



ERIE COUNTY
COMMUNITY
COLLEGE

College Catalog
Academic Year 2025-2026



ERIE COUNTY COMMUNITY COLLEGE

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The information in this catalog is considered to be descriptive in nature. The College reserves the right to make any changes in the contents of this catalog or in the documented course of study that it deems necessary or desirable. When changes are made they will be communicated to the appropriate students.



ERIE COUNTY COMMUNITY COLLEGE

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Who We Are





ERIE COUNTY COMMUNITY COLLEGE

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Dear Students,

I'm thrilled to welcome you to EC3, whether you're just beginning your journey, continuing to build on what you've started, or exploring a new direction.

My own path began at a community college, and I know firsthand the doors it can open. It's more than just classes and textbooks. It's about discovering new opportunities, gaining real-world skills, and shaping a future that's right for you. At EC3, we work closely with each student, offering the personalized support and resources needed to navigate college and life beyond it.

No matter your goals—earning a degree, gaining credentials for a career, or preparing to transfer to a four-year institution—you'll find pathways that align with your ambitions. We meet students where they are, recognizing that every individual brings unique experiences, challenges, and aspirations. You'll be learning alongside people from all walks of life, each with their own story and dreams, enriching the EC3 community and making your journey even more meaningful.

This catalog will guide you through the many academic offerings available to help you gain the skills and training needed to launch a successful career or take that next step. I encourage you to dig in, explore, and make the most of all the opportunities ahead.

I look forward to seeing where your journey takes you.

Warm regards,
Chris Gray, PhD
Founding President



President Gray as a Community College student



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Mission

Erie County Community College's (EC3) mission is to empower individual learners and cultivate a skilled workforce to strengthen Erie County.

Vision

EC3's vision is to transform lives and strengthen communities by providing affordable access to innovative education and workforce training, to foster economic stability of Erie County.

Values

Welcoming & Collaborative Environment
Workforce & Economic Impact

Innovative & Excellent Education
Intentional & Sustainable Growth

Strategic Priorities

- **Access**— Expand and sustain affordable access to post-secondary education.
- **Student Success**— Promote student success through holistic and personalized support.
- **Academic Excellence**— Deliver high-quality instruction through academic excellence.
- **Workforce Training**— Provide workforce training in high-demand, high-wage areas.
- **Community Engagement**— Motivate and engage the community.





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Policy II.A.2: Equal Employment Opportunity Policy

This policy establishes and outlines Erie County Community College's clear commitment to the principle of equal employment opportunity. In making this statement, the College is recognizing both a moral and legal responsibility. Under the direction of the President, the Diversity Officer shall ensure compliance with this policy. The Diversity Officer, and all other staff in a supervisory capacity, shall implement this policy.

Statement of Commitment

EC3P is committed to and affirms a policy of equal employment opportunity to all applicants, employees, and students without regard to race, color, religion, sex, sexual orientation, age, national or ethnic origin, disability, genetic information, gender identification, status as a disabled or Vietnam era veteran, or any other legally protected characteristic and to provide each and every individual with the ability to work in a safe, productive and professional work environment that is free from discriminatory practices.

In achieving equal opportunity, we commit ourselves to:

- Recruit, hire, train, and promote the most qualified persons without regard to race, color, religion, sex, sexual orientation, age, national or ethnic origin, disability, status as a disabled or Vietnam era veteran, or any other legally protected characteristic.
- Ensure that promotion decisions are in accordance with equal employment opportunity requirements by imposing only valid, job-related requirements for promotional opportunities.
- Ensure that all personnel actions relating to compensation, benefits, transfers, retention, terminations, training, social and recreational programs and education are administered in a nondiscriminatory manner.





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HISTORY

Until recently, Erie County, Pennsylvania was the only metropolitan area in Pennsylvania without a community college. In October, 2016, a non-profit organization named Empower Erie was created to study the feasibility of a community college. Funded by the Erie Community Foundation, the Erie County Gaming Revenue Authority, the Susan Hirt Hagen Fund for Transformational Philanthropy, and the Erie County Council, Empower Erie produced a feasibility study on May 8, 2017. This study demonstrated conclusively that a community college was needed in Erie County and that the college would have significant positive impacts on the future of the County.

With Erie County serving as the legal sponsor of the College, an application for a new community college was submitted to the Pennsylvania Department of Education (PDE) in June, 2017. An updated application was filed in 2018. However, it was not until July, 2020 that the Pennsylvania Department of Education (PDE) held a two day evidentiary meeting to discuss the merits of a new community college in Erie, PA. That meeting ended with an initial approval of 9-6 by the PDE Board. The final vote to approve the community college occurred on July 8, 2020 with a 10-5 approval.

Upon receiving approval from the State Board of Education in July 2020, Erie County Community College prioritized the necessary steps to open for the inaugural 2021-22 school year. In accordance with PA Law 24 P.S. Sec.19-1904-A, Erie County Council and the County Executive had 60 days to appoint a Board of Trustees in accordance with the PDE's "Guidelines for the Establishment of Public Community Colleges." Nine Trustees were appointed by the Erie County Council and convened for the first time on September 8, 2020.

PDE's "Guidelines for the Establishment of Public Community Colleges" also directs a new community college to have a planning year in which to develop all aspects of the operational plan for the college and to achieve PDE approval of the 120-Day Plan. The Erie County Community College started the planning year in September 2020 (Inaugural Board of Trustees Meeting) through August 2021. Work began on the 120 Day Plan in November 2020 and it was submitted to the PDE in April of 2021. It was subsequently approved by the Department of Education.

The Board of Trustees established a strong committee structure supplemented by a team of higher education experts and advisors to expedite progress on multiple fronts, including development of curriculum, hiring of personnel, identification of initial sites, and development of policies and best practices. In late January 2021, the Board of Trustees announced the hiring of Dr. Judith Gay, as interim president to provide leadership and expertise to the effort. Dr. Gay, who served as vice president for strategic initiatives and chief of staff for the Community College of Philadelphia, brought a wealth of experience and insight to Erie County Community College.

By the summer of 2021, the College had added administrative staff, developed major information technology systems, hired the first four full time faculty: Dr. Leatra Tate, Dr. Jennifer Robinette, Alex Wheaton, and Kimber J. Forrester who in turn aided in the development of curriculum, and designed a website. Student enrollment began in August and the EC3 began its first semester of operation on September 1, 2021.

On June 3rd, 2023 EC3 celebrated the accomplishments of its first 28 graduates. The Gov. of Pennsylvania was the Commencement Speaker and gave a stirring speech to the assembled crowd.





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Becoming A Student





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Admission

Erie County Community College (EC3) is an open enrollment institution, with rolling admissions. Everyone is accepted and there is no application deadline.

Admission to Erie County Community College is open to the following individuals:

- High school graduates, General Equivalency/Commonwealth Diploma recipients, and transfer applicants from another college or university.
- Anyone over the age of 18 who can demonstrate the ability to benefit from post-secondary education.
- Persons not meeting the above criteria but granted admission on an individual basis.

Admission to EC3 does not imply or guarantee admission to any specific program of study for which more restrictive admission requirements are established in compliance with institutional expectations, accrediting-body standards, Commonwealth rules and regulations, or federal guidelines and statutes. Applicants for such programs must follow the prescribed steps for admission in each program.

The application for admission is found here: <https://www.ecccpa.org/apply/>.

Academic Placement

Students' academic preparedness for different courses is assessed using various methods to ensure that students are placed in the level of classes in which they will succeed. The College will include non-cognitive assessments as part of the placement process. These assessments and measures could include but not be limited to:

- Placement test results
- High School transcripts
- AP exam scores
- GED scores
- SAT scores
- ACT scores
- College transcripts
- CLEP examination scores
- TOEFL examination scores

Students are offered the option to take the EdReady Knowledge Assessment in a non-proctored, self-paced environment. Students will be permitted multiple attempts at these low-stakes, adaptive assessments to modify their placement. The EdReady Knowledge Assessment can be found at <https://www.ecccpa.org/academic-placement/>.

The following students shall be exempt from placement testing:

- Students who have prior academic experience such as an earned degree (associate's or higher) from an accredited institution
- Students who are degree candidates at another institution (visiting students)
- Students who have transferred 12 or more credits to EC3 from another post-secondary institution where they received a cumulative GPA of 2.0 or above
- Students who are readmitted to the College and have received a GPA of 2.0 or above upon the completion of 12 or more credits shall be exempt from placement testing.



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Transfer Information

EC3 welcomes students who have completed coursework at other institutions and who wish to continue their studies at EC3. If students are transferring from another college, the EC3 Registration Office will evaluate credit to be transferred based on the student's intended program of study.

EC3 will evaluate and accept credits earned at another college or university accredited by an institutional accrediting organization that is recognized by the Council for Higher Education Accreditation (CHEA). Credits earned at institutions that are not accredited may be accepted upon consideration of course equivalencies, including expected learning outcomes of the institution's curricula and standards. Credit may be awarded for courses from an institution, whether or not similar courses are offered at Erie County Community College. These courses must satisfy both general elective and graduation requirements.



Fifty percent (50%) of the required credits to complete an EC3 degree or certificate may be satisfied using transfer credit.

Only courses with a grade value of 2.0 (C) or higher will be considered for transfer. Courses with a grade value of "pass" or "satisfactory" will be accepted as transfer credits when the transcript states that a "pass" or "satisfactory" is equivalent to a C or above. Transfer courses will be awarded credit with no grade value (quality points) assigned.

Developmental coursework is not accepted for transfer credit.

Specific degree programs may establish additional guidelines for acceptance of transfer credits based on program expectations and time limits.

Transfer credits from foreign colleges or universities may be considered when evaluated by a recognized credential evaluation service.

Registration

All students are strongly encouraged to meet with an advisor before enrolling in classes. Currently enrolled students or returning students in good academic standing are encouraged to utilize the online registration process to enroll in courses. All other students may enroll in person after meeting with an advisor.

Students will be permitted to attend only those sections of courses for which they have officially registered and paid.

Students are encouraged to consult with an advisor prior to making changes to their class schedule as changes may have an impact on financial aid or degree/certificate completion.

Veteran students, students who are active military, and military dependents are afforded priority registration in accordance with Pennsylvania state requirements.

Each term session has specific enrollment dates and deadlines. For information on deadlines for classes within a specific session, consult your course syllabus.



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Student Course Load

A full-time student is one taking 12 or more credit hours in the course of one academic semester. Each fall or spring semester will consist of one 16-week session with the potential to have additional shorter sessions. Students expecting to fulfill the requirements for an associates degree within two years should successfully complete 15 to 17 college level credit hours each semester or complete summer courses.

Tuition and Fees

EC3 is among the most affordable institutions of higher education in the state. Our tuition and fees are outlined here: <https://www.ecccpa.org/tuition-and-fees/>. EC3 supports students through a variety of financial resources to help pay for tuition and fees. Our students who have financial barriers can speak to [Advising](#) and apply for additional assistance provided by Erie County.

Tuition rates at Erie County Community College are determined by a student's permanent residence. All students will need to verify their in-county residence status to receive tuition benefits afforded to Erie County residents.

An applicant or student under the age of 18 is presumed to have the permanent residence of their parent(s) or guardian. For more information on residency determination, contact the Registration Office at registrar@ec3pa.org.

Commonwealth of Pennsylvania Residency

To establish Commonwealth residency, one must demonstrate continuous residence in the Commonwealth for a period of twelve (12) months prior to registration as a student.

Erie County Residency

To establish Erie County residency, an applicant must meet all of the following requirements:

1. Must be a citizen or a permanent resident alien of the United States or be admitted on an immigrant visa to the United States.
2. Must have resided in Pennsylvania for at least 12 months prior to registration.
3. Must have resided in Erie County for at least 12 months prior to registration.

The following documentation may be requested to provide evidence toward meeting the residency policy requirements:

Important Note: Name and address must be present on all documents.

1. Current apartment lease or mortgage from the permanent residence.
2. Copy of a city/state tax bill.
3. Copies of bank statements, automobile registration, or other registered property.
4. Current Pennsylvania driver's license or state ID.
5. High school transcript showing an Erie County home address.
6. Pay stubs with Erie County home address showing payment of Erie County taxes.

Final determination of residency is on a case-by-case basis after review of documents submitted and the intentions of the student to reside indefinitely in Erie County and the Commonwealth of Pennsylvania.

International Students

Students studying at EC3 under an F-1 or J-1 visa cannot be classified as legal residents of Erie County or Pennsylvania.



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United States Veterans, United States Military and Civilian Personnel, and Their Dependents

All eligible veterans of the United States Armed Forces and their spouses and dependents will receive the in-county residency rate for tuition. For veterans to be eligible, they must have served in the United States Armed Forces, including reserve component or National Guard, and must have been discharged or released from service under conditions other than dishonorable.

All active United States military personnel, including their spouses and dependents, who are assigned to an active duty station in Pennsylvania and reside in Pennsylvania will receive the in-county residency rate for tuition. This provision remains in effect for each member, spouse or dependent while continuously enrolled at the College, even if there is a subsequent change in the permanent duty station of the member to a location outside of Pennsylvania. All active United States civilian personnel, including their spouses and dependents, who reside in Pennsylvania or who are employed or transferred to a United States Department of Defense facility in Pennsylvania and reside in Pennsylvania will receive the in-county residency rate for tuition. This provision remains in effect for each member, spouse or dependent while continuously enrolled at the College, even if there is a subsequent change in the assigned employment of the member to a location outside of Pennsylvania.

All active military personnel, including the spouses and dependents will receive the in-county residency rate for tuition for online courses. Veterans and active military and civilian personnel must verify their affiliation with the United States Armed Services. Spouses and dependents must verify the veteran, military or civilian member's status with the United States Armed Services and provide proof of dependent status.

Change of Residency

Change of residency for tuition and mailing purposes is the sole responsibility of the student. Any changes made to residency after the last day of the term's refund period will be reflected in the following semester.

Payment and Refunds of Tuition and Fees

The Board of Trustees sets tuition and fees and reserves the right to change them without notice. Tuition may vary based on residency. To fund the cost of student publications, student clubs and organizations, and other special services and activities for students, a general College fee for credit courses has been established. Some credit courses offered by the College are subject to additional course fees. These may include courses with laboratories, clinical instruction or additional instructional hours. Other fees may be assessed to include but are not limited to fees for, credit examination, prior learning assessment, technology use transcript processing.

Refunds

It is the student's responsibility to submit an official drop form or drop classes via the web, even in cases of non-attendance. Students who drop credit courses prior to the start of the second week of classes for 16-week classes or within the first three (3) calendar days of a shortened session will not incur any charges.

EC3 utilizes a pro-rated refund system based on the length of the class and when the withdrawal occurs to determine the refund amount owed back to the student. Note that some course fees are non-refundable and will be deducted from any refund owed to the student.

The chart here describes the pro-rated system:

Term	100% Refund*	50% Refund*	No Refund
16-week	Withdrawals occurring prior to the start of the second week of the term	Withdrawals occurring during the third week of the term	Withdrawals occurring during the fourth week of the term and beyond
8-week	Withdrawals occurring within the first three (3) calendar days of the term	Withdrawals occurring during the first 20% (11 calendar days) of the term	Withdrawals occurring after the twelfth (12 th) calendar day of the term
4-week	Withdrawals occurring within the first three (3) calendar days of the term	Withdrawals occurring during the first 20% (5 calendar days) of the term	Withdrawals occurring after the sixth (6 th) calendar day of the term

*Non-refundable course fees will be deducted from the refund amount

A full refund of tuition and fees will be made if the College cancels a class.

Students may submit an appeal to the above refund policies in the case of extenuating circumstances.

Student Services





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EC3 aims to provide student services which meet the needs of our students and support them to successfully complete coursework. The college is committed to removing barriers to student success and facilitating student connections, to faculty, staff, and to other students. Many different support services are offered which are outlined in the next sections.

Advising/Academic Counseling

Academic and career advising are available to each student upon request. Faculty and staff are aware of course and program requirements for programs offered at the institution, curriculum information is available on the website.

Advisors work closely with students to develop educational plans, review program requirements, and select appropriate courses. Advisors also assist students with understanding their program of study in terms of personal, academic, and career goals and expectations associated with those goals. Students are strongly encouraged to be an active part of the advising relationship by engaging with their advisor throughout their time at the College. Students work with advisors to plan for the transfer process by understanding policies and procedures, and referrals to college resources.

