



**AAS DEGREE – CODE #1602**

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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 AAS program 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.

**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 continued their education.

**RELATED PROGRAMS**

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

**Information Technology: Network Administration**

**ENROLLMENT AND GRADUATION DATA**

AAS Degree	Enrollment (based on Fall census)
2022	7
2021	6
2020	6
	Degrees Awarded
2021-2022	0
2020-2021	0
2019-2020	3

**ENTRANCE REQUIREMENTS/RECOMMENDATIONS (AAS)**

Required: Algebra, Geometry, Algebra 2

Recommended: Physics

**REQUIRED COURSE PREREQUISITES**

If students do not place into MATH 1033 College Algebra, MATH 1084 Calculus I, MATH 1323 Quantitative Reasoning, 1034 College Algebra of Functions, 1054 Precalculus, or 2124 Statistical Methods & Analysis, then MATH 1014 Algebra Concepts is a required prerequisite for completion of the major.

If students do not place into PHYS 1024 General Physics I or PHYS 1044 College Physics I, then PHYS 1014 Introductory Physics is a required prerequisite for completion of this major.

**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](mailto: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](http://www.alfredstate.edu/required-laptops). Some courses may require specialized tools and/or electronic components.

**COMPUTER ENGINEERING TECHNOLOGY - AAS DEGREE**

## TYPICAL FOUR-SEMESTER PROGRAM

<b>First</b>			
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

<b>Second</b>			
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

<b>Third</b>			
CISY	5123	Scientific Programming	3
ELET	2103	Electronics Theory I	3
ELET	2151	Electronics Laboratory I	1
ELET	2143	Embedded Controller Fundmntls	3
CISY	4033	Networking I	3
PHYS	1024	General Physics I	4
			17

<b>Fourth</b>			
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
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 EIGHT-SEMESTER PROGRAM

<b>First</b>			
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

<b>Second</b>			
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

<b>Third</b>			
CISY	5123	Scientific Programming	3
ELET	2103	Electronics Theory I	3
ELET	2151	Electronics Laboratory I	1
ELET	2143	Embedded Controller Fundmntls	3
CISY	4033	Networking I	3
PHYS	1024	General Physics I	4
			17

<b>Fourth</b>			
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

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 - 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