy (2016)

Chair of The Culinary Arts Academy

Instructor

Culinary Arts Certificate L'Academie de Cuisine (2007)

A.A.S. Blue Ridge Community and Technical College (2017)

Samantha Cook (2015)

Instructor

A.A.S. Fairmont State University Pierpont Community and Technical College (2012)

Nicole Cowles (2021)

Student Advisor Workforce Training

Lecturer

B.A. Mountain State University (2004)

Diana Crouse (2016)

Program Coordinator

Foundation Assistant

Instructor

R.B.A. Shepherd University (2008)

J. Todd Diehl (2018)

Advanced Manufacturing Instructional Specialist

Lecturer

Alexis Dixon (2020)

Personal and Career Counselor

Lecturer

A.A. Hagerstown Community College (2013)

B.A. Shepherd University (2015)

Kevi Furgason (2019)

Lecturer

B.A. University of Pittsburgh (2005)

Amy Gillespie (2021)

Personal and Career Counselor

Lecturer

B.A. College of Saint Rose (1995)

M.S. Post University (2017)

Kimberly Graves (2019)

Program Coordinator of Software Development Engineering

Instructor

B.S. Queen's University (1997)

B. Ed. Queen's University (1998)

M. Ed. University of Toronto (2011)

Amber Henson (2008)

Program Coordinator of Mathematics

Assistant Professor

A.A. Garrett College (2001)

B.S. Shepherd College (2003)

M.Ed. Frostburg State University (2007)

Joel Heslop (2021)

Lecturer

B.S. Shepherd University (2011)

Don Heumphreus (2021)

Program Coordinator of Information Technology

Lecturer

B.S. University of Southern California (1994)

M.S. American Public University (2016)

Tiffany Hine (2011)

Program Coordinator of Agribusiness

Associate Professor

B.A. West Virginia University (1991)

M.P.A. West Virginia University (1993)

M.B.A. Shepherd University (2020)

Robert Hopkin (2017)

Advanced Manufacturing Instructional Specialist and Lab Supervisor

Instructor

A.A.S. Blue Ridge Community and Technical College (2016)

Joseph Holliday (2021)

Career Counselor Job Corps Scholar

Lecturer

B.S. University of Hawaii (1985)

M.S. American Public University (2012)

Dr. Cynthia Hull-Miller (2011)

Associate Dean of Career Advancement

Associate Professor

A.A. Hagerstown Community College (1977)

B.A. Hood College (1979)

M.Ed. Frostburg State University (2007)

Ed.S. Educational Leadership, Liberty University (2017)

Patricia Irwin (2017)

Assistant Professor, Advanced Manufacturing

B.E.E. Gannon University (1988)

M.S. Frostburg State University (1991)

Rose Jacelyn (2021)

Math/STEM Degree Data Analyst

Lecturer

B.S. Loma Linda University (2007)

M.S. NOVA Southeastern University (2010)

Nikki Johnson (2021)

Program Coordinator of Remote Technologies

Lecturer

A.S. Blue Ridge CTC (2021)

Adrian Kelley (2021)

Lecturer

A.A.A. Eastern West Virginia Community and Technical College (2013)

B.A. New York College at Potsdam (1994)

John Lane (2016)

Instructor

A.A.S. Ohio State University (1986)

A.S.T. Pennsylvania Culinary Institute (2004)

A.S.T. Le Cordon Bleu (2004)

Sharon Lentz (2020)

Program Coordinator for Veterinary Technician

Lecturer

A.A.S. St. Petersburg College (2001)

Rebecca Lewis (2020)

Early Childhood Program Coordinator

Lecturer

B.S. Shepherd University (2002)

M.A. Indiana University of Pennsylvania (2005)

Dr. Apryl McDonough (2012)

Director of Prior Learning Assessment

Professor

A.A.S. Blue Ridge Community and Technical College (2009)

B.S. Kaplan University (2011)

M.B.A. American Public University (2013)

Ed.D. Capella University (2017)

Brandon Michael (2019)

Lecturer

A.A.S. Blue Ridge Community and Technical College (2013)

Rebecca Lewis (2020)

Program Coordinator of Early Childhood

Lecturer

B.S. Shepherd College (2002)

M.A. Indiana University of Pennsylvania (2005)

Michele Morrison (2009)

Associate Dean of Information Technology and Department of Mathematics

Assistant Professor

A.A. Potomac State College (1995)

B.S. West Virginia University (1998)

M.A. West Virginia University (2000)

Kay Ogilive (2019)

Program Coordinator of Cybersecurity

Lecturer

A.A.S. Kaplan College (2009)

B.S. Strayer University (2010)

Lisa Osborn (2021)

Career Counselor Job Corps Scholar

Lecturer

B.S. Liberty University (1991)

Jane Peters (2021)

Instructional Specialist/Workforce Outreach Coordinator

Lecturer

B.A. Miami University (1976)

Ashley Piel (2021)