The ultimate responsibility for making decisions about personal goals and educational plans rests with each student. Advisors support and assist by helping to identify and assess options. Students who are identified as needing greater emotional, psychological, or other supports will be referred to appropriate support services in the community.

It is the student's responsibility, in consultation with appropriate College staff or program faculty, to make certain that any registration choices fulfill the degree requirements.

Tutoring/Academic Support

Tutoring and academic supports are available to students as needed. When possible, students will be grouped together to address common academic concerns. Workshops addressing study habits and academic needs are offered on a regular basis, and the Learning Center provides classroom visits, lectures, and individual consultations as a resource for research and writing. Students can request tutoring and academic support from any student services personnel, including the Learning Support Specialist.

Learning Accommodations

Any student with a documented learning difference who needs academic accommodations should contact the College Counselor for Academics and Disabilities at accommodations@ec3pa.org to schedule a confidential appointment to review their accommodation request. The College will be looking for documentation regarding the student diagnosis and recommended accommodations. Types of appropriate documentation can be an IEP, Section 504, psychological evaluation, and/or letter from a certified provider.

Reasonable accommodations will be determined by the College.

Basic Needs Support

EC3 has established connections with area agencies and service providers to help students with accessing assistance with housing and food insecurity. Students can speak with a staff member to be connected to local agencies who can help.

Public Transportation

EC3 students who are currently enrolled and have an active EC3 student identification are able to ride the EMTA buses for free when the College is in session. Information is available at: <https://ride-the-e.com/university-services/>.



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Bookstore

Course Texts

EC3 is committed to keeping costs as low as possible for our students. As often as possible, our faculty choose Open Educational Resources (OER) as the texts/resources for their classes. As often as possible, faculty are strongly encouraged to select texts that represent the broad spectrum of diverse authors, researchers, and contributors to educational fields to enhance student exposure to a full understanding of the field of study.

If an OER is not available for course, student can use sites such as [Amazon](#) or [Chegg](#) to obtain their course texts.

At Erie County Community College, we will do everything we can to ensure that finances are not a barrier to furthering a student's education. If a student is experiencing financial hardship, they are invited to contact an advisor or the Registration Office, at registrar@ec3pa.org for assistance.

STUDENT RIGHTS AND RESPONSIBILITIES

All students shall abide by the College's policies as well as all county, state and federal laws. Further, students shall not interfere with or disrupt the orderly educational processes at the College. All students are expected to understand and adhere to regulations in the College Catalog to include, but not limited to, degree requirements, academic progress, financial obligations, relationships with college authorities, transferability of credits for courses completed, acceptance of credits for graduation and eligibility to graduate.

Family Educational Rights and Privacy Act ([FERPA](#))

The Family Educational Rights and Privacy Act (FERPA) is a federal law that protects the privacy of personally identifiable information contained in a student's educational record. FERPA affords students with certain rights pertaining to their education records as listed below. Students will be sent an **annual notification**, via email, of these rights under FERPA.

Student Rights Under FERPA

Student rights include:

1. the right to inspect and review information contained in their educational records;
2. the right to request to amend their educational records;
3. the right to consent to disclosure, with certain exceptions specified in the Act, of personally identifiable information from educational records; and
4. 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.

Additional information relating to student rights is available in the EC3 Student Handbook.

Military Recruitment and the Solomon Amendment

The Solomon Amendment ([10 U.S.C. § 983](#)) is a federal law that allows military recruiters to access some personally identifiable information from a student's education record—for students age 17 and older. The Department of Education has determined the Solomon Amendment supersedes most elements of FERPA. As such, EC3 is obligated to release data when a military recruiter requests it.

The following is a list of information that may be released to military personnel for recruitment purposes pursuant to the Solomon Amendment:

- Name
- Address
- Telephone number
- Year of birth
- Level of education
- Program of study



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STUDENT RIGHTS AND RESPONSIBILITIES (continued)

- Degrees earned
- Most recent educational institution

Directory Information

Although FERPA protects the privacy of personally identifiable information contained in a student's educational record, there are stipulations that provide institutions to identify information that is generally not considered harmful or an invasion of privacy if release as "directory information."

The [EC3 Student Handbook](#) provides more information if individual students wish to submit a request that directory information be withheld.

EC3 considers the following as directory information:

- Student's full name
- Address
- EC3 email address
- Student enrollment status (full- or part-time)
- Dates of attendance
- Program of study
- Degrees, certificates, and honors received
- Participation in officially recognized activities

Student Code of Conduct

At EC3, we strive to remove barriers that impede academic and personal success. Part of our commitment to academic and personal success is ensuring an environment that encourages growth, learning, and collegiality. To this end, our student code of conduct guides acceptable behavior. It will be administered with restorative growth as its main objective.

The Student Code of Conduct applies to behaviors that take place at the College; in any of its facilities; on any of its grounds, partner sites, or program centers; or at any College related activity regardless of location. This can also include behavior conducted online or electronically via email, social media, or other electronic format.

The College reserves the right to act on off-campus student behavior when such behavior adversely affects the College community, poses a threat to the health or safety of the College community or interferes with the College's pursuit of its objectives and mission.

The full Student Code of Conduct can be found at: [Student Code of Conduct](#)

Students are expected to respect College property, property belonging to a third party on a college-sponsored activity, or property belonging to a student, faculty, staff member, or campus visitor. Unless approved by the College, students are not to bring to campus or any college-related activity any weapon, firearm, explosive and/or facsimile weapons, or flammable liquids such as paint, gasoline, etc., or any fireworks, ammunition, etc., except by an individual for use in a program approved by the College. Students are prohibited from knowingly give false information in response to a request from College employees; nor will students forge, alter, or misuse college documents.

Students are expected to not misuse technology, including but not limited to, sending, distributing, posting, or displaying offensive, harassing, or threatening material, forging email messages, and other actions in violation of the College's Acceptable Use of Technology Policy as it relates to use of college technology and computing systems found on pages 22-26 of the college's [Policy Manual](#).



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STUDENT RIGHTS AND RESPONSIBILITIES (continued)

Student Complaints

The College has developed a process by which students may submit a concern about the general policies or practices of the college, any issues of alleged discrimination, or any other unfair treatment. Additional information on the process and to file a complaint, complete the EC3 Complaint form found at www.ecc3pa.org/complaints.

Any form of retaliation against a student submitting a complaint in good faith is strictly prohibited and will be addressed by either by the Assistant Vice President of Student Affairs as part of the Student Code of Conduct or the Human Resources Director as part of the Employee Experience Guide.

The College will maintain a fair, equitable, and timely procedure for addressing student complaints and grievances which will ensure that the rights of the students, the College community, and the community-at-large are protected. The student has the right to due process and all grievances and appeals must be conducted in a manner which ensures the accused student adequate notice and a fair opportunity to be heard.

If a student is found responsible for a violation of the Student Code of Conduct and refuses the administrative decision, the student has the right to request an appeal hearing.

Student Appeals

If a student does not agree with a decision made by a college official that negatively impacts their academic or social standing with the College, they will have the right to appeal the decision. Both the informal and formal appeal process are established to provide the student due process to ensure fairness and equity in decision-making. Additional information on the appeal process or to submit an appeal of a decision made, complete the EC3 Appeal Form found at www.ec3pa.org/appeals.

Any form of retaliation against a student submitting an appeal is strictly prohibited and will be addressed by either by the appropriate administrative personnel or the Human Resources Director as part of the Employee Experience Guide.

GENERAL EDUCATION

Erie County Community College General Education Goals

- EC3 graduates will...
 - ◆ Break down arguments and recognize that different people see things differently.
 - ◆ Be able to work with other people and be able to communicate clearly with them.
 - ◆ Create unique solutions that work.
 - ◆ Evaluate solutions and plan for the future.

Erie County Community College General Education Philosophy

EC3 recognizes the fast pace of societal and technological changes and is committed to developing graduates with an entrepreneurial mindset. Our graduates will be empathetic, nimble, and possess the creativity and innovation required to succeed in the future; they will apply design thinking tenets in their approach to problem solving and the learning process.



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Class Locations





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Class Locations



EC3 Erie West

2403 W 8th St.

Erie, PA 16505

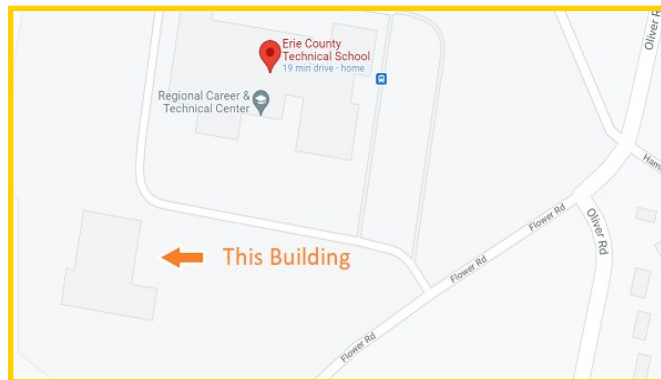
814-413-7000

EC3 Summit:

8500 Oliver Road

Erie, PA 16509

814-413-7000





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Class Locations

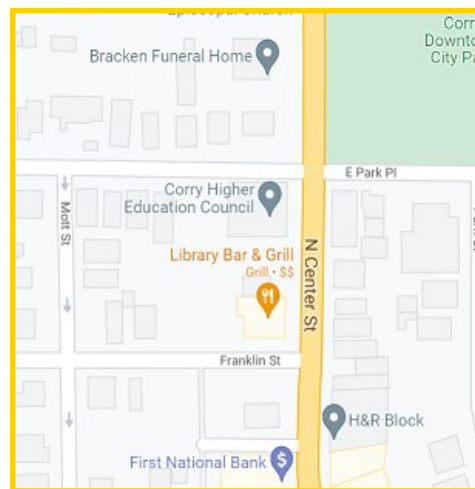


EC3 @ Youth Leadership Institute

1306 E Lake Rd
Erie, PA 16507
814-413-7000

EC3 Corry Hi-Ed

221 N. Center St
Corry, PA 16407
814-413-7000





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Learning Center & Library Access





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LEARNING CENTER

The mission of the learning center at EC3 is to provide in-person and online academic support for students and faculty. Our goal is to be an essential part of student success by providing research assistance, class support, and information literacy instruction.

The College has subscribed to e-book databases and general article databases to provide trusted sources of information targeted for community college students. The learning center also has a collection of reference materials and select physical textbooks to support the classes at EC3

The learning center is located on the 2nd floor of EC3 Erie West.

Students will be encouraged to apply for an Erie County Public Library (ECPL) card if they do not already have one. With the card, they can choose to borrow materials from ECPL's extensive physical collection and they will have access to numerous electronic databases.



ERIE COUNTY PUBLIC LIBRARY ACCESS

- Access all available print, digital, and audio-visual collections and materials at public library locations across Erie County.
- Use internet-connected computers. These devices provide access to a range of databases, including POWER Library.
- Participate in interlibrary loan services to gain access to even more materials not available within the ECPL catalog.
- Have study time in study rooms or collaborate with classmates and peers.
- Access printing, scanning, and fax services (some additional charges may apply).
- Receive assistance from Reference Librarians.

BRANCHES

Blasco Memorial Library
160 East Front Street
Erie, Pa 16507
(814) 451-6900

Millcreek Branch Library
2088 Interchange Rd., Suite 280
Erie, PA 16565
(814) 451-7084

Edinboro Branch Library
413 W. Plum St
Edinboro, PA 16412
(814) 451-7081

Iroquois Avenue Branch
4212 Iroquois Ave
Erie, PA 16511
(814) 451-7082

Lincoln Community Center
1255 Manchester Rd
Erie, PA 16505
(814) 451-7085

Corry Public Library
117 Washington St
Corry, PA 19407
(814) 664- 7611



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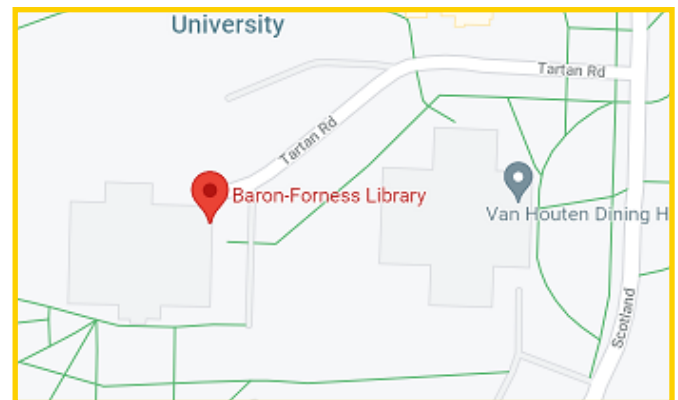
EC3 students can register for library cards at associated universities, which allow them to benefit from the vast print collection available at each library. Students will also have access to all of Penn State's databases when visiting any of their campuses. Additionally, EC3 students can use public and private study areas and spaces at these facilities.



[John M. Lilley Library](#)
4951 Behrend College Dr.,
Erie, PA 16563
(814) 898-6106



[Baron-Forness Library](#) 200 Tartan Rd.
Edinboro, PA
(814) 732-2273





Academic Freedom

Erie County Community College fosters an environment for excellence in teaching, learning, and inquiry by sustaining freedom of expression, scholarly pursuit of knowledge, spirited and open debate, and intellectual exchange in a culture of mutual respect.

Academic freedom is essential to the shared goal of the pursuit of knowledge and is fundamental to the exploration of new ideas. Academic freedom encompasses both the individual's and College's right to maintain academic standards and ensure intellectual integrity, while ensuring faculty members' rights to freedom of discussion in the classroom, encourage intellectual integrity, and sustain pedagogical approaches consistent with the discipline taught.

Academic freedom does not involve expression that substantially impairs the rights of others or the imposition of political, religious, or philosophical beliefs on individuals of the college community. Academic Freedom also does not provide protection for faculty who demonstrate professional incompetence or dishonesty regarding their assigned discipline.

Members of the College community, as individuals and groups, have the right to exercise their full freedom of expression and association. The College is committed to creating an educational environment that is free from intolerance directed towards individuals or groups. Respect for the rights, privileges, and sensibilities of each other is essential in preserving the College community. The College recognizes that all students are bound by the EC3 Student Code of Conduct relative to freedom of expression and alleged instances of code violations are addressed according to the process outlined within the Student Code of Conduct.

For more information on academic freedom, see the [College Policy Manual](#).



ERIE COUNTY COMMUNITY COLLEGE

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Degrees & Certificates





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DEGREE AND CERTIFICATE INFORMATION

At EC3 we currently offer the following Associate Degrees and Certificate Programs

Applied Technology

Industrial Technology A.A.S.
CNC Operator Certificate
CNC Programmer Certificate
Industrial Maintenance and Mechatronics Certificate
IMM Electrical Certificate
IMM Mechanical Certificate
Welding Certificate

Business and Entrepreneurialism

Management and Entrepreneurial Thinking A.A.B.

Health Sciences

Behavioral Health A.A.S.
Surgical Technology A.A.S.
Patient Care Technician Certificate

Information Technology

IT: Network Systems A.A.S.
IT: Software Development A.A.S.
Infrastructure Management Certificate
Mobile App Development Certificate
Programming Certificate
Technical Support Professional Certificate

Public Service

Criminal Justice A.A.S.

Transfer Programs

General Studies A.A.

DEFINITION OF CREDENTIALS

Associate of Arts Degrees:

An Associate of Arts degree is designed to prepare students with the foundational knowledge and skills to pursue further study at a four-year college or university. Associate of Arts degrees require students to complete approximately sixty credit hours.

Associate of Applied Degrees:

Associate of Applied degrees are designed to prepare the student with the skills and abilities to enter the workforce immediately upon graduation. Students receiving this degree have completed approximately sixty credit hours and may be eligible to test for industry credentials.

Certificates:

Certificate programs are short-term training leading to immediate employment or advancement in a current position. Credit hour requirements for certificates vary but are usually less than sixty credit hours.

