Mechatronics Engineering Technology - Mechatronics 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 – Mechatronics Emphasis, A.A.S. prepares students to work with integrated electrical, mechanical, computer, and control systems for industrial automation, robotics, and intelligent manufacturing. Gains applied experience in PLCs, robotics programming, motor control, industrial networking, sensors, and microcontrollers while developing skills in system design, troubleshooting, and maintenance. Emphasizes system integration, industrial safety, and Industrial Internet of Things (IIoT) connectivity. Graduates are prepared for careers such as mechatronics technologists, robotics technicians, and PLC programmers or may continue into UVU's Mechatronics Engineering Technology, B.S.

Program Requirements

Code	Title	Credit Hours
Total Credit Hours		**60**
Mechatronics Engineering Technology Requirements		**48 Credits**
Complete the requirments		48
Emphasis Requirements		**12 Credits**
MATH 1050	College Algebra	4
or MATH 1055	College Algebra with Preliminaries	
MECH 2400	Mechanical Components	4
MECH 2700	Industrial Motor Control Mechatronic Systems	2
MECH 2705	Industrial Motor Control Mechatronic Systems Laboratory	2

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	Introduction to Academic Writing	3
or ENGL 1005	or Foundations of Academic Writing	
MATH 1050	College Algebra	4
or MATH 1055	or College Algebra with Preliminaries	
MECH 1010	Fundamentals of Mechatronics	3
MECH 1200	Electronics in Automation Design	3
MECH 1205	Electronics in Automation Design Laboratory	2
	Credit Hours	**15**
Semester 2		
EGDT 1071	3 Dimensional Modeling--Solidworks	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
	Credit Hours	**15**
Second Year		
Semester 3		
Humanities Distribution (ENGL 2100 Recommended)		3
MECH 2400	Mechanical Components	4
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
Elective		2
	Credit Hours	**16**
Semester 4		
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
MECH 2700	Industrial Motor Control Mechatronic Systems	2
MECH 2705	Industrial Motor Control Mechatronic Systems Laboratory	2
	Credit Hours	**14**
	Total Credit Hours	**60**

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 Mechatronics Systems.
2. Design solutions for well-defined technical problems and assist with the engineering design of systems, components, or processes appropriate to Mechatronics 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 mechatronics 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