COLLEGE OF APPLIED SCIENCE AND TECHNOLOGY PROGRAMS OF INSTRUCTION

Learn more about the programs of instruction offered by the College of Applied Science and Technology. For specific curriculum guides for associate and bachelor’s degrees, minors and certificates offered through the College, see the Undergraduate Curriculum Guides (https://www.uakron.edu/academics_majors/curriculum-guides) section of the Undergraduate Bulletin.

Baccalaureate Degree Programs of Instruction

Computer Information Systems, Networking Option (Step-Up)
Baccalaureate level graduates have learned business computer and network applications and practices consistent with the requirements of the modern information technology professional. This program emphasizes the knowledge and applied skills necessary to succeed in today’s environment.

The networking option allows students to attain an in-depth study of network management, including building, securing, managing, and troubleshooting multimedia wired and wireless LAN and WAN networks.

Students entering the Computer Information Systems program must demonstrate a fundamental knowledge of computers by examination or take the necessary courses prior to enrolling in the program.

Computer Information Systems, Cybersecurity Option
Students in the Computer Information Systems Cybersecurity track Bachelor of Science degree program will learn about computer network configuration, computer network and data security, network intrusion prevention and detection, computer networking forensics, and digital forensics. Students also will benefit from in-depth study of modern cryptography and cryptanalysis (encrypting and decrypting information) as they relate to cybersecurity and computing.

Computer Information Systems, Programming Option (Step-Up)
The bachelor of science in Computer Information Systems, Programming option, allows students to attain an in-depth study of effective business application development, client/server database application development, and database management.

Computer Information Systems, Digital Forensics
Students in the program will acquire the skills and knowledge that are needed by the digital forensics professional. This program requires students to study and master network security; intrusion detection; infrastructure protection; cyber attacks; cryptography; and the collection, preservation, examination, analysis, documentation, and presentation of digital artifacts.

Emergency Management and Homeland Security Degree Programs, Full Four Year and Step-up
Bachelor of Science in Emergency Management and Homeland Security
Emergency Management and Homeland Security degree programs focus on natural disasters, terrorist incidents, and technological hazards. Students will acquire specialized knowledge in disaster management through prevention/mitigation, preparedness, response, and recovery actions utilizing an All-Hazards focused approach. This dynamic discipline prepares graduates for careers in the governmental, corporate, public health, and nonprofit sectors. Emergency Management and Homeland Security can be a career that makes a difference in people’s lives.

The program offers a Bachelor of Science degree, along with a minor and certificate, which is accredited by the International Fire Service Accreditation Congress (IF SAC). Students can step-up from responder-related Associates Degrees, such as criminal justice or fire protection. Students choose to follow a traditional college program with little or no bridgework.

All university general education requirements must be completed as outlined in this Bulletin.

This program is accredited by the International Fire Service Accreditation Congress (IF SAC) Oklahoma State University, 1700 West Tyler Stillwater, OK 74078-8075; Phone: (405) 744-8802; if sac.org (https://ifsac.org).

Bachelor of Organizational Supervision (Step-Up)
The degree builds on the skills and knowledge acquired at the associate degree level. The baccalaureate program provides graduates with advanced supervisory and leadership competencies critical for professional career advancement.

Engineering and Science Technology (Step-Up)
The baccalaureate-level programs in Engineering Technology are intended to fill the widening gap in industry between the professional engineer and the engineering technician. The graduate of these programs works in close support of engineers, translating conceptual ideas into functioning systems and providing supervisory direction for the implementation of these ideas by technicians and craftspeople.

These transfer programs permit the qualified engineering technology student to continue education to the baccalaureate degree. During the first and second years of full-time study, a student follows an associate degree program in the corresponding engineering technology field. The third and fourth years of full-time study provide the additional coursework required for the baccalaureate degree. Emphasis is placed on advanced training in the student’s field of specialization, broadened knowledge of related technical fields, extended general education, and basic management training.