Certificate of Completion:

Programs offering the Certificate of Completion entail specialized training in non-credit programs or credit programs lasting fewer than 16 credit hours. The Certificate of Completion will be awarded by the Academic Division at the completion of a course or a group of courses and is not officially recognized by the Pennsylvania Department of Education. Individuals holding this credential may be eligible to test for industry credentials.



APPLIED TECHNOLOGY: DEGREE AND CERTIFICATES

Associate of Applied Science in Industrial Technology
CNC Operator and Programmer Certificate
Industrial Maintenance and Mechatronics Certificate
Industrial Maintenance and Mechatronics Electrical Certificate
**Industrial Maintenance and Mechatronics Mechanical
Certificate**
Welding Certificate





ERIE COUNTY COMMUNITY COLLEGE

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PROGRAM REQUIREMENTS

Associate of Applied Science in Industrial Technology

Individuals with an Associate of Applied Science in Industrial Technology, graduates can pursue a variety of careers in industrial and manufacturing settings including: maintenance technician, industrial maintenance mechanic, field service Technician, Skilled trades supervisor and production technician

Program Outcomes

- Apply technology effectively as a tool in business and industry.
- Apply safety principles in workplace and industry settings.
- Effectively communicate appropriately for business and industry.
- Apply mathematical and scientific principles
- Develop a technical skill applicable to Erie County industries.

I. Core Requirements - 30 Credits in Industrial Technology

- At least ONE fully completed certificate program with Applied Technology (9-32 cr. hrs)
- Additional Applied Program coursework, totaling 30 credits, including the above certificate
- CNC 114 Intro To CNC Print Reading (3 cr. hrs.) *

II. General Education Core Requirements - 16 Credits

- Any ENG or COM course (3 credits)**
- Computer Literacy (3 credits)**
 - CIS 100 Introduction to Digital Literacy (3cr. hrs.)
- Math (3 credits)**
 - MAT 107 Technical Math (3cr. hrs.)
- Social & Behavioral Sciences/History Course (3 credits)**
 - Any ECO, HIS, PHL, POL, PSY or SOC course.
- Science with Lab (4 credits)**
 - Any General Education BIO, CHM, EAS, GLG, or PHY course. (The department recommends one of the following: **CHM 110 or PHY 111**)

III. Electives - 15 Credits (any course not already a part of the program plan)

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Total Credit Hours: 61 hours

* If not already taken as part of the required certificate



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PROGRAM REQUIREMENTS

CNC Operator and Programmer Certificate

This certificate prepares students for high-demand careers as a Computer Numeric Controlled (CNC) Operator or Programmer. Students will obtain skills in operating manual mills and lathes, CNC mills and lathes, machine safety, math, metrology, part inspection, machine set-up and programming, utilizing precision measurement tools and systems, CAD/CAM systems, and blueprints. This can be used to satisfy some of the core requirements for the AAS in Applied Technology.

Program Learning Outcomes

- Demonstrate understanding of the machine tool industry and career opportunities within it.
- Demonstrate shop safety practices.
- Describe the purpose and function of precision measurement tools and systems.
- Perform basic set up and operation of conventional machine tools.
- Utilize a blueprint to measure and inspect a part for quality and accuracy.
- Evaluate processes and equipment to solve complex machining problems.
- Use mathematical knowledge to derive speeds, feeds, and feature locations.
- Perform basic Computer Numerical Control (CNC) programming set up and operation of CNC mills and lathes.
- Program a CNC mill or lathe using a blueprint.
- Demonstrate proficiency in the use of Mastercam.
- Demonstrate proficiency in the use of Autocad.

Course Requirements

Course Requirements			Credits
CNC	114	Introduction to CNC Print Reading	3
MAT	107	Technical Math	3
CNC	102	CNC Operator I	3
CNC	104	CNC Operator II	3
CNC	200	CNC Programming I	3
CNC	201	Mastercam I	3
CNC	202	CNC Programming II	3
CNC	203	Mastercam II	<u>3</u>
Certificate Total			24



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PROGRAM REQUIREMENTS

Industrial Maintenance and Mechatronics Certificate

EC3's Industrial Maintenance and Mechatronics program is suitable for those with no previous experience and for those who seek specialization or skills upgrades. The program will build a strong knowledge base with electrical, mechanical and integrated systems with strong troubleshooting and problem-solving skills being taught throughout each course. Participants within this program start by gaining foundational skills in the fields of electricity, automation, mechanical systems, pneumatics, and hydraulics. Then they will build on their skills by learning how the systems can be integrated together while learning advanced troubleshooting and preventive maintenance skills. This can be used to satisfy the core requirements for the AAS in Industrial Technology.

Program Learning Outcomes

- Demonstrate and explain the fundamentals of basic (AC/DC) electricity, including series, parallel, and combination circuits, as well as inductors, and capacitors.
- Troubleshoot a 3-phase motor control system with practical faults inserted.
- Troubleshoot real world faults in fluid power systems/hydraulics, air-powered systems/pneumatics.
- Read and interpret symbols and schematics, flow control devices, and actuators.
- Read pressure gauges and assemble simple hydraulic, pneumatic, and electrical systems.
- Wire an electro-pneumatic device using a ladder logic diagram.
- Align and level shafts to a motor, install drive belts and drive chains to a motor, and utilize tools to measure belt and chain tension.
- Utilize specialized tools and measuring devices when installing mechanical devices.
- Troubleshoot and repair a Programmable Logic Controller (PLC) when a fault is inserted.
- Program an Allen Bradley SLC500 PLC for advanced sequencing operation.
- Write a PLC program using advanced math and data functions.
- Read and interpret mechanical drawings to determine component assembly or component measurements and/or specifications.
- Apply preventive maintenance principles to mechanical and electrical systems
- Utilize electrical test instruments to troubleshoot electrical circuits and components
- Install and/or program advanced electrical devices used for circuit and motor control
- Integrate and troubleshoot systems with electrical and mechanical components

Course Requirements

Course Requirements			Credits
IMM	100	Introduction to Test Instruments	1
IMM	101	Mechanical Drives Precision Alignment and Predictive Maintenance	1
IMM	102	Introduction to AC/DC	3
IMM	103	Electrical Motor Control	3
IMM	104	Fluid Power I	3
IMM	105	Fluid Power II	3
IMM	110	Basic Mechanical Drives	3
IMM	111	Advanced Mechanical Drives	3
IMM	112	Programmable Controls I	3
IMM	113	Programmable Controls II	3
IMM	114	Print Reading for Industrial Maintenance	3
IMM	130	Integrated Electrical Circuits	<u>3</u>
Certificate Total			32



ERIE COUNTY COMMUNITY COLLEGE

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PROGRAM REQUIREMENTS

Industrial Maintenance and Mechatronics Electrical Certificate

The certificate is for a student who is looking at concentrating their maintenance skills in the industrial electrical maintenance trades. Students will learn basic electrical theory and progress into motor control circuits and programmable logic controllers. Troubleshooting is taught progressively in each course before the student is taught advanced components within integrated systems. This can be used to satisfy a portion of the core requirements for the AAS in Industrial Technology.

Program Learning Outcomes

- Demonstrate and explain the fundamentals of basic (DC) electricity, including series, parallel, and combination circuits, as well as inductors, and capacitors.
- Troubleshoot a 3-phase motor control system with practical faults inserted.
- Wire an electro-pneumatic device using a ladder logic diagram.
- Troubleshoot and repair a Programmable Logic Controller (PLC) when a fault is inserted.
- Program an Allen Bradley SLC500 PLC for advanced sequencing operation.
- Write a PLC program using advanced math and data functions.
- Apply preventive maintenance principles to mechanical and electrical systems
- Utilize electrical test instruments to troubleshoot electrical circuits and components
- Install and/or program advanced electrical devices used for circuit and motor control
- Integrate and troubleshoot systems with electrical and mechanical components

Course Requirements

Course Requirements			Credits
IMM	100	Introduction to Test Instruments	1
IMM	102	Introduction to AC/DC	3
IMM	103	Advanced Programmable Controllers	3
IMM	112	Programmable Controls I	3
IMM	113	Programmable Controls II	3
IMM	130	Integrated Electrical Circuits	<u>3</u>
Certificate Total			16



ERIE COUNTY COMMUNITY COLLEGE

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PROGRAM REQUIREMENTS

Industrial Maintenance and Mechatronics Mechanical Certificate

EC3's Industrial Maintenance Mechanical program is suitable for those with no previous experience and for those who seek specialization or skills upgrades. The program will build a strong knowledge with mechanical systems and components with an emphasis on troubleshooting and problem-solving skills. Major areas covered are mechanical systems (couplers, gears, belts, alignments) pneumatics, and hydraulics. The final class in the program will teach precision laser alignments and vibration analysis. This can be used to satisfy a portion of the core requirements for the AAS in Applied Technology.

Program Learning Outcomes

- Troubleshoot real world faults in fluid power systems/hydraulics, air-powered systems/pneumatics.
- Read and interpret symbols and schematics, flow control devices, and actuators.
- Read pressure gauges and assemble simple hydraulic, pneumatic, and electrical systems.
- Align and level shafts to a motor, install drive belts and drive chains to a motor, and utilize tools to measure belt and chain tension.
- Utilize specialized tools and measuring devices when installing mechanical devices.
- Read and interpret mechanical drawings to determine component assembly or component measurements and/or specifications.
- Apply preventive maintenance principles to mechanical and electrical systems
- Integrate and troubleshoot systems with electrical and mechanical components

Course Requirements

			Credits
IMM	104	Fluid Power I	3
IMM	105	Fluid Power II	3
IMM	114	Print Reading	3
IMM	110	Basic Mechanical Drives	3
IMM	101	Mechanical Drives Precision Alignment and Predictive Maintenance	1
IMM	111	Advanced Mechanical Drives	<u>3</u>
Certificate Total			16



ERIE COUNTY COMMUNITY COLLEGE

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PROGRAM REQUIREMENTS

Welding Certificate

The certificate allows you gain experience with various materials, including steel, aluminum, and stainless steel, as you advance your technical skills in shield metal arc welding (SMAW), gas metal arc welding (GMAW) – also referred to as metal inert gas welding (MIG), and gas tungsten arc welding (GTAW). This program is intended to lead to entry-level employment in the welding fabrication industry. This certificate can be used to satisfy most of the core requirements for the AAS in Industrial Technology.

Program Learning Outcomes

- Identify equipment and safety procedures related to equipment, processes, and materials used in the major welding processes of Shielded Metal Arc Welding (SMAW), Gas Metal Arc Welding (GMAW) and Gas Tungsten Arc Welding (GTAW).
- Read and interpret blueprints with basic manufacturing and welding symbology.
- Weld SMAW, GMAW, and GTAW in various positions primarily on steel and aluminum with some exposure to stainless steel - to the standards of the American Welding Society (AWS).

Course Requirements

Course Requirements			Credits
MAT	107	Technical Math	3
WEL	101	SMAW Theory-Safety and Operation	1.5
WEL	102	SMAW Lab 1	1.5
WEL	103	SMAW Lab 2	1.5
WEL	104	GMAW Theory-Safety and Operation	1.5
WEL	105	GMAW Lab 1: Short Circuit Transfer	1.5
WEL	106	GMAW Lab 2: Short Circuit Transfer	1.5
WEL	107	FCAW Lab 1-Short Circuit Transfer	1.5
WEL	108	FCAW Lab 2-Short Circuit Transfer	1.5
WEL	109	FCAW Lab 3-Pulsed Spray and Gas Shielded Flux Core	1.5
WEL	110	GTAW Theory-Safety and Operation	1.5
WEL	111	GTAW Lab 1	1.5
WEL	112	GTAW Lab 2	1.5
WEL	114	Print Reading for Welders	<u>3</u>
Certificate Total			24



ERIE COUNTY COMMUNITY COLLEGE

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BUSINESS: MANAGEMENT AND ENTREPRENEURIAL THINKING DEGREE

Associate of Applied Business in Management and Entrepreneurial Thinking

Entrepreneurial Thinking Concentration

General Business Concentration

Management Concentration

Sports Management Concentration





PROGRAM REQUIREMENTS

Associate of Applied Business in Management and Entrepreneurial Thinking

Graduates with an associate degree in Management and Entrepreneurial Thinking are trained in financial management, human resources and marketing which prepares them to start their own businesses or to work for an established business.

Program Outcomes

- Apply managerial theory and practices to the key functional areas within an organization in today's business environment, such as accounting, computer information systems, finance, economics, and marketing.
- Examine the social, legal, and ethical principles that guide appropriate and responsible managerial decision-making.
- Demonstrate entrepreneurial critical-thinking and analytical acumen to determine appropriate effective business actions.
- Exhibit professional and proficient communication skills: verbal, written and interpersonal for business situations.

I. Major Requirements - 21 Credits (+9 credits from the concentrations on the following page)

- | | | | |
|----|-----|-----|--|
| A. | ACC | 111 | Business Accounting (3 cr. hrs.) |
| B. | ACC | 150 | The Legal Environment of Business (3 cr. hrs.) |
| C. | BUS | 101 | Introduction to Business (3 cr. hrs.) |
| D. | BUS | 103 | Principles of Management (3 cr. hrs.) |
| E. | BUS | 230 | Principles of Marketing (3 cr. hrs.) |
| F. | CIS | 100 | Introduction to Digital Literacy (3 cr. hrs.) |
| F. | ENT | 110 | Fundamentals of Entrepreneurship (3 cr. hrs.) |

II. General Education Core Requirements - 15/16 Credits

- | | | | |
|----|--|---|------------------------------------|
| A. | Communication and/or English Courses (6 credits) | | |
| | 1. | ENG 101 | English Composition 1 (3 cr. hrs.) |
| | 2. | One of the following ENG 102, COM 110, or COM 201 | |
| B. | Math or Science Course (3-4 credits) | | |
| C. | ECO | 101 | Macroeconomics |
| D. | Philosophy/Language/Artistic Expression: (3 credits) | | |



ERIE COUNTY COMMUNITY COLLEGE

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PROGRAM REQUIREMENTS

Associate of Applied Business in Management and Entrepreneurial Thinking, continued

The courses listed here represent the four possible concentrations within the AAB in Management and Entrepreneurial thinking degree. You do not have to select a specific concentration unless you want that focus. Otherwise you are free to take courses from any or all of the concentrations.

III. Concentration Electives– 9 Credits

A. General Business Concentration (Any 3 courses with ACC, BUS, ENT, or ECO Prefix)

- 1.
- 2.
- 3.

B. Entrepreneurial Thinking Concentration (4th Course will be applied to General Electives)

1. ENT 130 Entrepreneurial Finance Intelligence (3 credits)
2. ENT 140 Business Plan Development for the Entrepreneur (3 credits)
3. ENT 150 New Business Development (3 credits)
4. ENT 230 QuickBooks (3 credits)

C. Management Concentration (4th Course will be applied to General Electives)

1. BUS 221 Production Management (3 credits)
2. BUS 203 Labor Relations (3 credits)
3. BUS 210 Supervisory Management (3 credits)
4. BUS 222 Purchasing and Supply Chain Management (3 credits)

D. Sports Management Concentration

1. BUS 135 Introduction to Sports Management (3 credits)
2. BUS 235 Sports Marketing (3 credits)
3. BUS 245 Facility and Event Management (3 credits)
4. BUS 255 Strategic Sports Communication (3 credits)

IV. Electives - 15 Credits (any course not already a part of the program plan)

Total Credit Hours: 60 –61 hours



HEALTH SCIENCES DEGREES AND CERTIFICATES

Associate of Applied Science in Behavioral Health Services
Associate of Applied Science in Surgical Technology
Patient Care Technician Certificate





PROGRAM REQUIREMENTS

Associate of Applied Science in Behavioral Health Services

Graduates with an Associate of Applied Sciences in Behavioral Management degree take a crucial step towards becoming a well-trained technician in the growing field of behavioral Health. By focusing on the importance of early intervention and treatment, individuals with this degree can significantly improve client outcomes. Additionally, obtaining a Registered Behavior Technician certification can further enhance one's skills and knowledge in this field and prepare the student for a career in the field or transfer to a four-year institution to obtain a bachelor's degree.

