

# Mechatronics Engineering Technology - Automation and Electrical Technology Emphasis, A.A.S.

Visit the Technology Management and Mechatronics Department page (<https://www.uvu.edu/tm/>) for more information on the program and access to advising.

## Program Description

The Mechatronics Engineering Technology – Automation and Electrical Technology Emphasis, A.A.S. prepares students to work with electrical and mechanical systems in industrial automation environments. Gains applied experience in system design, troubleshooting, wiring, repairing, and configuring industrial devices and control systems. Coursework emphasizes applied electrical mathematics, industrial wiring, and mechanical drafting while introducing automation topics such as control devices, basic networking, and HMI connectivity. Graduates are prepared for careers as automation technicians, control systems specialists, and industrial maintenance technologists or may continue into UVU's Mechatronics Engineering Technology, B.S.

## Program Requirements

Code	Title	Credit Hours
<b>Total Credit Hours</b>		<b>60</b>
<b>Mechatronics Engineering Technology Requirements</b>		<b>48</b>
		<b>Credits</b>
Complete the requirements		48
<b>Emphasis Requirements</b>		<b>12</b>
		<b>Credits</b>
AET 1050	Electrical Math I	3
AET 1060	Electrical Math II	3
EGDT 1200	Mechanical Drafting and Design	3
AET 2910R	Special Topics in Industrial Systems	3

## Graduation Requirements

1. Completion of 60 or more credit hours.
2. Overall grade point average of 2.0 (C) or above, with no core course below a C-.
3. Residency hours: minimum of 20 credit hours through course attendance at UVU.
4. Completion of GE and specified departmental requirements.

## Graduation Plan

This graduation plan is a sample plan and is intended to be a guide. Your specific plan may differ based on your Math and English placement and/or transfer credits applied. You are encouraged to meet with an advisor and set up an individualized graduation plan in Wolverine Track (<http://www.uvu.edu/wolverinetrack/>).

### First Year

Semester 1		Credit Hours
ENGL 1010 or ENGL 1005	Introduction to Academic Writing or Foundations of Academic Writing	3
AET 1050	Electrical Math I	3
MECH 1010	Fundamentals of Mechatronics	3
MECH 1200	Electronics in Automation Design	3
MECH 1205	Electronics in Automation Design Laboratory	2
<b>Credit Hours</b>		<b>14</b>
Semester 2		
AET 1060	Electrical Math II	3
MECH 1300	Industrial Wiring for Mechatronic Systems	1
MECH 1305	Industrial Wiring for Mechatronic Systems Laboratory	2
MECH 2200	Semiconductors in Mechatronic Systems	3

MECH 2205	Semiconductors in Mechatronic Systems Lab	1
MECH 2300	Microcontroller Architecture and Programming	3
MECH 2305	Microcontroller Architecture and Programming Lab	2
<b>Credit Hours</b>		<b>15</b>
<b>Second Year</b>		
<b>Semester 3</b>		
Humanities Distribution (ENGL 2100 Recommended)		3
MECH 2500	Introduction to PLCs in Mechatronic Design	2
MECH 2505	Introduction to PLCs in Mechatronic Design Laboratory	2
MECH 2510	Fundamentals of Automation Controls	2
MECH 2515	Fundamentals of Automation Controls Laboratory	1
EGDT 1071	3 Dimensional Modeling--Solidworks	3
Elective		2
<b>Credit Hours</b>		<b>15</b>
<b>Semester 4</b>		
Physical Science Distribution (PHYS 1010 Recommended)		3
MECH 2550	Advanced PLC Programming and Applications	2
MECH 2555	Advanced PLC Programming and Applications Laboratory	2
MECH 2600	Introduction to Fluid Power Systems	2
MECH 2605	Introduction to Fluid Power Systems Laboratory	1
AET 2910R	Special Topics in Industrial Systems	3
EGDT 1200	Mechanical Drafting and Design	3
<b>Credit Hours</b>		<b>16</b>
<b>Total Credit Hours</b>		<b>60</b>

## Program Learning Outcomes

1. Apply knowledge, techniques, skills and modern tools of mathematics, science, engineering, and technology to solve well-defined engineering problems appropriate to automation systems.
2. Design solutions for well-defined technical problems and assist with the engineering design of systems, components, or processes appropriate to automation systems.
3. Apply written, oral, and graphical communication in well-defined technical and non-technical environments.
4. Identify and use appropriate technical literature to solve problems, integrate, and troubleshoot electrical automation systems.
5. Conduct standard tests, measurements, and experiments and analyze and interpret the results.
6. Function effectively as a member of a technical team.

## Electrical and electronic engineering technologists and technicians

- Total Positions 99,600
- Field Growth 3.0%
- Median Salary \$72,800
- Average Openings 9.5

## Electro-mechanical and mechatronics technologists and technicians

- Total Positions 15,800
- Field Growth -1.2%
- Median Salary \$65,080
- Average Openings 1.3