



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

- The BS programs is accredited by the Engineering Technology Accreditation Commission(s) of ABET, <http://www.abet.org>, under the General Criteria and the Computer Engineering Technology and Similarly Named Program Criteria.
- 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.

Occupational Opportunities

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

EMPLOYMENT STATISTICS

Employment and continuing education rate:

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

RELATED PROGRAMS

- [Computer Information Systems](#)
- [Computer Science](#)
- [Cyber Security](#)
- [Electrical Engineering Technology](#)
- [Information Technology: Network Administration](#)

ENROLLMENT AND GRADUATION DATA

BS Degree	Enrollment (based on Fall census)
2023	29
2022	27
2021	36
Degrees Awarded	
2022-2023	3
2021-2022	5
2020-2021	4

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 (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.

TECHNICAL STANDARDS

It is essential that students are able to fully participate, with or without a reasonable accommodation, in engineering technology lab and test procedures. Engineering technology students should be able to:

- Maintain ethical standards as defined by professional societies such as ASME and IEEE (non-exhaustive list)
- Appropriately use hand and power tools.
- Appropriately use test, analysis, and measurement equipment
- Maintain professional integrity in the classroom and laboratory setting
- Communicate effectively, orally and written
- Perform experiments safely in a laboratory environment
- Visually decipher lab equipment digital or analogue displays
- Understand and retain information found in equipment manuals, data sheets, and lab instructions
- Comprehend written and oral directions; act on those directions safely
- Visually identify and select hardware components
- Visually distinguish computer software user interface elements
- Interpret software outputs to analyze data
- Have sufficient dexterity to finely adjust equipment settings
- Interpret complex data tables and graphs

REQUIRED EQUIPMENT

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

COMPUTER ENGINEERING TECHNOLOGY - BS DEGREE

TYPICAL EIGHT-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	Writing Studies	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 & Diverse Perspectives	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 OR	3
SPCH	xxx3	Effective Speaking Equivalent	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	3
			15
Fifth			
ELET	5113	Electronic Communications	3
COMP	5703	Technical Writing II	3
MATH	2074	Technical Calculus II	4
XXXX	xxx3	ELET or CISY Technical Elective	3
XXXX	xxx3	Major Elective	3
			16
Sixth			
ELET	7404	Embedded & Real Time Systems	4
MATH	xxx4	Math Elective - Upper	4
XXXX	xxx3	Major Elective - Upper	3
XXXX	xxx3	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	Major Elective - Upper	3
			16
Eighth			
BSET	8003	Senior Technical Project	3
XXXX	xxx3	Elective - Upper	3
XXXX	xxx3	General Education Elective	3
XXXX	xxx3	General Education Elective	3
XXXX	xxx3	Major Elective - Upper	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.

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

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