Program Outcomes

- Provide basic care to clients of all age groups in a variety of behavioral health settings.
- Demonstrate an understanding of key concepts in behavioral health promotion including: the determinants of mental health; stress; coping; anxiety, mood and personality disorders; substance abuse; and treatment.
- Identify and model examples of ethical and professional behavior.
- Demonstrate an understanding of group processes and behaviors including: identity, formation, structure, power, influence, leadership, and performance.
- Demonstrate effective verbal and written communication skills.
- Use critical thinking skills to solve problems relevant to the practice of behavioral health.

I. Major Requirements - 31 Credits

A.	BHS 110	Introduction to Behavioral Health Services(3 cr. hrs.)
B.	BHS 210	Behavioral Health Functional Analysis (3 cr. hrs.)
C.	BHS 298	Behavioral Health Externship I (3 cr. hrs.)
D.	BHS 299	Behavioral Health Externship II
E.	HSC 101	Introduction to Allied Health (3 cr. hrs.)
F.	HSC 110	Medical Terminology and Body Systems (4 cr. hrs.)
G.	PCT 111	Patient Care Technician Skills (3 cr. hrs.)
H.	PSY 211	Race, Crime, and Justice (3 cr. hrs.)
I.	PSY 201	Social Psychology (3 cr. hrs.)
J.	PSY 210	Lifespan Development (3 cr. hrs.)

II. General Education Core Requirements - 15/16 Credits

A.	Communication and English Courses (6 credits)		
1.	ENG	101	English Composition 1 (3 cr. hrs.)
2.	COM	201	Interpersonal and Professional Communication (3 cr. hrs.)
B.	Math (3 credits)		
1.	MAT	102 or MAT 111	
C.	Social & Behavioral Sciences Courses (6 credits)		
1.	PSY	101	Introduction to Psychology (3 cr. hrs.)
2.	SOC	101	Introduction to Sociology (3 cr. hrs.)

Continued on next page

**ERIE COUNTY COMMUNITY COLLEGE****Live Here, Learn Here****PROGRAM REQUIREMENTS****Associate of Applied Science in Surgical Technology, continued**

- D. **Philosophy/Language/Artistic Expression (6 credits)**
1. Any course with ART, ENG 201, ENG 207, or MUS prefix (3 cr. hrs.)
 2. PHL 101 Introduction to Philosophy (3 cr. hrs.)

- E. **Technology Skills (3 credits)**
1. CIS 100 Introduction to Digital Literacy (3 cr. hrs.)

III. Electives - 6 Credits (any course not already a part of the program plan)

- A.
B.

Total Credit Hours: 61 hours



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PROGRAM REQUIREMENTS

Associate of Applied Science in Surgical Technology

Through a partnership with UPMC School of Surgical Technology, Erie County Community College's Surgical Technology Program prepares students to perform various activities to assist doctors during surgery, including sterilizing and setting up equipment, positioning patients for procedures, handing instruments to doctors during surgery, and preparing the operating room for patients. Program graduates leave school prepared for entry-level work at one of the UPMC facilities in Erie County, in other locations in PA, Maryland, and New York, and internationally in Italy and Ireland.

Program Outcomes

- Use appropriate ethical and professional values when providing surgical technology services to diverse populations.
- Perform appropriate activities to prepare patients for surgery utilizing the principles of aseptic technique, critical thinking, and problem solving in adapting to the changing surgical environment.
- Demonstrate the ability to prioritize and organize the surgical field, while considering the physiology and urgency of the patient care needs.
- Incorporate technical skills to assemble and operate instruments, equipment, and supplies for the delivery of patient care during all specialties of surgery.
- Integrate knowledge from the required courses within this program to the role of the surgical technologist in caring for diverse clients.

I. First Semester

A.	MAT	102	Mathematical Concepts	3 credits
B.	BIO	201	Anatomy and Physiology I with Lab	4 credits
C.	HSC	100	Medical Terminology	3 credits
D.	FYE	101	First Year Experience	3 credits
E.	ENG	101	English Composition I	3 credits

II. Second Semester

A.	BIO	202	Anatomy and Physiology II with Lab	4 credits
B.	CIS	100	Introduction to Digital Literacy	3 credits
C.	COM	201	Interpersonal and Professional Comm.	3 credits
D.	BIO	210	Microbiology	4 credits

III. Third Semester

A.	PSY	101	Introduction to Psychology	3 credits
B.	SUR	100	Surgical Theory I	6 credits
C.	SUR	210	Surgical Procedures I	6 credits

IV. Fourth Semester

A.	SUR	110	Surgical Theory II	6 credits
B.	SUR	220	Surgical Procedures II	6 credits
C.	SUR	270	Clinical Externship I	7 credits

V. Fifth Semester

A.	SUR	271	Clinical Externship II	7 credits
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Total Credit Hours: 71 hours



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PROGRAM REQUIREMENTS

Patient Care Technician Certificate

The certificate prepares you to function as a member of the healthcare team under the supervision of an assigned registered nurse, to perform general duties to help patients establish and maintain comfort with the health care setting. Along with generalized care, you will be trained as the first level of medical support as you prepare to handle more technical tasks within the patient care plan and communicate with other nursing team members to meet patient needs.

Program Learning Outcomes

The PCT Certificate prepares students for entry-level careers in patient care and nurse assisting. Graduates are eligible to sit for the National Healthcareer Association exam which provides credentialing opportunities in Certified Patient Care Technician (CPCT).

Upon successful completion of this program, students will be able to:

- Effectively communicate with patients, families, and other health care team members
- Display professional conduct, appearance, and ethical behavior when providing PCT care.
- Provide basic care to patients of all age groups in a variety of healthcare settings.
- Perform PCT procedures in a safe and therapeutic manner in line with federal and state mandates.
- Implement basic safety and infection control practices in the health care setting.
- Use relevant technology in the implementation of patient care while maintaining compliance with applicable laws and regulations.

Course Requirements

			Credits
HSC	101	Introduction to Allied Health	3
HSC	110	Medical Terminology and Body Systems	4
PCT	111	Patient Care Technician Skills 1	3
PCT	112	Patient Care Technician Skills 2	3
PCT	115	Clinical Practicum for Patient Care Technicians	<u>3</u>
Certificate Total			16



INFORMATION TECHNOLOGY DEGREES AND CERTIFICATES

Associate of Applied Science in Information Technology: Network Systems
Associate of Applied Science in Information Technology: Software Development
Infrastructure Management Certificate
Mobile App Development Certificate
Programming Certificate
Technical Support Professional Certificate



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PROGRAM REQUIREMENTS

Associate of Applied Science in Information Technology: Network Systems

A two-year degree in Information Technology Network Systems is a versatile degree that can help you get your foot in the door with a wide variety of companies and industries in your own backyard. Information technology plays a key role in any organization. It helps organizations design, utilize and support the computer systems that help streamline their production processes. Technology is part of nearly every company in every industry, and they are aware of the value you can bring to an IT department with a two-year degree.

Program Outcomes

- Demonstrate knowledge of computer and network systems terms and concepts.
- Be able to set up, install, configure, and troubleshoot hardware and software for desktop and wireless computer systems.
- Understand how to set up a Local Area Network (LAN), Wide Area Network (WAN), and wireless network (WiFi).
- Understand how to set up and implement security controls.

I. Major Requirements - 30 Credits

A.	CIS	112	IT Software Essentials and Support (3 cr. hrs)
B.	CIS	113	IT Hardware Essentials and Support (3 cr. hrs.)
C.	CIS	117	Operating Systems Interfaces (3 cr. hrs.)
D.	CIS	118	Fundamentals of Server Administration (3 cr. hrs)
E.	CIS	119	Introduction to Programming - Python (3 cr. hrs)
F.	CIS	120	Network Integration and Management (3 cr. hrs.)
G.	CIS	122	Cloud Computing Concepts and Applications (3 cr. hrs.)
H.	CIS	125	Introduction to Artificial Intelligence and Robotics
I.	CIS	185	Introduction to Network Security (3 cr. hrs.)
H.	CIS	250	Internet/Intranet Networking (3 cr. hrs.)

II. General Education Course Requirements - 15 Credits:

- One of the following ENG 101, COM 110, or COM 201
- CIS 110 Digital Literacy for IT Professionals (3 cr. hrs.)
- Math or Science Course (3-4 credits)**
 - Any General Education BIO, CHM, EAS, GLG, MAT or PHY course.
- Social & Behavioral Sciences/History Course (3 credits)**
 - Any ECO, HIS, PHL, POL, PSY or SOC course.
- Philosophy/Language/Artistic Expression: (3 credits)**
 - Any course with ART, ENG 201, ENG 207, MUS, or PHL prefix

III. Electives - 15 Credits (May be any course not already a part of the program plan) The Department suggests some or all of the following be considered: CIS 115, CIS 124, CIS 130, CIS 135, and CIS 215

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PROGRAM REQUIREMENTS

Associate of Applied Science in Information Technology: Software Development

Graduates with the A.A.S. degree in Software Development will have the ability to focus on either Programming with entry-level proficiency in either C#, Python, Java, HTML/CSS and JavaScript, or Mobile App Development. Graduates will be able to enter an entry-level position as a programmer or software quality assurance technician or as a mobile app developer, programmer, or software quality assurance technician. Students completing the Software Development A.A.S. degree will be prepared to transfer to a four-year institution for further studies in Information Technology.

Program Outcomes

- Students will acquire skills to relate the states of Software Development Life Cycle (SDLC) in managing a given project.
- Students will be able to analyze, design, develop, and test both web and mobile applications for business and other sectors.
- Students will utilize both procedural and Object-Oriented Programming (OOP) principles to provide underlying user interaction to process input and provide formatted output.

I. Major Requirements

- | | | | |
|----|-----|-----|--|
| A. | CIS | 115 | Information Technology Fundamentals (3 cr. hrs.) |
| B. | CIS | 117 | Operating Systems Interfaces (3 cr. hrs.) |
| C. | CIS | 119 | Introduction to Programming: Python (3 cr. hrs.) |
| D. | CIS | 125 | Introduction to Artificial Intelligence and Robotics |
| E. | CIS | 135 | HTML/CSS Web Development (3 cr. hrs.) |
| F. | CIS | 138 | JavaScript for Web Development (3 cr. hrs.) |
| G. | CIS | 140 | Windows Development Level I [C#] (3 cr. hrs.) |
| I. | CIS | 150 | Introduction to Java Programming (3 cr. hrs.) |
| J. | CIS | 220 | Systems Development (3 cr. hrs.) |
| K. | CIS | 240 | Windows Development Level II [C#] (3 cr. hrs.) |

II. General Education Course Requirements - 15 Credits:

- | | | | |
|----|--|-----|--|
| A. | One of the following ENG 101, COM 110, or COM 201 | | |
| B. | CIS | 110 | Digital Literacy for IT Professionals (3 cr. hrs.) |
| C. | Math or Science Course (3-4 credits) | | |
| 1. | Any General Education BIO, CHM, EAS, GLG, MAT or PHY course. | | |
| D. | Social & Behavioral Sciences/History Course (3 credits) | | |
| 1. | Any ECO, HIS, PHL, POL, PSY or SOC course. | | |
| E. | Philosophy/Language/Artistic Expression: (3 credits) | | |
| 1. | Any course with ART, ENG 201, ENG 207, MUS, or PHL prefix | | |

III. Electives - 15 Credits (May be any course not already a part of the program plan) The Department suggests some or all of the following be considered: CIS 119, CIS 130, CIS 150, CIS 245, and CIS 248

- | |
|----|
| A. |
| B. |
| C. |
| D. |
| E. |



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INFORMATION TECHNOLOGY CERTIFICATE REQUIREMENTS

Infrastructure Management Certificate

The IT Infrastructure Certificate Program is designed to provide students with the foundational skills and knowledge necessary to manage and support an organization's IT infrastructure. This program covers key areas such as network administration, server management, cybersecurity, and cloud computing. In addition, many of the credits earned can be applied to bachelor's degree programs in computer science at participating PA TRAC colleges.

Program Learning Outcomes

- Demonstrate proficiency in configuring, managing, and troubleshooting network and system infrastructure, while applying best practices for network and system security.
- Utilize critical thinking and problem-solving skills to diagnose and resolve issues efficiently and communicate effectively with both technical and non-technical stakeholders.
- Manage network and system projects, adhering to timelines and budgets, and apply industry standards and protocols in administration tasks.

Course Requirements:

Course Requirements:			Credits
CIS	110	Digital Literacy for IT Professionals	3
CIS	115	Information Technology Fundamentals	3
CIS	118	Fundamentals of Server Administration	3
CIS	120	Network Integration and Management	3
CIS	122	Cloud Computing Concepts and Application	3
CIS	250	Internet/Intranet Networking	<u>3</u>
Certificate Total			18



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INFORMATION TECHNOLOGY CERTIFICATE REQUIREMENTS

Mobile App Development Certificate

Graduates with the Certificate in Mobile App Development will have the basic knowledge, skills, and abilities to obtain an entry-level position as a mobile app developer, programmer, or software quality assurance technician. In addition, many of the credits earned can be applied to bachelor's degree programs in computer science at participating PA TRAC colleges.

Program Learning Outcomes

- Students will acquire the skills to relate the states of App Development Life Cycle (SDLC) in managing a given project.
- Students will be able to analyze, design, develop and test both web and mobile applications to resolve needs of business and other sectors.
- Students will design native (platform specific) mobile apps that incorporate good User Interface / User Experience (UI/UX) principles and meet the standards of the Google Play and Apple iOS stores.
- Student will be able to use both procedural and Object-Oriented Programming (OOP) principles to provide underlying user interaction to process input and provided formatted output.

Course Requirements:

			Credits
CIS	130	Adobe Creative Cloud	3
CIS	135	HTML/CSS Web Development	3
CIS	138	JavaScript for Web & Mobile Development	3
CIS	220	Systems Development	3
CIS	245	Android App Development	3
CIS	248	IOS App Development	<u>3</u>
Certificate Total			18



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PROGRAM REQUIREMENTS

Programming Certificate

Graduates with the Certificate in Programming will have entry-level proficiency in C#, Python, Java, HTML/CSS and JavaScript and be able to enter an entry-level position as a programmer or software quality assurance technician.

Program Learning Outcomes

- Demonstrate a basic level of competency in programming and logic skills.
- Utilize web technologies.
- Develop, administer, and maintain a web programming system solution.
- Administer and maintain a website.
- Present conclusions effectively, orally and in writing.

Course Requirements:

			Credits
CIS	119	Adobe Creative Cloud	3
CIS	138	JavaScript for Web & Mobile Development	3
CIS	140	Windows Development Level I	3
CIS	150	Introduction to Java Programming	3
CIS	220	Systems Development	3
CIS	240	Windows Development Level II	<u>3</u>
Certificate Total			18



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PROGRAM REQUIREMENTS

Technical Support Professional Certificate

The PC Technical Support Certificate Program is designed to equip students with the essential skills and knowledge required to provide effective technical support for personal computers. This program covers a broad range of topics, including hardware and software troubleshooting, network configuration, and customer service techniques. In addition, many of the credits earned can be applied to bachelor's degree programs in computer science at participating PA TRAC colleges.

Program Learning Outcomes

- Master the fundamentals of computer hardware and software.
- Learn to configure and troubleshoot network devices and protocols.
- Utilize diagnostic tools and software to identify and fix problems.
- Learn best practices for managing customer interactions and resolving complaints

Course Requirements:

Course Requirements:			Credits
CIS	110	Digital Literacy for IT Professionals	3
CIS	112	IT Software Essentials and Support	3
CIS	113	IT Hardware Essentials and Support	3
CIS	117	Operating Systems Interface	3
CIS	122	Cloud Computing Concepts and Application	3
CIS	185	Introduction to Network Security	<u>3</u>
Certificate Total			18



ERIE COUNTY COMMUNITY COLLEGE

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PUBLIC SERVICE DEGREE

Associate of Applied Science in Criminal Justice





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PROGRAM REQUIREMENTS

Associate of Applied Science in Criminal Justice

The Associate of Applied Science in Criminal Justice provides students with a comprehensive practical and professional knowledge of the Criminal Justice System, consisting of law enforcement, courts, and corrections. Students will develop a knowledge of the application of the law, social sciences, and criminology to prepare them to advance to the ACT120 Police Academy or transfer to a four-year college or university to obtain a bachelor's degree.