Programs are available in automated manufacturing engineering technology; electronic engineering technology; mechanical engineering technology; surveying and mapping; and construction engineering technology. It is intended that a graduate will find employment in manufacturing, technical sales and service, application engineering, inspection and testing, and the more standardized aspects of engineering design.
Bachelor of Science in Automated Manufacturing Engineering Technology
The Bachelor of Science in Automated Manufacturing Engineering Technology is an upper-level degree program designed to provide the student with additional education beyond an AAS degree. A Manufacturing Engineering Technology associate degree program serves as the first two years. Although an associate manufacturing program is cited, graduates from other related associate programs can frequently enter the program with little or no bridgework.

Bachelor of Science in Electronic Engineering Technology
Accredited by the Engineering Technology Accreditation Commission of ABET (http://www.abet.org).

Graduates of the Electronic Engineering Technology program will work with engineers in developing, manufacturing, testing, and servicing Electrical/Electronic components, equipment, and systems.

Bachelor of Science in Mechanical Engineering Technology
Accredited by the Engineering Technology Accreditation Commission of ABET (http://www.abet.org).

This program prepares individuals to work as Technologists in applying specific principles to the analysis, design, development, implementation, or oversight of advanced mechanical systems or processes.

Bachelor of Science in Construction Engineering Technology
Accredited by the Engineering Technology Accreditation Commission of ABET (http://www.abet.org).

The B.S. in Construction Engineering Technology is a three year, upper level degree program designed to provide the student with additional education beyond the AAS degree in Construction Engineering Technology. This degree is also designed to meet the formal education requirements for registration as a Professional Engineer in the State of Ohio. This upper degree program is defined as follows: The first two years are completed as an AAS degree in Construction Engineering Technology or similarly based program. Two of the remaining three years are for the completion of prescribed coursework. The remaining year of the three years is devoted to a cooperative work experience in the construction field. The student normally enters the co-op segment between the junior and senior years.

The B.S. in Construction Engineering Technology degree program includes classroom, laboratory, and industry experiences which prepare students for careers in the construction industry and other allied industries.

Bachelor of Science in Surveying and Mapping
Accredited by the Applied Natural Science Technology Accreditation Commission of ABET (http://www.abet.org).

The Bachelor of Science in Surveying and Mapping is an upper level degree program designed to meet the formal education requirements for registration as a Professional Surveyor (P.S.) in the State of Ohio. The first two years are completed as an Associate of Applied Science (A.A.S.) degree in Land Surveying or a program that has similar content. Two of the three remaining years are for the completion of courses for the degree. The remaining year is devoted to cooperative work experience.

Associate Degree Programs of Instruction
Specialized technical programs are offered in the following departments of the college:

- Engineering and Science Technology
- Applied General and Technical Studies
- Disaster Science and Emergency Services
- Business and Information Technology

These programs lead to the Associate in Applied Science, Associate in Applied Business (carrying a designation of the specific program), and Associate of Technical Study. In addition, programs in liberal arts leading to the Associate of Arts and Associate of Science is offered in the Department of Applied General and Technical Studies.

Requirements for Graduation
Candidates for the associate degree must:

- Complete the required courses listed in the program.
- Complete, as a minimum, the number of credits listed for each program.
- Earn a minimum grade-point average of 2.00 at The University of Akron.
- Be recommended by the faculty.
- Earn a minimum of 16 credits and spend the last semester in residence at the University unless excused by the dean of the college.
- Complete other University requirements.
- A student who expects to receive a second associate degree must earn a minimum of 16 credits in residence that have not counted toward the student's first degree.

Applied General and Technical Studies
202000AA: Associate of Arts
The Associate of Arts degree cultivates in students the habit of life-long learning through a diverse curriculum and teaches students to think critically and creatively about their perceptions of ideas, events, and people. This degree is designed to position the student for successful employment, career advancement, or more focused study at the baccalaureate level.

202005AS: Associate of Science
The Associate of Science degree teaches students to think critically and creatively about their perceptions of ideas, events and people. This degree is for students who would like to pursue a science based degree. Core curriculum emphasizes mathematics and science, but it also includes English, history, and social studies, as well as fundamental skills in analysis, research, composition and reading comprehension. This science intensive degree is designed to position the student for successful employment, career advancement, or more focused study in STEM (science, technology, engineering and mathematics) fields at the baccalaureate level.

