AAS DEGREE – CODE #1602

BS DEGREE - CODE #1357

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The computer engineering technology program will provide you with the cutting-edge industry knowledge and hands-on skills necessary to secure a career as an applied engineer capable of installing, designing, supporting, and maintaining computer systems and networks. This is an active, technically oriented program with a focus on computer system hardware and network infrastructure, as well as software development and operating systems. We've designed these degrees to prepare you for professional examinations leading to certifications such as the CompTIA A+ and Network +, Microsoft Certified System Administrator (MCSA), Microsoft Certified System Engineer (MCSE), and Cisco Certified Network Associate (CCNA).

ADVANTAGES

- Both AAS and BS programs are accredited by the Engineering Technology Accreditation Commission of ABET, http://www.abet.org.
- In the first year of the program, students gain a foundation of knowledge in digital and electronic circuits followed by the development of skills in computer hardware, operating systems, and networking.

DIRECT ENTRY INTO BACCALAUREATE DEGREE PROGRAMS

Alfred State computer engineering technology AAS graduates may enter directly into either the computer engineering technology BS, the interdisciplinary studies BTech, or technology management BBA degree program.

CONTINUING EDUCATION OPPORTUNITIES

Graduates from the AAS computer engineering technology program are eligible to continue their education by enrolling in a baccalaureate program in computer engineering technology at Alfred State or elsewhere. Our computer engineering technology AAS two-year degree program is the same as the first two years of the computer engineering technology BS four-year program.

OCCUPATIONAL OPPORTUNITIES

- Computer network technician/technologist (2/4 years)
- Software/web programmer and developer (4 years)
- Electrical or electronics technician/technologist (2/4 years)
- Communication Technologist (4 years)
- Network administrator (4 years)
- Cyber security technologist (4 years)
- Embedded systems and robotics technician/technologist (2/4 years)

EMPLOYMENT STATISTICS

Employment and continuing education rate:

Computer engineering technology (AAS degree): 100 percent are employed.

Computer engineering technology (BS degree): 80 percent are employed.

RELATED PROGRAMS

Computer Information Systems
Computer Science
Cyber Security

Electrical Engineering Technology
Information Technology: Network Administration

CERTIFICATION OR LICENSURE

The Bachelor of Science in computer engineering technology is recognized as a "professional degree" that qualifies for experience/education credit toward Professional Engineering (PE) licensure. Graduates from Alfred State's program are allowed six years of the required 12 years of education/experience credit, and are eligible to take the Fundamentals of Engineering (FE), formerly called Engineer-in-Training (EIT), examination upon graduation.

ENTRANCE REQUIREMENTS/RECOMMENDATIONS (AAS)

Required: Algebra, Geometry, Algebra 2

Recommended: Physics

ENTRANCE REQUIREMENTS/RECOMMENDATIONS (BS)

Required: Algebra, Geometry, Algebra 2

Recommended: Physics

OFFICE OF ACCESSIBILITY SERVICES

Students who believe they need a reasonable accommodation to properly participate in this program may contact Melanie Ryan in the Office of Accessibility Services. This office may be contacted by email at oas@alfredstate.edu or by phone at 607-587-4506. Please keep in mind that some accommodations may take time to implement, so students seeking accommodations are encouraged to contact OAS as early as possible.

GRADUATION REQUIREMENTS - AAS DEGREE

- 62 semester credit hours in program as listed above
- 25 semester credit hours of liberal arts and sciences
- Four of 10 General Education areas
- 2.0 or above cumulative grade point average
- 2.0 or above grade point average in major courses (ELET, CISY)
- Approval of department faculty.

GRADUATION REQUIREMENTS - BS DEGREE

- 126 semester credit hours in eight-semester program
- 60 semester credit hours of liberal arts and sciences
- Seven of 10 General Education areas
- Minimum 45 upper-division credit hours
- Minimum 24 hours upper division in major
- Minimum of 30 hours upper division in residence
- 2.0 or above cumulative grade point average
- 2.0 or above grade point average in major courses (BSET, CISY, ELET)
- Approval of department faculty

REQUIRED EQUIPMENT

A tier 2 laptop computer is required for students in the computer engineering technology programs. Laptop specifications are available at www.alfredstate.edu/required-laptops. Some courses may require specialized tools and/or electronic components.

COMPUTER ENGINEERING TECHNOLOGY - AAS DEGREE

TYPICAL FOUR-SEMESTER PROGRAM

First

CISY	1113	Computer Programming I	3
ELET	1202	Intro to Electrical Eng Tech	2
ELET	1133	Digital Logic	3
ELET	1111	Digital Logic Laboratory	1
COMP	1503	Freshman Composition	3
MATH	1033	College Algebra	3
			15

Second

CISY	2143	Microcomputer Systems I	3
ELET	1142	Electronic Fabrication	2
ELET	1103	Circuit Theory I	3
ELET	1151	Circuit Theory Laboratory	1
MATH	2043	College Trigonometry	3
GLST	2113	Global Perspectives:Spcl Topic	3
			15

Third

CISY	5123	Scientific Programming	3
ELET	2103	Electronics Theory I	3
ELET	2151	Electronics Laboratory I	1
ELET	2143	Embedded Controller Fundmtls	3
CISY	4033	Networking I	3
PHYS	1024	General Physics I	4
			17

Fourth

SPCH	1083	Effective Speaking (For AAS Degree) OR	3
SPCH	xxx3	Effective Speaking Equivalent (For AAS Degree)	3
CISY	4053	Linux/Unix Admin and Scripting	3
MATH	1063	Technical Calculus I	3
PHYS	2023	General Physics II	3
LITR	xxx3	Literature Elective (For BS Degree)	3
CISY or ELET	xxx3	Technical Elective	3
			15

If not required to take MATH 1033 and MATH 2043, take LAS elective to complete degree requirements of 3 credits; otherwise take free elective.

COMPUTER ENGINEERING TECHNOLOGY - BS DEGREE

TYPICAL FIVE- THROUGH EIGHT-SEMESTER PROGRAM

Fifth

ELET	5113	Electronic Communications	3
COMP	5703	Technical Writing II	3
MATH	2074	Technical Calculus II	4
SPCH	1083	Effective Speaking OR	3
SPCH	xxx3	Effective Speaking Equivalent	3
XXXX	xxx3	Major Elective	3
			16

Sixth

ELET	7404	Embedded & Real Time Systems	4
MATH	xxx4	Other approved Math Elective - Upper	4
XXXX	xxx3	Other approved Major Elective - Upper	3
XXXX	xxx3	Other approved Major Elective - Upper	3
XXXX	xxx3	Major Elective	3
			17

Seventh

BSET	7001	Senior Seminar & Project Des	1
MATH	7113	Economic Analy for Engr Tech	3
MATH	7123	Statistics for Engr Tech & Sci	3
PHYS	8013	Modern Physics	3
CHEM	5013	Applied Chemical Principles	3
XXXX	xxx3	Other approved Major Elective - Upper	3
			16

Eighth

BSET	8003	Senior Technical Project	3
XXXX	xxx3	Other approved Major Elective - Upper	3
XXXX	xxx3	General Education Elective	3
XXXX	xxx3	General Education Elective	3
XXXX	xxx3	Other approved Major Elective - Upper	3
			15

Be advised that a prior felony conviction may impede a student's ability to receive licensure.