Program Outcomes

- Identify and analyze the core principles, practices and skills required for a successful career in criminal justice.
- Demonstrate a thorough understanding of the functions and roles of all major aspects of the United States criminal justice system in society.
- Describe and evaluate the role of the criminal justice concepts of reasonable suspicion, probable cause, and proof beyond a reasonable doubt from interrogation, arrest, prosecution, and conviction.
- Demonstrate an appreciation of and sensitivity toward the ethnic, racial and gender diversity of American society, and an understanding of how these values can be reflected and projected by the criminal justice system.
- Identify and analyze the ethical issues that arise in each component of the criminal justice system.

I. Major Requirements - 30 Credits

A.	CRJ	100	Introduction to Criminal Justice (3 cr. hrs.)
B.	CRJ	103	Juvenile Justice (3 cr. hrs.)
C.	CRJ	150	Criminal Law (3 cr. hrs.)
D.	CRJ	170	Introduction to Corrections (3 cr. hrs.)
E.	CRJ	180	Introduction to Policing (3 cr. hrs.)
F.	CRJ	190	Race, crime, and Justice (3 cr. hrs.)
G.	PSY	201	Social Psychology (3 cr. hrs.)
H.	PSY	210	Lifespan Development (3 cr. hrs.)
I.	SOC	250	Contemporary Social Problems (3 cr. hrs.)

Choose 1 of the following options:

A.	CRJ	298	Criminal Justice Internship (3 cr. hrs.)
B.	CRJ	299	Criminal Justice Capstone (3cr. hrs.)

II. General Education Core Requirements - 15/16 Credits

- A. **Communication and/or English Courses (6 credits)**
1. ENG 101 English Composition 1 (3 cr. hrs.)
 2. One of the following ENG 102, COM 110, or COM 201
- B. **Math or Science Course (3-4 credits)**
1. Any General Education BIO, CHM, EAS, GLG, MAT or PHY course.
- C. **Social & Behavioral Sciences/History Course (3 credits)**
1. PSY 101 Introduction to Psychology (3 cr. hrs.)
 2. SOC 101 Introduction to Sociology (3 cr. hrs.)

Continued on next page



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PROGRAM REQUIREMENTS

Associate of Applied Science in Criminal Justice, continued

D. **Philosophy/Language/Artistic Expression (3 credits)**

1. Any course with ART, ENG 201, ENG 207, MUS, or PHL prefix

III. Electives - 15 Credits (any course not already a part of the program plan)

- | | |
|----------------------------|--|
| A.
B.
C.
D.
E. | CIS 100 Introduction to Digital Literacy (3 cr. hrs.) (Recommended) |
|----------------------------|--|

Total Credit Hours: 60 –61 hours



ERIE COUNTY COMMUNITY COLLEGE

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TRANSFER PROGRAMS DEGREE

Associate of Arts





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PROGRAM REQUIREMENTS

Associate of Arts in General Studies

An Associate of Arts degree equips students with written and verbal communication, and critical thinking skills. After two years of full-time study, general studies graduates can apply their knowledge to careers in social services, business administration, marketing, healthcare, and many other fields. This degree includes courses in subjects like English, communications, history, psychology, economics, and mathematics and science. Rather than zeroing in on one subject, students focus on learning to think critically, through the exploration of a variety of subjects.

General Education Goals

- Break down arguments and recognize that different people see things differently.
- Be able to work with other people and be able to communicate clearly with them.
- Create unique solutions that work.
- Evaluate solutions and plan for the future.

I. General Education Course Requirements - 10 courses from the following:

- | | | |
|----|---|--|
| A. | FYE 101 | First Year Experience (3 cr. hrs.) Required |
| B. | ENG 101 | English Composition I (3 cr. hrs.) Required |
| C | One of the following: | |
| | 1. COM 110 | Fundamentals of Public Speaking (3 cr. hrs.) |
| | 2. ENG 102 | English Composition 2 (3 cr. hrs.) |
| | 3. COM 201 | Interpersonal and Professional Communication |
| D. | Social & Behavioral Sciences - One of the following: | |
| | 1. ANT 201 | Survey of Anthropology (3 cr. hrs.) |
| | 2. COM 120 | Media Literacy (3 hrs.) |
| | 3. ECO 101 | Macroeconomics (3 cr. hrs.) |
| | 4. ECO 102 | Microeconomics (3 cr. hrs.) |
| | 5. POL 203 | Survey of American Politics (3 cr. hrs.) |
| | 6. PSY 101 | Introduction to Psychology (3 cr. hrs.) |
| | 7. PSY 201 | Social Psychology (3 cr. hrs.) |
| | 8. PSY 210 | Lifespan Development (3 cr. hrs.) |
| | 9. SOC 101 | Introduction to Sociology (3 cr. hrs.) |
| | 10. SOC 250 | Contemporary Social Problems (3 cr. hrs.) |
| E. | Artistic Expression - One of the following: | |
| | 1. ART 101 | Art Appreciation (3 cr. hrs.) |
| | 2. ENG 201 | Poetry (3 cr. hrs.) |
| | 3. ENG 207 | Survey of Literature (3 cr. hrs.) |
| | 4. MUS 101 | Introduction to Music (3 cr. hrs.) |

Continued on next page



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PROGRAM REQUIREMENTS

Associate of Arts in General Studies, continued

- F. **Cultural Awareness - One of the following:**
1. HIS 122 History of the Western World: Renaissance through WW II (3 cr. hrs.)
 2. HIS 201 History of the US to 1865 (3 cr. hrs.)
 3. MUS 114 World Music (3 cr. hrs.)
 4. PHL 111 Religions of the World (3 cr. hrs.)
 5. POL 112 Introduction to International Relations (3 cr. hrs.)
 6. SOC 211 Race and Ethnicity (3 cr. hrs.)
- G. **Mathematics - One of the following:**
1. MAT 102 Mathematical Concepts (3 cr. hrs.)
 2. MAT 111 College Algebra (3 cr. hrs.)
 3. MAT 202 Introduction to Statistics (3 cr. hrs.)
- H. **Natural Science - One of the following:**
1. BIO 101 General Biology with Lab (4 cr. hrs.)
 2. CHM 110 Introduction to Chemistry I
 3. CHM 111 Introduction to Chemistry II
 4. EAS 101 Earth Science Meteorology with Lab (4 cr. hrs.)
 5. EAS 110 Earth Science with Lab (4 cr. hrs.)
 6. GLG 220 Environmental Geology with Lab (4 cr. hrs.)
 7. PHY 111 Conceptual Physics with Lab (4 cr. hrs.)
- I. **Technology Skills**
1. CIS 100 Introduction to Digital Literacy (3 cr. hrs.)
- J. **Ethics**
1. PHL 101 Introduction to Philosophy (3 cr. hrs.)

II. Elective Course Options– 10 courses to be selected from all available courses

- A.
- B.
- C.
- D.
- E.

Total Credit Hours: 60 –61 hours



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DEFINITION OF COURSE LEVELS/PREREQUISITES

000-level course designation

- Developmental- courses: placement determined by college-wide testing of entering students or through illustration of coursework and grades from other institutions (multiple measures).
- Intended to improve student performance to meet college-level expectations
- Examples are ENG 090, MAT 090, CIS 090

100-level course designation

- Courses with no prerequisites, survey courses, courses defining basic concepts or presenting the terminology of a discipline.
- Examples are ENG 101, CIS 100, PSY 101
- **Assumptions and Expectations:**
 1. Students possess college-level writing ability sufficient to compose definitions, paragraphs, or essays where appropriate.
 2. Students possess reading skills sufficient to comprehend college-level material in textbook and supplemental material.

200-level course designation

- Courses of intermediate college-level difficulty; courses with 100-level course(s) as prerequisite(s); or survey courses devoted to specific areas or fields within a discipline.
- Examples are HIST 201 (with no prerequisite) and SOC 211 (with SOC 101 prerequisite)
- **Assumptions and Expectations:**
 1. Students possess general skills such as recognition, reading, appropriate quantitative skills, and varying degrees of fluency in writing and articulateness in expression.
 2. Students are acquainted with the basic language, terminology, or methodology of the subject itself.
 3. Students are, in that subject, at a stage of understanding where they can progress towards significant conclusions, experiments, and/or explorations.
 4. Students can successfully complete assignments involving reading and comprehending a specified amount of material and/or preparing organized papers.
 5. Students will accomplish a substantial amount of work, for example: study a number of books or work through a textbook, write several papers, or demonstrate an in-depth knowledge of the material covered.

Prerequisites

A prerequisite is a course that teaches the skills, knowledge, and abilities that will be necessary for the successful completion of another specified course.



COURSE DESCRIPTIONS



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THE NUMBER INSIDE PARENTHESIS INDICATE LECTURE AND LAB CONTACT HOURS RESPECTIVELY.

ACC 111 Business Accounting (3-0): This course provides an introduction to basic accounting principles, concepts, and methods for understanding general purpose financial statements and the accounting process. Students learn basic accounting concepts utilized in daily business operations, such as financial statement preparation, allowing them to collect financial data and make decisions based on that data 3 Credits

ANT 201 Survey of Anthropology (3-0): This course is a scientific inquiry into human variability across space and time. The evolution of humanity's biocultural nature from prehistory to present times is examined. This draws upon evidence from archaeology, physical anthropology/ human paleontology, ethnography and linguistic anthropology. 3 Credits

ART 101 Art Appreciation (3-0): The Visual Communication course is designed to introduce students to the fundamental issues involved in the production and understanding of works of art within the broad context of human interaction and communication. The course introduces the student to the concepts, ideas, forms, and qualities of art and art appreciation, while simultaneously connecting the images that appear in everyday life to history, culture and visual aesthetics. Themes include ethical issues and censorship of art. 3 Credits

BHS 110 Introduction to Behavioral Health Services (3-0): The Introduction to Behavioral Health Services class serves as a gateway for students to explore the multifaceted nature of human behavior, mental health, and the complexities of promoting well-being in individuals and communities. Through theoretical learning, practical application, and critical reflection, students will develop a deeper appreciation for the importance of behavioral health in fostering a healthier and more resilient society. 3 Credits

BHS 210 Behavioral Health Functional Analysis (3-0): The course provides students with essential knowledge and skills to effectively respond to crises, support individuals experiencing mental health challenges, and promote trauma-informed approaches to care. Through a combination of theoretical learning, practical exercises, and case studies, students will develop competencies in crisis prevention, de-escalation techniques, trauma-informed interventions, functional analysis and group facilitation. *Prerequisite:* BHS 110 3 Credits

BHS 298 Behavioral Health Externship 1: This course is a credit worthy clinical experience that will provide the students with the ability to transfer knowledge and skill sets from the classroom to the clinical setting through direct patient care in various behavioral health care settings. Students will be supervised by a qualified preceptor who will evaluate their progress. *Prerequisites:* BHS 200 and HSC 101. 3 Credits

BHS 299 Behavioral Health Externship 2: This course is a credit worthy clinical experience that will provide the students with the ability to transfer knowledge and skill sets from the classroom to the clinical setting through direct patient care in various behavioral health care settings. Students will be supervised by a qualified preceptor who will evaluate their progress. *Prerequisite:* BHS 298. 3 Credits

BIO 101- Introduction to Biology (3-2): Emphasizes biological organization; basic biochemistry; biophysics of living systems; membrane dynamics; cellular structures and functions; cellular reproduction, photosynthesis; cellular respiration; chromosomal and molecular inheritance. *Prerequisite:* ENG 101 pre/co-req. 4 Credits

BIO 201- Human Anatomy and Physiology I (3-2): This course studies the structural relationships of the body at the molecular, cellular, tissue, organ, and system levels with an emphasis on the integration of human function. Laboratory exercises in anatomy and physiology are part of this course. *Prerequisite:* BIO 101. 4 Credits

BIO 202- Human Anatomy and Physiology II (3-2): This course is a continuation of BIO201 that studies the structural and functional relationships and interdependence of body systems. Laboratory exercises in anatomy and physiology are part of this course. *Prerequisite:* BIO 201. 4 Credits



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BIO 210– Microbiology (3-2): This course involves the study of cultivation, morphology, physiology, pathology, reproduction, and genetics of bacteria, yeasts, protozoa, algae, and molds. Aseptic technique is emphasized. *Prerequisite:* BIO 201. 4 Credits

BUS 101- Introduction to Business (3-0): This course provides a foundation in modern business and business practices including principles of management, marketing and human resource management. The operation of business in a free enterprise system, the government's role in business and forms of business ownership are discussed. *Prerequisite:* ENG 101 placement or ENG 090 completed. 3 Credits

BUS 103- Principles of Management (3-0): This course introduces the theory and basic principles of management. Students examine the management process including the areas of planning, leading, organizing and controlling. 3 Credits

BUS 130- Business Communications (3-0): This course develops a student's skills in writing effective business letters, reports, and research projects. Verbal communication skills and the preparation of resumes and other job-related materials are studied. *Prerequisite:* ENG 101 placement. 3 Credits

BUS 135– Introduction to Sports Management (3-0): This course provides an overview of the multifaceted world of sport management, emphasizing the business elements that drive the industry. Students will explore key areas such as marketing, finance, and event management within the context of sports. The course delves into the complexities and challenges sport managers face, including ethical considerations, financial constraints, and the intricacies of organizational dynamics. Additionally, students will analyze the distinctions between amateur and professional sports, examining how these classifications impact management practices, regulatory requirements, and industry expectations. 3 Credits

BUS 150– Business Law (3-0): Students study the regulatory environment in which business operates and the political, social, and economic forces behind and evolution of the forms and types of law that govern disputes and transactions between individuals (including business organizations). The Constitutional foundation of law and the role played by administrative agencies in regulating business activity are studied including remedies in and out of court. Issues of crimes, torts, contracts, property, business organizations, consumer rights, employment, intellectual property rights, and international transactions will be discussed. 3 Credits

BUS 160- Ethical Considerations in Business (3-0): This course will study the elements of ethics within the modern business world and environment. The impact of governing bodies, the role of industry-imposed guidelines, the element of corporate social responsibility, and accepted standards of conduct. Students will learn to examine instances of ethical dilemma, select elements that influence ethical considerations, and determine appropriate ethical decision-making processes 3 Credits

BUS 203– Labor Relations (3-0): This course is an analysis of the causes and possible solutions to conflict between management and labor as well as collective bargaining strategies and possible outcomes. The course includes the following topics: wages, pensions, working conditions, safety and union recognitions, wage and salary administration practices, recruitment, training programs and procedures. 3 Credits

BUS 210– Supervisory Management (3-0): This course prepares students to plan, organize, influence, and control the day-to-day operations of a business enterprise. This course will focus on techniques to work with and through people to meet organizational goals. Students will apply business administration principles including human resources functions, customer service evaluation, office management techniques, employee conflict management, and managerial ethics. 3 Credits

BUS 221- Production Management (3-0): This course is an introduction to the characteristics and techniques applicable to product or operations management. The emphasis is on decision making in operational areas such as planning and control, cost reduction techniques, inventory control, production engineering, quality control, materials management, value engineering and the use of statistics and quantitative techniques in arriving at sound business decisions. 3 Credits



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BUS 222– Purchasing and Supply Chain Management (3-0): This course provides an overview of the purchasing process, which includes the responsibilities of procurement professionals, sourcing, logistics, pricing policies, legal considerations, and standards of performance and overall supply chain management activities. This course develops an understanding of the competitive advantage through the strategic sourcing, purchasing/procurement, and supply chain management processes.

3 Credits

BUS 230– Principles of Marketing (3-0): This course prepares students to understand and manage the process of developing consumer audiences and moving products from producers to consumers. This includes instruction in buyer behavior and dynamics, principles of marketing research and the marketing mix, demand analysis, cost-volume and profit relationships, pricing theory, marketing campaign and strategic planning, market segments, advertising methods, sales operations and management, consumer relations, retailing, and applications to specific products and markets.

3 Credits

BUS 235– Sports Marketing (3-0): This course offers an in-depth exploration of marketing within the sports industry, focusing on how strategic marketing principles are applied to promote teams, events, and organizations. Students will examine fundamental marketing theories, trends, and practices, learning how they shape both the business of sport and broader society. Through hands-on projects students will apply sport marketing concepts to solve practical challenges and make data-driven decisions. Emphasis is also placed on collaborative skills, as students work in teams to develop marketing strategies, manage projects, and refine their abilities in communication, coordination, and conflict resolution.

