



**AAS DEGREE – CODE #2729**

**BS DEGREE - CODE #2882**

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Mechatronics interweaves electrical, mechanical, and computer engineering technology with applications in automated industrial processes and robotics. Mechatronics professionals are the technicians and engineers who design and maintain automated equipment. Technicians and engineers conduct their work in laboratories, offices or on-site at manufacturing plants. These professionals work toward the same goal of producing safe and efficient automated equipment. While technicians primarily maintain machinery, engineers are more concerned with the design and development of components and products. A mechatronics technology graduate will design, adapt, and troubleshoot electro-mechanical systems that are controlled by programmable digital devices.

**ADVANTAGES**

- Combines strength in electrical and mechanical engineering technology.
- Broad background to fit many possibilities and small employers.
- Learn in laboratories outfitted with excellent electronic test equipment.
- Hands-on metal and circuit board fabrication facilities.
- Program different devices to perform electromechanical tasks.

**DIRECT ENTRY INTO BACCALAUREATE DEGREE PROGRAM**

Alfred State mechatronics technology AAS graduates may enter directly into the construction supervision BTech, the interdisciplinary studies BTech, the mechatronics technology BS, or technology management BBA degree program.

**OCCUPATIONAL OPPORTUNITIES**

- Robotics Testing Technician
- Mechatronics Technician
- Industrial Robotics Mechanic
- Programmable Logic Controller Assembler
- Electromechanical Technician

Employment and continuing education rate of 100 percent:

Mechatronics technology (AAS degree): 100 percent – 100 percent continued their education.

Mechatronics technology (BS degree): 100 percent – 97 percent are employed; 3 percent continued their education.

**RELATED PROGRAMS**

- [Computer Engineering Technology](#)
- [Electrical Engineering Technology](#)
- [Mechanical Engineering Technology](#)

**ENTRANCE REQUIREMENTS/RECOMMENDATIONS (AAS)**

Applicants for the mechatronics technology program must possess a recognized high school diploma or its equivalent. Specific high school course requirements and recommendations are:

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](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.

**REQUIRED EQUIPMENT**

A tier 3 laptop computer is required for students entering the mechatronics technology programs. 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.

**MECHATRONICS TECHNOLOGY - AAS DEGREE**

**TYPICAL FOUR-SEMESTER PROGRAM**

<b>First</b>			
ELET	1133	Digital Logic	3
ELET	1111	Digital Logic Laboratory	1
COMP	1503	Freshman Composition	3
MATH	1033	College Algebra	3
MECH	1603	Graphics/CAD	3
ELET	1202	Intro to Electrical Eng Tech	2
ELET	1001	Seminar	1
			16
<b>Second</b>			
ELET	1142	Electronic Fabrication	2
MATH	2043	College Trigonometry	3
PHYS	1024	General Physics I	4
MCET	2423	Circuits Fundamentals	3
MCET	2461	Circuits Fundamentals Lab	1
GLST	2113	Global Perspectives:Spcl Topic	3
			16
<b>Third</b>			
ELET	2103	Electronics Theory I	3
ELET	2151	Electronics Laboratory I	1
MECH	3334	Statics	4
ELET	2143	Embedded Controller Fundmntls	3
MATH	1063	Technical Calculus I	3
XXXX	xxx3	Technical Elective	3
			17
<b>Fourth</b>			
PHYS	2023	General Physics II	3
MATH	2074	Technical Calculus II	4
XXXX	xxx3	Technical Elective	3
SPCH	1083	Effective Speaking OR	3
SPCH	xxx3	Effective Speaking Equivalent	3
			13

If not required to take math due to placement scores, take LAS electives to complete degree requirements of LAS credits.

**ASSOCIATE DEGREE GRADUATION REQUIREMENTS**

- 63 semester credit hours
- Minimum of 20 credit hours of liberal arts and sciences
- Five of 10 SUNY General Education categories

- 2.0 cumulative grade point average and a grade of "C" or better in the core courses
- Approval of department faculty

**MECHATRONICS TECHNOLOGY - BS DEGREE**

**TYPICAL EIGHT-SEMESTER PROGRAM**

<b>First</b>			
ELET	1133	Digital Logic	3
ELET	1111	Digital Logic Laboratory	1
COMP	1503	Freshman Composition	3
MATH	1033	College Algebra	3
GLST	2113	Global Perspectives:Spcl Topic	3
ELET	1202	Intro to Electrical Eng Tech	2
ELET	1001	Seminar	1
			16
<b>Second</b>			
ELET	1142	Electronic Fabrication	2
MATH	2043	College Trigonometry	3
PHYS	1024	General Physics I	4
MCET	2423	Circuits Fundamentals	3
MCET	2461	Circuits Fundamentals Lab	1
MECH	4003	Solid Modeling	3
			16
<b>Third</b>			
ELET	2103	Electronics Theory I	3
ELET	2151	Electronics Laboratory I	1
MECH	3334	Statics	4
ELET	2143	Embedded Controller Fundmntls	3
MATH	1063	Technical Calculus I	3
XXXX	xxx3	Technical Elective	3
			17
<b>Fourth</b>			
PHYS	2023	General Physics II	3
MATH	2074	Technical Calculus II	4
XXXX	xxx3	Technical Elective	3
LITR	xxx3	Literature Elective	3
XXXX	xxx3	General Education/LAS Elective	3
			16

**TYPICAL FIVE-THROUGH-EIGHT-SEMESTER PROGRAM**

<b>Fifth</b>			
CHEM	5013	Applied Chemical Principles	3
MECH	5334	Mechanics of Materials	4
MCET	5004	Instrumentation	4
XXXX	xxx3	Technical Elective (Upper)	3
			14
<b>Sixth</b>			
ELET	6143	Electrical Machine and Control	3
MATH	6114	Differential Equations	4
MATH	7113	Economic Analy for Engr Tech	3
COMP	5703	Technical Writing II	3
XXXX	xxx4	Technical Elective	4
			17
<b>Seventh</b>			
BSET	7001	Senior Seminar & Project Des	1
MECH	7153	Fluid Power Systems Design	3
PHYS	8013	Modern Physics	3
SPCH	1083	Effective Speaking	3
MCET	7143	Process Controls	3
			13
<b>Eighth</b>			
EMET	6004	Feedback Control Systems	4
BSET	8003	Senior Technical Project	3
MATH	7123	Statistics for Engr Tech & Sci	3
MECH	6643	Process Engineering & Manufact	3
XXXX	xxx3	Gen Ed/LAS Elective	3
			16

**BS DEGREE GRADUATION REQUIREMENTS**

- Completion of above courses
- 126 credit hours
- 52 upper-division credit hours
- 60 credit hours of liberal arts and sciences
- 2.0 grade point average in major courses
- 2.0 cumulative grade point average
- Approval of department faculty
- Seven of 10 General Education areas