Lectuer

A.A.S. St. Louis Community College Forest Park (2014)

Duane Roberson (2010)

Director of Electric Utility and Safety Training

Instructor

A.A.S. Blue Ridge Community and Technical College (2017)

Allen Rundquist (2020)

Environmental Technician Program Coordinator

Lecturer

B.S. Wilkes University (2017)

Morgan Seeley (2016)

Workforce Programs Instructional Specialist

Instructor

A.A. Potomac State College of West Virginia University (2010)

B.A. Shepherd University (2019)

Cynthia Shank (2018)

Instuctional Specialist for Mathematics

Instructor

B.M. Peabody Conservatory (1976)

M.Ed. Towson University (1982)

Gerald Sigado III (2019)

Program Coordinator for Applied Drone Technology

Lecturer

B.S. Virginia Tech (2013)

Elizabeth Spring (2017)

Environmental and Applied Lab Technologies Program Manager

Assistant Professor

B.S. West Virginia Institute of Technology (1987)

M.A. Marshall University (2003)

Sallie Sterling (2012)

Chair of Mathematics

Assistant Professor

B.S. Shippensburg University (1976)

M.A. University of Maryland Baltimore County (1984)

Jennifer Smith (2017)

Culinary Instructional Specialist

Lecturer

A.A.S. Blue Ridge Community and Technical College (2016)

David Teets (2011)

Mechatronics Faculty and Solar Program Coordinator

Instructor

Steve Weiss (2008)

Associate Dean of Culinary Arts Academy

Instructor

A.A.S. Dutchess Community College (1986)

A.A.S. Baltimore's International Culinary Art Institute (1988)

R.B.A. Shepherd University (2014)

Douglas Wood (2019)

Lecturer

Tatyana Zidarov (2018)

Assistant Professor

A.A.S. Purdue University Global (2002)

B.S. University of National and World Economy (1998)

M.S. Purdue University Global (2013)

School of Health Sciences

Leslie See (2005)

Vice President of Enrollment Management & Allied Health

Associate Professor

B.S. Shepherd University (1998)

M.S. Mountain State University (2004)

Brandy Bartley (2021)

PTA Assistant Clinical Coordinator

Lecturer

B.S. PMI Tucson Campus (2017)

Scott Blizzard (2019)

Health Information Management Externship Coordinator

Lecturer

A.A.S. Purdue University Global (2003)

A.A.S. Purdue University Global (2007)

Blythe Burner (2021)

Assistant Dean of Nursing

Lecturer

B.S. Shepherd University (2009)

M.S. Loyola University New Orleans (2021)

Christopher Cobian (2012)

Assistant Dean of Allied Health

Associate Professor

B.A. Messiah College (1998)

M.S.W. University of Maryland, Baltimore (2004)

Danielle Conner (2020)

Coordinator of Medical Externship

Lecturer

A.A.S. Blue Ridge CTC (2017)

Linda Kimes (2015)

Program Coordinator of Health Information Management

Instructor

AHIMA Approved ICD 10 CM/PCS Trainer (2016)

A.A.S. Health Information Management (1997)

B.S. Mountain University OL (2008)

Bruce Kowiatek (2019)

Instructor

B.A. University of Pittsburgh (1998)

M.B.A. Shenandoah University (2002)

Pharm. D. Shenandoah University (2002)

Dr. Kent LeMaster (2018)

Assistant Professor

B.S. West Virginia University (2013)

M.S. West Virginia University (2015)

Ph.D. University of Western Ontario (2018)

Dr. Chrystal L. McDonald (2011)

Program Coordinator of Physical Therapist Assistant

Professor

M.P.T. Shenandoah University (2002)

D.P.T. Shenandoah University (2005)

Kathy Monroe (2010)

Assistant Professor

B.S. University of North Carolina at Charlotte (1989)

M.S. University of North Carolina at Charlotte (1992)

Ethel Myers (2019)

Emergency Medical Services Program Director

Lecturer

B.S. Shepherd University (2000)

Michael O'Donnell (2014)

Associate Professor

B. S. West Virginia University (1985)

M. S. Shippensburg University (1998)

Dr. George Perry (2004)

Professor

B.A. West Virginia Wesleyan College (1982)

M.Ed. West Virginia Wesleyan College (1990)

Ed.D. West Virginia University (2004)

Angel M. Smith (2016)

Medical Assisting Program Coordinator

Instructor

A.A.S. Blue Ridge Community & Technical College (2010)

Richard Snyder (2006)

Chair of Allied Health Science

Associate Professor

B.A. Carson-Newman College (1986)

R.M.A. American Medical Technologists (2003)

M.A. West Virginia University (2011)

Jack Tensley (2020)

Emergency Medical Services Clinical Coordinator

Lecturer

A.A.S. Blue Ridge Community and Technical College (2008)

Christin Weiss (2016)

Assistant Professor

B.S.N. Shenandoah University (2010)

M.S.N. Capella University (2018)