3 Credits

BUS 245– Facility and Event Management (3-0): This course provides a comprehensive introduction to the principles and practices of managing facilities and events. Students will learn to apply management, marketing, and financial strategies essential to the successful operation of venues and events. Key topics include facility planning, operational logistics, and financial oversight, as well as risk management strategies to ensure the safety and security of participants and audiences. Through practical assignments, students will develop and present detailed event proposals, gaining hands-on experience in planning, designing, and executing facilities and events that meet industry standards.

3 Credits

BUS 255– Sports Communication (3-0): This course provides students with a foundation in key areas such as sports information, public relations, and media production. Students will gain practical experience in content creation for interactive media, while also analyzing current trends that influence how sports are communicated to the public. The course emphasizes the skills needed to craft compelling sports narratives, engage audiences, and navigate the rapidly evolving media landscape.

3 Credits

BUS 298– Business Internship: Provides the student with an opportunity to gain knowledge and skills from a planned work experience in business. Students are expected to gain a minimum of forty hours of work-based learning experience in a pre-approved Business employer. Students will coordinate specific activities and assignments with the faculty member.

Prerequisites: Completion of 6 credit hours of ACC, BUS, and/or ENT courses with C grade or better, Instructor Consent.

1-3 Credits

CHM 110– Introduction to Chemistry I (3-2): This course introduces students to general chemistry and includes topics such as the nature of matter, atomic structure, chemical bonds and reactions, and stoichiometry. This course will prepare students for studies in various health professions, including nursing, pharmacy, and dentistry and will also fulfill the general chemistry requirement for science majors. The laboratory component includes exercises that put this knowledge into practice.

4 Credits

CHM 111– Introduction to Chemistry II (3-2): This course continues the study of general chemistry established in CHM 110. Topics of study include the behavior of gases, liquids and solids; chemical concentration; acid-base and redox chemistry, chemical equilibrium, and nuclear chemistry. This course will prepare students for studies in various health professions, including nursing, pharmacy, and dentistry and will also fulfill the general chemistry requirement for science majors. The laboratory component includes exercises that put this knowledge into practice.

Prerequisites: CHM 110.
4 Credits



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CIS 100– Introduction to Digital Literacy (3-0): This course is an exploration of modern computer technology used for communication, collaboration, problem solving, decision making, and increasing personal productivity. Topics covered include office productivity software, networked communication systems, current trends and challenges, and ethical issues related to technology. This is a Windows based hands-on course.

3 Credits

CIS 110– Digital Literacy for IT Professionals (3-0): This course is designed to equip IT professionals with essential digital literacy skills required in today's technology-driven workplace. Students will explore a range of topics including cybersecurity, data management, cloud computing, and digital communication tools. Through hands-on projects and real-world scenarios, participants will develop proficiency in using various software applications, understanding digital ethics, and implementing best practices for online collaboration and information security.

3 Credits

CIS 112– IT Software Essentials and Support (3-0): Students develop the necessary skills to support personal computers by learning and solving common PC software problems. Students will learn to install and maintain a variety of software, including but not limited to operating systems and applications. Successful completion of the course prepares students for the Core 2 portion of the A+ Certification examination sponsored by the Computing Technology Industry Association.

3 Credits

CIS 113- IT Hardware Essentials and Support (3-0): Students develop the necessary skills to support personal computers by solving common PC hardware and software problems. Students will learn to install and maintain a variety of processors, operating systems, and applications. Successful completion of the course prepares students for the A+ Certification examination sponsored by the Computing Technology Industry Association.

3 Credits

CIS 115- Information Technology Fundamentals (3-0): This course explores technical issues involved with computers and information technology. Students will be able to set up a basic workstation, conduct basic software installation, establish basic network connectivity, identify compatibility issues, identify/prevent basic security risks and demonstrate knowledge in the areas of safety and preventative maintenance of computers. This course prepares students considering a career in Information Technology (IT) or desiring a more detailed knowledge of IT fundamentals.

3 Credits

CIS 117– Operating Systems Interfaces (3-0): In this course, students acquire an understanding of how a computer system's hardware components impact performance of software. Students also learn about the impacts of parallelism and latency on performance as well as tradeoffs with various components such as processor clock speed, cycles per instruction, memory size and average memory access time. Problem solving is emphasized through the use of assembly language.

Prerequisites: CIS 113 or Instructor Consent.

3 Credits

CIS 118– Fundamentals of Server Administration (3-0): This course provides a comprehensive introduction to the principles and practices of server administration. Students will learn to install, configure, manage, and troubleshoot server hardware and software. Key topics include server operating systems, network protocols, security measures, and virtualization. Through hands-on labs and real-world scenarios, students will develop the skills necessary to effectively manage and maintain server environments. This course is designed for individuals seeking foundational knowledge in server administration and is suitable for those pursuing careers in IT support, network administration, and systems management.

Prerequisites: CIS 112 and CIS 113.

3 Credits

CIS 119– Introduction to Programming: Python (3-0): This course introduces computer programming using the Python programming language. Emphasis is placed on common data types, control flow, object-oriented programming and graphical user interface driven applications utilizing the standard library distributed with Python.

Prerequisites: CIS 113 or Instructor Consent.

3 Credits

CIS 120- Network Integration and Management (3-0): This course introduces students to computer networking fundamentals. Topics include: network design, network hardware, network operating systems software, data communications, configuration and installation, internetworking, and troubleshooting basic network problems. Using a Microsoft Windows Server-based LAN environment, students practice network administration concepts and activities.

Prerequisites: CIS 113.

3 Credits



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CIS 122– Cloud Computing Concepts and Applications (3-0): This course provides a comprehensive introduction to cloud computing, focusing on the fundamental concepts, technologies, and applications that drive this rapidly evolving field. Students will explore the architecture, deployment models, and service models of cloud computing, including Infrastructure as a Service (IaaS), Platform as a Service (PaaS), and Software as a Service (SaaS). *Prerequisites: CIS 118.* 3 Credits

CIS 124– Ethical Practices in Computing (3-0): This course explores the ethical principles and practices essential for responsible computing. Students will examine the moral and social implications of technology, focusing on issues such as privacy, intellectual property, cybersecurity, and professional conduct. Through case studies, discussions, and practical applications, students will develop the skills to navigate ethical dilemmas in the digital world and understand their responsibilities as computing professionals. 3 Credits

CIS 125- Introduction to Artificial Intelligence and Robotics (3-0): This course will introduce Artificial Intelligence, the theory and development of computer systems that normally require human intelligence, such as visual perception, speech recognition, decision– making, and translation between languages. It will focus on the symbolic inference, representation, and simulation by computers and software of human learning and reasoning processes and capabilities, and the computer modeling of human motor control and motion. Includes instruction in computing theory, cybernetics, human factors, natural language processing, and applicable aspects of engineering, technology, and specific end-use applications. 3 Credits

CIS 130- Adobe Creative Cloud (3-0): Use of Adobe Photoshop to edit digital photographs and create bitmap images, with emphasis on selection techniques, making tonal adjustments, and compositing with layers. 3 Credits

CIS 135- HTML/CSS Web Development (3-0): Create the foundational display structure of web pages, sites and web apps with HyperText Markup Language (HTML) code and Cascading Style Sheets (CSS) for formatting. Covers HTML5 and CSS3 tags, web standards, best practices, Web fonts, and responsive design. 3 Credits

CIS 138- JavaScript for Web & Mobile (3-0): An introduction to JavaScript for enhancing web pages and creating interactive web applications. Covers JavaScript programming fundamentals and the use of a JavaScript framework such as JQuery Mobile or React Native to create mobile device web apps. *Prerequisites: CIS 135 or Instructor Consent.* 3 Credits

CIS 140– Windows Development Level I (C#) (3-0): Introduction to C# programming including planning, UI design, algorithm development. Focusing on structured programming (data containers, data types, processing operators, expressions, and methods, string methods and formatting, flow control structures, functions, and debugging), this course introduces Object Oriented Programming techniques and accessing external data sources. *Prerequisites: CIS 113 or Instructor Consent.* 3 Credits

CIS 150– Introduction to Java Programming (3-0): Introduction to Java programming to construct Java Applets and Java Applications. Covers structured and Object-Oriented Programming techniques, including control flow structures, data containers and structures, string manipulation, methods, classes and graphics. *Prerequisites: CIS 113.* 3 Credits

CIS 185- Introduction to Network Security (3-0): This course highlights the models and protocols essential to securing wired and wireless networks. Students also learn to capture and analyze network traffic, identify network security threats, and apply and evaluate network security controls, in preparation for the industry recognized CompTIA Security+ certification. *Prerequisites: CIS 113 or Instructor Consent.* 3 Credits

CIS 215- Database Design and Application Development (3-0): This course provides students with a foundation of knowledge needed to work with database management systems and to create applications utilizing current development strategies. Students examine various types of database techniques with emphasis on relational designs. Students design and implement solutions to business-related problems. *Prerequisites: CIS 113 or Instructor Consent.* 3 Credits



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CIS 220- Systems Development (3-0): In this course, students utilize a system development methodology through team-based projects that demonstrate their Information Technology skills. The focus of the course includes the Systems Development Life Cycle (SDLC) phases, user system requirements, logical and physical design, test and implementation planning, performance evaluation, software package evaluation and acquisition, prototyping, structured and object-oriented methodologies, development and adherence to the system life cycle standards and designing interfaces and dialogues. This course encourages interpersonal skill development with clients, users, team members and others associated with development, operation and maintenance of the system. *Prerequisites: CIS 113 or Instructor Consent.* 3 Credits

CIS 240- Windows Development Level II (C#) (3-0): Advanced C# programming with emphasis on data structures, object-oriented programming, user interfaces, and database processing. Introduction to using C# and Visual Studio for cross-platform projects (Android, iOS, and Mac), client-side and server-side web development (ASP.NET and Blazor), and gaming (Unity game engine). *Prerequisites: CIS 140 with C or better grade.* 3 Credits

CIS 245- Android App Development (Kotlin) (3-0): Foundational knowledge, skills, and abilities to develop mobile apps for Android devices using the Kotlin programming language. Covers tools of the trade, creating user interfaces, coding events, activities and intents, working with internal and external data sources, accessing device services, Object Oriented Programming (OOP) practices, navigating multiple layouts, testing, debugging, and deploying applications. The course culminates with each student creating a custom Android app of their own design. 3 Credits

CIS 248- iOS App Development (Swift) (3-0): Foundational knowledge, skills, and abilities to develop mobile apps for IOS devices using the Swift programming language from concept to deployment. Covers the Xcode IDE, creating user interfaces, coding events, iOS frameworks, working with internal and external data sources, incorporating media, accessing device services, Object Oriented Programming (OOP) practices, navigating multiple screens, testing, debugging, and deploying applications. The course culminates with each student creating a custom iPhone and/or iPad app of their own design. 3 Credits

CIS 250- Internet/Intranet Networking (3-0): This course provides an in-depth introduction to the fundamental concepts of Cisco routing and switching. Students will learn how to configure, manage, and troubleshoot Cisco routers and switches to build efficient and secure networks. Key topics include network protocols, IP addressing, VLANs, routing protocols (such as OSPF and EIGRP), and access control lists (ACLs). This course is ideal for those pursuing a career in network administration or preparing for the Cisco Certified Network Associate (CCNA) certification. *Prerequisites: CIS 113 or Instructor Consent.* 3 Credits

CNC 102 - CNC Operator I (1.5-3): This course provides classroom and shop floor learning experiences related to fundamental machine tool technology by focusing on band saws, drill presses, engine lathes and knee mills with related tooling. The course includes speed and feed calculations, part layout, basic measuring tools, print reading and related manufacturing theory. Safe work practices for each machine. *This course was formerly IMT 102.* 3 Credits

CNC 104 - CNC Operator II (1.5-3): This course is a continuation of CNC 102, wrapping up basic operations of CNC mills. Students will learn manual engine lathes and introducing basic CNC lathes. The course includes related information on tooling, speeds and feeds, measuring instruments and manufacturing theory. *This course was formerly IMT 104.* *Prerequisite: CNC 102 or Instructor Consent.* 3 Credits

CNC 114- Print Reading for CNC (3-0): Introduction to CNC Print Reading teaches students how to read and interpret shop blueprints for machine parts to specific tolerances and finishes using information provided in the "Title Block". *This course was formerly IMT 114.* 3 Credits

CNC 200- CNC Programing I (1.5-3): This course introduces students to a survey of the tools and theory regarding computer integrated manufacturing (CIM). Students will also be introduced to basic CNC lathe and mill set up and operation, including measuring instruments, safety, turning, grooving, drilling, boring, threading, and cutting tools. Programs are written, developed, simulated, run, and debugged on actual machine tools. *This course was formerly IMT 200.* *Prerequisite: IMT 104 or Instructor Consent.* 3 Credits



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CNC 201– Mastercam I (1.5-3): Computer numerical control (CNC) mill and lathe programming utilizing computer aided drafting and computer aided manufacturing (CAD/CAM/Mastercam) software for design and generation of part geometry. Verification of tool path using CAD graphics. Program generation using CAM post processor. *Co-Requisite: CNC 200.*
3 Credits

CNC 202- CNC Programing II (1.5-3): This course is a continuation of CNC 200. Students will use G and M codes, blueprints, and safety lines to produce CNC programs on mills and lathes for machined parts. Specific areas of programming include linear and circular interpolation, canned cycles, drilling, reaming, tapping, boring, face milling, end milling, and the use of sub programs. Set up and operation of CNC mill and lathe controls will be covered and used to proof run programs. *Prerequisite: CNC 200. This course was formerly IMT 202.*
3 Credits

CNC 203– Mastercam II (1.5-3): Computer numerical control (CNC) mill and lathe programming utilizing multi-axis and three-dimensional computer aided drafting and computer aided manufacturing (CAD/CAM/Mastercam) graphics input. *Co-Requisite: CNC 202.*
3 Credits

CRJ 100 - Introduction to Criminal Justice (3-0): This course provides students with a general introduction to the concepts, phenomena, and issues in the study of criminal justice. A survey of criminal law, criminal procedures, law enforcement agencies, the criminal courts, and corrections (both institutional and community-based) will be conducted to understand the dynamics of the justice system.
3 Credits

CRJ 103 - Juvenile Justice (3-0): This course is a study of the juvenile justice process. Topics include specialized juvenile law, role of the juvenile, role of the juvenile courts, role of police agencies, role of correctional agencies and theories. Concerning delinquency. In addition, students will study the history, philosophy, organization, processes and functions of the juvenile justice systems in the United States and Pennsylvania. Emphasis is placed on jurisdiction, treatment and juvenile court proceedings in juvenile justice decision making. In addition, students will study child abuse and neglect and how the system is designed to deal with these serious issues.
3 Credits

CRJ 150 - Criminal Law (3-0): This course is a study of the nature of criminal law; philosophical and historical development; major definitions and concepts; classification of crime; elements of crimes and penalties using Pennsylvania statutes as illustrations; and criminal responsibility. *Prerequisites: CRJ 100 (C or better).*
3 Credits

CRJ 170- Introduction to Corrections (3-0): This course examines the American correctional system; the study of administration of local, state, and federal correctional agencies. The examination also includes the history and development of correctional policies and practices, criminal sentencing, jails, prisons, alternative sentencing, prisoner rights, rehabilitation, and community corrections including probation and parole. Current philosophies of corrections and the debates surrounding the roles and effectiveness of criminal sentences, institutional procedures, technological developments, and special populations are discussed.
3 Credits

CRJ 180- Introduction to Policing (3-0): This course focuses on the philosophy and history of policing, limitations imposed on law enforcement in a democratic society in accordance with the Constitution, and the role and place of law enforcement in the total criminal justice process. Students study law enforcement agencies; examine the current challenges facing the contemporary police officer and practical police problems. Areas of study include homeland security, community policing, and crime control concepts.
3 Credits

CRJ 190 - Race, Crime, and Justice (3-0): This course examines the nature, function, and causes of crime in society and examines how race and criminology intersect. The course will define criminal acts, apply theory that can be used to explain the participation or reason for perpetrating criminal acts, and explore the public policies that are developed to respond to the threat and existence of criminal behavior. *Prerequisites: SOC 101 or Instructor Consent.*
3 Credits



