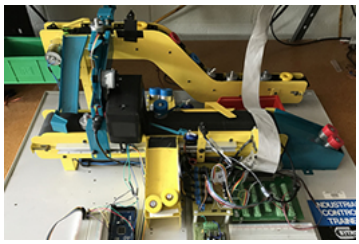

AAS DEGREE – CODE #2729

Harshvadan Panchal, Program Coordinator
Email address: panchah@alfredstate.edu

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.

With an AAS degree in Mechatronics Technology and within 3 – 5 years from graduating, students will be able to do the following working in an engineering or technical industry.

- Work collaboratively to solve complex problems using critical thinking and creative problem-solving methods.
- Gain a reputation as an effective communicator and for ethical responsibility as an individual contributor and as part of a multidisciplinary team.
- Take the initiative to continuously improve by engaging in life-long learning through professional development, continuing education, licensure, and certifications to adapt to a technologically advancing society.
- Support or lead complex problem-solving teams using appropriate techniques, skills, and tools to analyze and interpret data.
- Hold paramount socially responsible and sustainable design.

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.

RELATED PROGRAMS

Computer Engineering Technology
Electrical Engineering Technology
Mechanical Engineering Technology

ENROLLMENT AND GRADUATION DATA

AAS Degree	Enrollment (based on Fall census)
2022	25
2021	22
2020	35
	Degrees Awarded
2021-2022	9
2020-2021	11
2019-2020	10

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

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 3 laptop computer is required for students entering the mechatronics technology program. Laptop specifications are available at www.alfredstate.edu/required-laptops. Some courses may require specialized tools and/or electronic components.

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.

MECHATRONICS TECHNOLOGY - AAS DEGREE

TYPICAL FOUR-SEMESTER PROGRAM

First			
ELET	1133	Digital Logic	3
ELET	1111	Digital Logic Laboratory	1
COMP	1503	Writing Studies	3
MATH	1033	College Algebra	3
GLST	2113	Global & Diverse Perspectives	3
ELET	1202	Intro to Electrical Eng Tech	2
ELET	1001	Seminar	1
			16
Second			
MECH	4003	Solid Modeling	3
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
			16
Third			
ELET	2103	Electronics Theory I	3
ELET	2151	Electronics Laboratory I	1
MECH	3334	Statics	4
ELET	2143	Embedded Controller Fundmtls	3
MATH	1063	Technical Calculus I	3
XXXX	xxx3	Technical Elective	3
			17
Fourth			
PHYS	2023	General Physics II	3
MATH	2074	Technical Calculus II	4
XXXX	xxx3	Technical Elective	3
SPCH	1083	Public Speaking	3
		OR	
SPCH	xxx3	Approved Gen Ed 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

- 62 semester credit hours
- Minimum of 20 credit hours of liberal arts and sciences
- Four 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