230000ATS: Associate of Technical Studies
The Associate of Technical Studies (ATS) program is available for adult students whose educational objectives and interests cannot be met through one of the formal associate degree programs.

This program enables students to combine certifications (institutional, state, national) earned through an educational entity or a place of employment, with general education courses to meet the associate degree requirements.
Business and Information Technology

2440: Computer Information Systems
This program prepares graduates to enter the job market as Information Technology (IT) professionals. Emphasis of the curriculum is on providing graduates with the skills and knowledge to solve computer-related business problems.

2520: Marketing and Sales Technology
This program equips graduates to fill entry-level positions in distributed business areas, including retailing, industrial distribution, and fashion.

Engineering and Science Technology

The Department of Engineering & Science Technology (E&ST) offers market-driven, applied degrees (associate and bachelor) and certificates. E&ST faculty expertise (discipline education and real-world work experience) is a key component to our program success and facilitates the effective, experiential learning brought to our students. Strategic partnerships within the region help ensure student success and job placement. The majority of our programs are ABET accredited, ensuring program quality and continuous improvement. E&ST students have various learning opportunities outside of the classroom, including co-ops, service-learning and professional student organizations. Program courses are offered during the day and evenings in formats that include online, hybrid, and flipped.

2850: CORROSION ENGINEERING TECHNOLOGY
The AAS in Corrosion Engineering Technology prepares students to evaluate corrosion of materials in the field and apply strategies for mitigating corrosion. The program strives to balance classroom instruction with relevant field and lab work. The Department of Defense has provided funds that will directly support the degree.

2860: Electronic Engineering Technology
Accredited by the Engineering Technology Accreditation Commission of ABET (http://www.abet.org).

This program prepares individuals for work as technicians in developing, manufacturing, installing, testing, and maintaining electronic equipment and systems.

2880: Manufacturing Engineering Technology
Through the study of basic technical subjects and through concentration on work measurement, manufacturing computer applications, quality control, robotics, manufacturing work cells, and MRPII, this program educates the student in the areas of analysis, and the design and management of the resources, facilities and people involved in modern manufacturing.

2920: Mechanical Engineering Technology
Accredited by the Engineering Technology Accreditation Commission of ABET (http://www.abet.org).

This program prepares individuals to work as technicians in developing, designing, manufacturing, testing, and servicing mechanical equipment and systems.

2980: Land Surveying
Formerly known as Surveying Engineering Technology and accredited by the Applied Natural Science Technology Accreditation Commission of ABET (http://www.abet.org).

The Associate of Applied Science in Land Surveying degree program is designed to prepare students for employment as a surveying and mapping technician, working under the direct supervision of a registered professional surveyor. The program provides a foundation in mathematics, natural science, and communication skills, as well as the surveying skills necessary to become a Certified Surveying Technician (CST) under the National Society of Professional Surveyors (NSPS) testing program. Upon completion of the AAS in Land Surveying, a student may proceed to the Surveying and Mapping Bachelor of Science degree.

2990: Construction Engineering Technology
Accredited by the Engineering Technology Accreditation Commission of ABET (http://www.abet.org).

Students in the AAS CET program are prepared to work in the field of construction engineering technology using knowledge of construction methods, business operations, and management skills to support construction projects. They work on residential and commercial buildings, bridges, roads, dams, wastewater treatment systems, or other similar projects. Common jobs assumed by graduates of this program include but are not limited to engineering technician, construction coordinator, cost estimator, scheduler, field engineer, and assistant project engineer.

Disaster Science and Emergency Services

2230: Fire Protection Technology
This program prepares persons to serve governmental, industrial, and other fire protection agencies in fire fighting and prevention, property protection, and handling emergency situations.

2240: Emergency Medical Services Technology
This program is for Certified National Registry Emergency Medical Technician-Paramedics seeking to better understand social values and to develop technical knowledge and skills.