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CRJ 298 - Criminal Justice Internship (3-0): Provides the student with an opportunity to gain knowledge and skills from a planned work experience in criminal justice. Students are expected to gain a minimum of forty hours of work-based learning experience in a pre-approved criminal justice employer. Students will coordinate specific activities and assignments with the faculty member. *Prerequisites: Instructor Consent.* 3 Credits

CRJ 299– Criminal Justice Capstone (3-0): This course allows students the opportunity to explore the different career pathways within the Criminal Justice system as an alternative to the traditional Internship placement. Students will apply the collective knowledge gained throughout the program and explore their potential future career in criminal justice by conducting research and interviewing individuals in the field. Through this, students will obtain the necessary knowledge and realistic expectations for their future career and create a guide they can use to achieve their career goal. This course is intended to be completed at the end of the student's second year. *Prerequisites: Instructor Consent.* 3 Credits

COM 110- Fundamentals of Public Speaking (3-0): This course introduces students to the essential strategies and techniques employed by effective public speakers. The course covers strategic audience adaptation throughout the communication process. It provides suggestions for improving speeches in all facets, including invention, organization, style, and delivery. The course emphasizes the critical analysis of the effective and ineffective practices of historical, cultural, and contemporary speakers. The course stresses the importance of using unbiased and effective evidence to support an argument. It also provides opportunities for students to gain practical experiences in the art of self-expression. *This course is cross-listed and equivalent to ENG 110.* 3 Credits

COM 120– Media Literacy (3-0): Students will develop skills to become critical consumers and producers of media. Students will learn how to analyze and evaluate different forms of media to identify credible, essential sources of information. Students will break down arguments and recognize that different people see things differently. 3 Credits

COM 201-Interpersonal and Professional Communication (3-0): This introductory course helps students become better communicators in both personal and professional settings and emphasizes roles, skills, strategies, and activities that help develop effective interpersonal relationships. Lectures, discussions, and multiple speaking opportunities enable students to critically assess and demonstrate the impact that gender, culture, perception, conflict, self-disclosure, listening, language, non-verbal expression, and relationships have on interpersonal communication. 3 Credits

EAS 101-Introduction to Environmental Science (3-2) This lecture and laboratory-based course investigates the principles and processes that produce weather and climate on earth. It covers the basic elements of meteorology-temperature, pressure, moisture and wind-and analyzes severe storms such as tornadoes and hurricanes. Lab work focuses on basic weather forecasting and weather conditions that affect our daily lives. 4 credits

EAS 110– Earth Science (3-2): This interdisciplinary science course introduces students to the study of environmental problems and proposed solutions to these problems. Topics covered include ecosystem health, water and air pollution, land use, and climate change. Toward this goal students will explore a broad scope of sciences including earth science, ecology, chemistry, and environmental law. Laboratory exercises and field trips are included. 4 credits

ECO 101- Macroeconomics (3-0): This course is an introduction to the economic activity of the nation, introducing basic concepts and institutions. The emphasis is on aggregate income and spending, the government fiscal and monetary policy, national income accounting, economic growth and comparative economic systems. 3 Credits

ECO 102- Principles of Microeconomics (3-0): This course is an introduction to the activities of individual economic units, such as industries, companies, households and consumers. The course emphasis is on markets, the price system and the allocation of resources as they affect the consumer, the producer and the economy. 3 Credits



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ENG 090- Fundamentals of College Writing (3-0): English 090 develops written communication skills, beginning with the ability to detect, diagnose, and correct error patterns in focused writings. Students practice sentence mechanics in the context of their own writing, while learning to develop paragraphs and short essays that clarify and support a point of view in preparation for college-level writing. Students then progress to planning, drafting, revising, and editing of short essays, some of which will be reading-based. *3 Credits*

ENG 101- English Composition I (3-0): This course introduces students to college-level, academic writing. Emphasis is placed on critical analysis, argumentation, intellectual honesty and revision. Through the writing process, students will refine arguments; develop and support ideas; investigate, evaluate, and integrate appropriate sources; revise and edit for effective style and usages; and develop an awareness of the variety of contexts, audiences, and purposes of academic writing. Students produce multi-paragraphed argumentative essays of increasing difficulty. *Prerequisite (3-0): ENG 01 placement or ENG 090 completed. 3 Credits*

ENG 102- English Composition II (3-0): This course builds upon the concepts introduced in English Composition I, with a focus on research-based, college-level, academic writing. Emphasis is placed on critical and ethical analysis, the research process, proper citation practices, intellectual honesty, and revision. Through the writing process, students will determine an appropriate topic for research; investigate, evaluate, and integrate multiple sources; revise and edit for effective style and usages; and develop an awareness of the variety of contexts, audiences, and purposes of academic writing. Students will produce several writing projects that culminate in a signature research essay. *Prerequisite: ENG 101 with a C or better grade. 3 Credits*

ENG 110- Fundamentals of Public Speaking (3-0): This course introduces students to the essential strategies and techniques employed by effective public speakers. The course covers strategic audience adaptation throughout the communication process. It provides suggestions for improving speeches in all facets, including invention, organization, style, and delivery. The course emphasizes the critical analysis of the effective and ineffective practices of historical, cultural, and contemporary speakers. The course stresses the importance of using unbiased and effective evidence to support an argument. It also provides opportunities for students to gain practical experiences in the art of self-expression. *This course is cross-listed and equivalent to COM 110. 3 Credits*

ENG 201- Poetry (3-0): This is a course in the study of poems of various periods and types. Emphasis is on the meaning of individual poems and the interplay of sensory images. The course will examine how social and philosophical culture dictate how poetry is written and establish what qualities make great poetry. *3 Credits*

ENG 207- Survey of Literature (3-0): Explores literature in a variety of genres such as short fiction, poetry, and drama. The focus of this course is on the elements of the literature studied, including character, style, structure, form, tone, and theme. The historical and cultural context of the works studied, including history, geography, culture, race, gender, class, ethnicity, and religion are also considered. Literature studied in this course is drawn from various literary periods as well as from a range writer, including American, British, western European, and world literary figures. *3 Credits*

ENT 110- Fundamentals of Entrepreneurship (3-0): This course provides an overview of the challenges of starting a new venture or strengthening an existing one. Students will learn the characteristics of an entrepreneur and how to use the tools that an entrepreneur needs to evaluate a business concept and, if it is viable, how to take the steps needed to make it a reality. The course covers key aspects of entrepreneurship, including planning, operations, human resources, finance, marketing, and ethical responsibilities. *3 Credits*

ENT 130- Entrepreneurial Financial Intelligence (3-0): This course is designed to familiarize entrepreneurs with key financial and accounting concepts that are essential in starting and running a business and help them acquire the tools they need to manage an entrepreneurial venture effectively. This course will cover basic accounting terms and ratios, financial statements, cash flow and budgets, and review the accounting software available for a prospective business entity. This course is designed for small business owners and entrepreneurs, rather than those seeking to work as professional accountants. *3 Credits*



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ENT 140– Business Plan Development (3-0): In this course, entrepreneurs learn the process of preparing and implementing a business plan and presenting it to potential lenders and investors. That process includes creating concept statements, developing feasibility studies, and designing business models. Students will learn how to anticipate and solve both typical and atypical problems that entrepreneurs encounter. *3 Credits*

ENT 150- New Business Development (3-0): This course adopts the marketing philosophy that new products/services will be profitable if the extended product/service line or new product/service provides customers with highly valued benefits. The goal is to help students learn how to use innovative techniques to identify new markets for existing products/services as well as help students develop new product/service ideas. the goals using available resources and networks. *3 Credits*

ENT 230– QuickBooks (3-0): This course presents an overall framework in accounting for small businesses and start-ups. This course provides hands-on experience in QuickBooks as students set up a chart of accounts, reconcile bank accounts, create estimates, and generate reports. This course shows students how to create and print invoices, receipts, and statements as well as track payables, inventory, and receivables through the QuickBooks program. *3 Credits*

FYE 101- First Year Experience (3-0): This course introduces first-year students to ideas and strategies required for college-level academic inquiry and college success, including critical thinking, communication, cultural competence, problem-solving, data interpretation, and institutional knowledge. Students develop college preparedness skills such as time management, note taking, study methods, test taking, information literacy, and an understanding of academic integrity. Students apply critical thinking and communication skills to areas such as cultural diversity, media literacy and financial literacy and gain an understanding of campus and community resources. Students create an appropriate academic plan, financial plan, and career/transfer plan in the course of the semester. *3 Credits*

GLG 220- Environmental Geology (3-2): Environmental Geology is an examination of geologic processes which have impact upon humans and of the impact humans have upon those processes. Topics such as coastal erosion, flooding, earthquakes, radon, greenhouse effect, water quality, and waste disposal will be investigated. Environmental Geology should be considered by the following students: those needing a lab-science elective, those preparing for a career as an environmental technician, and those considering a Geology major seeking a geology elective. Class time and optional field trips aligned with the course topics will be taken. This course is subject to a course fee. *4 Credits*

HIS 122- History of the Western World: Renaissance through World War II (3-0): This course provides a comprehensive survey of Western civilization, spanning the Renaissance to World War II. Emphasizing both cultural and political history, we explore the transformative events, ideas, and movements that shaped the modern world. Topics include the rise of humanism, scientific advancements, political revolutions, the secularization of Western culture and the impact of global conflicts. Students will gain insights into the interplay of social, economic, and intellectual forces that have influenced Western societies. *3 Credits*

HIS 201– U.S. History to 1865 (3-0): The Foundation of the English settlements, the American Revolution, the early National Period, Jacksonian Democracy, Abolitionism, expansion to the Pacific, immigration, the Civil War, and the role of minorities are emphasized. *3 Credits*

HSC 101- Introduction to Allied Health (2-2): This course teaches the basics of confidentiality under the Health Insurance Portability and Accountability Act (HIPAA), basic life support (CPR), mandatory reporting (Act 31) and abuse prevention. Will give the student a working knowledge of Occupational Safety and Health Administration (OSHA) standards and to educate them on bloodborne pathogen safety as well as other important OSHA standards relative to infection control for health care workers. Students will be instructed on the use of personal protective equipment (PPE) related to disease transmission as well as infection control concepts and strategies for preventing occupational exposure. This course also focuses on patient safety and provides the student with instruction on body mechanics, patient transfer, restraints, and fall precautions. Instruction will be provided on the proper use of medical equipment and supplies related to maintaining a safe patient environment. Student will also be educated on how to respond to emergency situations during this course. *3 Credits*



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HSC 110 Medical Terminology and Body Systems (3-2): This course introduces the student to medical terminology and human anatomy and physiology. Body systems and related terminology are discussed in a primary learning level. Related disease processes, diagnostic procedures, therapeutic measures, and appropriate abbreviations and acronyms are included. This is a basic foundational course for students entering the field of health care, both clinical and administrative.

4 Credits

IMM 100– Introduction to Test Instruments (.5-1): Students will be introduced to various test instruments used for electrical checks and troubleshooting. Emphasis will be learning the functionality of the Fluke Digital Multi-Meter (DMM). The skills learned in this class will be utilized throughout the follow-on electrical classes.

1 Credit

IMM 101– Mechanical Drives: Precision Alignment and Predictive Maintenance (0-2): This course is intended to give a student the skills to perform precision alignment utilizing laser alignment and to set up a vibration analyzer to collect vibration data. Collected data will be used for corrective actions. *Prerequisite: IMM 110. Co-requisite: IMM 111.*

1 Credit

IMM 102– Introduction to AC/DC (2-2): Students will learn the fundamentals of basic (DC) electricity, including series, parallel, and combination circuits. The fundamentals of inductors and capacitors are also studied.

3 Credits

IMM 103– Electrical Motor Control (2-2): In this course, students will learn lockout-tag-out procedures and how to read and develop ladder logic diagrams. Students will study 3-phase motor control systems, and the components of a 3-phase motor control system. Students will learn to troubleshoot a 3-phase motor control system with practical faults inserted. *Prerequisite: IMM 102.*

3 Credits

IMM 104 - Fluid Power I (2-2): This course introduces the student to the science of fluid power which encompasses both hydraulics and pneumatics. The students will begin with learning the principles of hydraulics and pneumatics. They will then move on to learning how the fluid power components work both individually and, in a system, and learn how to read and draw schematics for fluid power circuits. There will be hands-on labs that continually reinforce what was learned and allow for the development of troubleshooting skills.

3 Credits

IMM 105 - Fluid Power II (2-2): This course continues the study of fluid power and teaches intermediate and advanced topics in the field of hydraulics and pneumatics. The students will be taught more complex hydraulic and pneumatics components and how those components work within a circuit. The students will further their skills with fluid power schematics and will continue to advance their troubleshooting skills. Hands-on labs will continue to be performed. Fluid power system preventive maintenance will also be taught for both hydraulic and pneumatic systems.

3 Credits

IMM 110– Basic Mechanical Drives (2-2): Students will learn how to align and level a motor and how to align various shafts to a motor. Students will also install drive belts and drive chains to a motor. Students will learn how to use various tools to measure belt and chain tension and how to use various specialized tools and measuring devices such as calipers and micrometers when installing mechanical devices.

3 Credits

IMM 111– Advanced Mechanical Drives (2-2): Students will learn about heavy duty V-belt selection and drives, heavy duty chain drives, synchronous belt drives and advanced couplings. Students will perform hands on labs for each of the systems and will learn the precision alignment, lubrication concepts, and troubleshooting for each of the systems.

3 Credits

IMM 112– Programmable Controllers I: This course offers students the fundamentals of a Programmable Logic Controller (PLC) using the Allen Bradley CompactLogix PLC and Studio 5000 programming software. Students learn the basics of controller networking/communications, basic programming, and instructions. Real world programming scenarios such as motor controls and sequencing will be used to reinforce the concepts learned. PanelView Plus Human Machine Interface (HMI) will also be introduced for networking and application purposes. *Prerequisite: IMM 103 or Instructor Consent.*

3 Credits



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IMM 113– Programmable Controllers II (3-0): This course is an extension of IMM 112. Students will learn advanced programming utilizing an Allen Bradley CompactLogix PLC and PanelView Human Machine Interface (HMI) while using Studio 5000 software. Students will learn to program mathematical instructions and subroutines and then be introduced to analog inputs and outputs. Real world applications such as temperature control and stepper motor control will be used to reinforce advanced programming skills. Troubleshooting skills will be taught throughout this course so the student will be able to identify if a problem is software or hardware related. *Prerequisite: IMM 112.* **3 Credits**

IMM 114– Print Reading for Industrial Maintenance (3-0): This course is intended to give a student an introduction to basic print reading. Students will learn the elements that they will see on blueprints to utilize these skills to interpret prints in different views. Students will also be introduced to specialized prints that they may see in their trades, particularly in the mechanical trades. Students will be introduced to how to use measuring tools and to use common terminology within the field. **3 Credits**

IMM 130– Integrated Electrical Circuits (1-4): This course is intended to give a student a systems approach to modifying or adding electrical components to improve or update a system as well as basic design fundamentals. Students will be adding advanced components to previously used circuits to give them a better understanding of how technology can simplify a system. Electrically operated components will be used to replace manually operated components and then added to the automated systems through wiring and programming. **3 Credits**

MAT 090- Arithmetic Fundamentals (3-0): This is a course in the fundamentals of arithmetic, including topics such as: operations with whole numbers, fractions, and decimals; percentages; ratio and proportion; computations involving measurement and unit conversion; geometric formulas; and an introduction to algebra. **3 Credits**

MAT 102- Mathematical Concepts (3-0): A course in contemporary mathematics for liberal arts and other students not majoring in business or the sciences. Topics include basic mathematical concepts: problem solving and critical thinking, sets, elementary logic, numeration systems, elementary geometry, counting techniques, and elementary probability and statistics. Topics are selected at the discretion of the Mathematics Department. **3 Credits**

MAT 107– Technical Math (3-0): The course emphasizes the mathematical knowledge needed to be successful in the workplace, including number systems, geometry, algebra, and trigonometry. Students will engage in problem-solving activities using real-world career examples that help students learn not only the needed mathematical skills, but also how those skills are used in specific fields of interest. **3 Credits**

MAT 111- College Algebra (3-0): This is a course in College Algebra for students not intending to take Calculus. Topics include equations and inequalities, polynomial and rational functions and their graphs, equations and graphs of conic sections, the theory of equations and systems of equations. *Prerequisite: MAT 111 placement.* **3 Credits**

MAT 202- Introduction to Statistics (3-0): This course focuses on the mathematical skills needed by students enrolled in technical, business, and liberal arts curricula. This course covers describing and summarizing single and bi-variate data, both graphically and numerically. Also, discrete and continuous probability distributions are covered. In addition, parametric estimation and tests of significance are studied. *Prerequisite: MAT 102 Placement.* **3 Credits**

MUS 101- Introduction to Music (3-0): This course surveys the form, style and basic structure of art, world and popular music. It is designed to enhance students' appreciation and understanding of music by focusing on influential composers and their compositions. Lectures highlight the characteristics, history and performance practice of many genres of music. **3 Credits**

MUS 114- World Music (3-0): Introduction to World Music Cultures is an entry-level course in the study of World Music. These musical traditions will be explored both on the basis of their intrinsic characteristics, as well as in connection with their social, economic, and political contexts. Students will also be introduced to the discipline of Ethnomusicology. As a term project, each student will be required to visit and document a local music culture selected by the student and approved by the instructor. **3 Credits**



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PCT 111– Patient Care Technician Skills (3-0): This course is designed to prepare students with the basic knowledge of patient health assessment. Students who successfully complete this course will be able to provide vital patient care under the direct supervision of a nurse or physician. This course will provide instruction on how to assess vital signs and measurements, how to care for catheters, how to provide oxygen therapy. Students will learn about the supplies and equipment needed to assist with basic patient care needs such as bathing, toileting, and other activities of daily living (ADL).. It is important that students have the opportunity to apply the knowledge learned in this course; therefore, students will be expected to participate in role play, simulation skills, and hands-on practice activities during class time.

3 Credits

PCT 112– Advanced Patient Care Technician Skills (3-0): Skill development in the performance of a variety of blood collection methods using proper techniques and standard precautions. Includes vacuum collection devices, syringes, capillary skin puncture, butterfly needles and blood culture, and specimen collection on adults, children, and infants. Emphasis on infection prevention, patient identification, specimen labeling, quality assurance, specimen handling, processing, professionalism, ethics, and medical terminology. This course will prepare students for the phlebotomy certification exam. Students will also learn the skills necessary to obtain quality 12 lead electrocardiograms (ECG) in a variety of medical settings. A blended course including both theory and hands-on instruction. This course will also assist students in preparing for the ECG certification exam. This course is designed to meet the needs of students with the ability to interpret both normal and abnormal ECG, as well as provide an overview of heart anatomy and function. Instruction will be provided on proper use of medical equipment and supplies related to maintaining a safe patient environment.

3 Credits

PCT 115– Clinical Practicum for Patient Care Technicians (3-0): This course is a credit worthy clinical experience that will provide the students with the ability to transfer knowledge and skill sets from the classroom to the clinical setting through direct patient care in the acute care setting environment. Students will be supervised by a qualified instructor that has had recent clinical experience in the acute care setting. *Prerequisite: HSC 101 & PCT 111 with C grade or better.*

3 Credits

PHL 101- Introduction to Philosophy (3-0): This course is a study of basic philosophical problems including: the existence of God, the immortality of the soul, knowledge, the mind-body problem, ethics in society, subjectivism, objectivism and pragmatism, political problems arising from philosophical ideas and the theory of beauty. 3 Credits

PHL 111- Religions of the World (3-0): This course is a description of the origins, development and manifestations of major world religions. Students explore how people of different faiths practice and express their beliefs. Similarities and differences of different faiths are emphasized.

3 Credits

PHY 111– Conceptual Physics (3-2): This is a one semester introductory course in fundamental physics available to all students. In addition to fulfilling general education requirements, this course is useful for those considering technical/science fields such as allied health majors. Topics covered include basic kinematics, forces, energy, momentum, fluids, electricity, magnetism, waves and light. Emphasis is placed on qualitative understand of the material with quantitative calculations at the high-school math level. This course greatly strengthens problem analysis and solving skills directly applicable to everyday situations.

4 Credits

POL 112- Introduction to International Relations (3-0): The course will cover the theories of international relations (IR) and apply them to the broader context of global politics. Students will learn key concepts and ideologies. They will make comparative analyses of the types of political systems and ideologies found in both the developed and developing countries and identify patterns of political behavior. These patterns can then be linked to theories, concepts and ideologies that have been studied. The contents of this course will be placed in historical and socio-cultural contexts.

3 Credits

POL 203- Survey of American Politics (3-0): This course investigates the development and evolution of the American political system. Students will be introduced to the unique structure, functions, and problems of the national government within the federal system. Close attention is given to the nature of and the controversies emerging from the interaction between political institutions. This includes analysis of the following concepts and topics: federalism, separation of power, check and balances, Bill of Rights, democracy, civil liberties, civil rights and political parties.

3 Credits



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PSY 101- Introduction to Psychology (3-0): This course provides the student with an understanding of how the scientific method is applied to the study of human and animal behavior. Topics include: research results, the major principles and perspectives of psychology, applications of contemporary psychology, the structure and function of the nervous system, foundations of learning, intelligence, social behavior, personality, feeling and emotion, motivation, abnormal psychology and its causes and therapies, developmental patterns and the measurement of behavior. *3 Credits*

PSY 201- Social Psychology (3-0): The basic psychological principles involved in the scientific study of individual behavior in social and group situations are examined. Emphasis is placed on understanding attitude formation and change, conformity, group interaction, leadership roles, altruism, aggression and prejudice. *Prerequisite: PSY 101. 3 Credits*

PSY 210- Lifespan Development (3-0): This course will examine developmental psychology, including theories and methodologies used by developmental psychologists. Development will be studied from conception through adulthood and aging. This course will examine continuity and change from conception to death and the interaction of biological, psychological, and social aspects of development. *Prerequisite: PSY 101. 3 Credits*

SOC 101- Introduction to Sociology (3-0): An introduction to the science of sociology, including a discussion of sociological theory and method, social structure, culture, and socialization. Also emphasized are social stratification, race, ethnicity, and gender. Social institutions and their change dynamics are examined. *3 Credits*

SOC 211- Race and Ethnicity (3-0): This course will investigate the construction of the social categories of race and ethnicity. Discussion will revolve around the history, process and effects of these constructions. A major focus will be on interracial and interethnic relations in the United States. *Prerequisite: SOC 101. 3 Credits*

SOC 250- Contemporary Social Problems (3-0): This course will help students to further develop skills to interpret current events as part of general patterns and learn about their own societies. Contemporary Social Problems often reflects and constitutes major trends in society, including but not limited to racism, poverty, unemployment, environmental issues, marriage and divorce, and more. Students will be helped to examine, clarify, and make explicit their values as they participant in in-class discussions during lecture, in-class activities, and between-class activities. Learning outcomes will be assessed through multiple choice or short-answer quizzes and exams, writing assignments, in-class discussion, and the viewing and discussion of video material; these assessments may vary slightly per instructor to suit their course needs. *Prerequisite: SOC 101. 3 Credits*

SUR 100- Surgical Theory I (2-8): This course provides general introductory information for the surgical technology student. The student will learn the history and development of surgery, healthcare facilities organization and accreditation, physical environment and safety, biomedical science, surgical technologist and other team members job descriptions, medical/legal aspects of surgery including informed consent, risk management, patient's Bill of Rights, the surgical patient and treatment of "special populations" of patients, professional management, communication skills and teamwork, and microbiology related to the perioperative environment. *Prerequisite: HSC 100, BIO 202, and BIO 210. 6 Credits*

SUR 110- Surgical Theory II (2-8): In-depth coverage of perioperative concepts such as aseptic principles and practices, infectious processes, wound healing, creation and maintenance of the sterile field, surgical pharmacology and anesthesia, instrumentation, equipment, supplies, surgical case management, hemostasis, wound healing, wound closure, diagnostic procedures. *Prerequisite: SUR 100 6 Credits*

SUR 210- Surgical Procedures I (2-8): This course is the focuses on the General, Obstetric and Gynecologic, Otorhinolaryngologic, Genitourinary, and Ophthalmic procedures. The student will learn to identify the names and uses of instruments, supplies, and drugs of each specialty; describe the pathology and related terminology of each system or organ that prompts surgical intervention, discuss preoperative diagnostic procedures related surgical procedures. *Prerequisite: HSC 100, BIO 202, and BIO 210 6 Credits*

SUR 220- Surgical Procedures II (2-8): This course is the logical continuation of Surgical Procedures I and will focus on the Genitourinary, Plastic and Reconstructive, Oral Maxillofacial, Cardiothoracic, Peripheral Vascular, and Neurosurgery Surgeries. The student will learn the names and uses of instruments, supplies, and drugs of each specialty; describe the pathology and related terminology of each system or organ that prompts surgical intervention, discuss preoperative diagnostic procedures related surgical procedures. *Prerequisite: SUR 210 6 Credits*



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SUR 270– Clinical Externship I: This course is a supervised clinical experience in local hospital surgical settings focusing on gaining surgical technologist experience on minor surgical procedures and fulfilling the weekly objectives. Students will complete a minimum of 120 surgical cases across 2 terms of clinical experiences with each course introducing a new variety of case types for students to meet the required number of total cases, total first scrubs, and total second scrubs. *Prerequisite: SUR 220* 7 Credits

SUR 271– Clinical Externship II: This course is a supervised clinical experience in local hospital surgical settings focusing on gaining surgical technologist experience on minor surgical procedures and fulfilling the weekly objectives. Students will complete a minimum of 120 surgical cases across 2 terms of clinical experiences with each course introducing a new variety of case types for students to meet the required number of total cases, total first scrubs, and total second scrubs. *Prerequisite: SUR 270* 7 Credits

WEL 101- SMAW Theory: Safety and Operation (1.5-0): Shielded Metal Arc Welding (SMAW) introduces students to the safe and effective use of the Shielded Metal Arc Welding process for cutting and welding metals. Students will learn about safety equipment, personal protective equipment, Safety Data Sheets, hazardous waste, hand and power tool safety, fumes and ventilation, welding and cutting areas, arc rays and sparks, hearing protection, and working with hot and sharp metal. *Prerequisite: WEL 114 and MAT 107. Co-requisite: WEL 102.* 1.5 Credits

WEL 102- SMAW I: Lab 1 (0-3): Shielded Metal Arc Welding (SMAW) Lab 1 focuses on shielded metal arc welding in the flat and horizontal positions to meet the standards of the American Welding Society. Topics covered include striking an arc, beads, surfacing welds, butt welds - 1G, lap welds - 2F, tee welds - 2F, and Oxy-Acetylene cutting. *Prerequisite: WEL 114 and MAT 107. Co-requisite: WEL 101.* 1.5 Credits

WEL 103- SMAW I: Lab 2 (0-3): SMAW Lab 2 is a continuation of SMAW Lab 1. This course focuses on metal arc welding in the flat and horizontal positions to meet the standards of the American Welding Society. Topics covered include safety, electrode selection, amperage, cutting material, fit up, vee groove 3/8 plate - 1G, vee groove 3/8 plate - 2G, AWS D1.1 3/8 groove certification. *Prerequisite: WEL 102.* 1.5 Credits

WEL 104– GMAW Theory: Safety and Operation (1/5-0): Gas Metal Arc Welding (GMAW) focuses on the theory, safety and techniques needed for gas metal arc welding in the flat and horizontal positions to meet the standards of the American Welding Society. Safety and the use of proper personal protective gear are emphasized. *Prerequisite: WEL 114 and MAT 104. Co-requisite: WEL 105.* 1.5 Credits

WEL 105- GMAW: Lab 1– Short Circuit Transfer (0-3): Gas Metal Arc Welding (GMAW) Lab 1a focuses on gas metal arc welding in the flat and horizontal positions to meet the standards of the American Welding Society. Topics covered include: Machine set up, beads, surfacing welds, butt welds - 1G, lap welds - 2F, tee welds - 2F. *Co-requisite: WEL 104.* 1.5 Credits

WEL 106- GMAW: Lab 2– Short Circuit Transfer (0-3): Gas Metal Arc Welding (GMAW) Gas Metal Arc Welding (GMAW) Lab 1b focuses on gas metal arc welding in the flat and horizontal positions to meet the standards of the American Welding Society. Topics covered include: vee groove 3/8 plate - 1G, vee groove 3/8 plate - 2G, AWS D1.1 3/8 groove certification 1G. *Prerequisite: WEL 105* 1.5 Credits

WEL 107– FCAW: Lab 1– Short Circuit Transfer (0-3): Flux Core Arc Welding (FCAW) Lab 1 focuses on welding in the vertical and overhead positions to meet the standards of the American Welding Society. Safety and the use of proper personal protective gear are emphasized. Topics covered include machine set up, beads, surfacing welds - vertical up, butt welds – 3F,4F T-welds 3G,4G Butt welds. *Prerequisite: WEL 114 and MAT 107.* 1.5 Credits

WEL 108- FCAW Lab 2-Short Circuit Transfer (0-3): This course is a continuation of FCAW Lab 1 and focuses on flux core arc welding in the flat and horizontal positions to meet the standards of the American Welding Society. Topics covered include Laps, T, Butt, Corner welds in the 1F,2F,1G,2G positions, AWS ½ inch 2G test plate. *Prerequisite: WEL 107* 1.5 Credits

WEL 109- FCAW Lab 3- Pulsed Spray and Gas Shielded Flux Core (0-3): FCAW Lab 3 focuses on flux core arc welding in the vertical and overhead positions to meet the standards of the American Welding Society. The topics covered include tee welds, butt welds in the 3F,4F, 3G,4G positions. AWS D1.1 1" vee groove certification – 3G/4G FCAW. Testing will be done on 1" plate for qualified welders. *Prerequisite: WEL 108* 1.5 Credits



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WEL 110- GTAW Theory-Safety and Operation (1.5-0): Gas Tungsten Arc Welding (GTAW) focuses on the theory, safety and techniques needed to gas tungsten arc weld in all position on ferrous materials to meet the standards of the American Welding Society. Safety and the use of proper personal protective gear are emphasized. *Prerequisite: WEL 114 and MAT 107. Co-requisite: WEL 111.* 1.5 Credits

WEL 111- GTAW I: Lab 1 (0-3): Gas Tungsten Arc Welding (GTAW) Lab 1 focuses on gas tungsten arc weld in all position on ferrous materials to meet the standards of the American Welding Society. Topics covered include: machine set up, puddles: beads, surfacing welds - flat, butt welds - 1G, autogenous lap welds - 2F, autogenous outside corner welds - 2F, lap welds with filler - 2F, tee welds with filler - 2F. *Co-requisite: WEL 110.* 1.5 Credits

WEL 112- GTAW I: Lab 2 (0-3): Gas Tungsten Arc Welding (GTAW) I focuses on gas tungsten arc weld in all position on ferrous materials to meet the standards of the American Welding Society. Topics covered include: butt welds - 3G, lap welds - 3F, tee welds - 3F, AWS D1.1 3/8 groove certification - 1G. *Prerequisite: WEL 111* 1.5 Credits

WEL 114– Print Reading For Welders (3-0): Students will learn how to read and interpret welding blueprints to fabricate parts. Students will be introduced to topics such as structural steel shapes, welding symbols, joint design, and the proper procedures to read and interpret welding symbology. 3 Credits



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Michael Harman	Biology	M.A.	PennWest University: Edinboro
Luke Hummer	Welding	C.W.I. C.W.E.	American Welding Society American Welding Society
William Jeffress	Business & Entrepreneurship	M.B.A.	University of New Haven
Toni Mazanowski	Computer Science	B.S.	Western Governors University
Dr. Catherine Robertson	Business & Entrepreneurship	Ph.D.	Gannon University
Dr. Jennifer Robinette	English	Ph.D.	University of North Dakota
David Surrena	Industrial Machine Maintenance	M.P.M.	Penn State University
Alex Wheaton	English, Criminal Justice	M.A., M.S., M.S.	Gannon University Mercyhurst University Mercyhurst University