

Mechatronics Engineering Technology, B.S.

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Requirements

The Mechatronics Engineering Technology Degree from Utah Valley University prepares graduates to work in the Utah manufacturing sector as an automation technologist, design technician, PLC programmer, as well as many other aspects of implementing manufacturing systems. Students complete courses in PLC programming and architecture, materials, CAD, electrical and mechanical components, pneumatics, and motor control. Students will also take courses in technical writing, physics, chemistry, and business to round out their professional profile.

Total Program Credits: 121

Matriculation Requirements:			
1. Graduates of the Mechatronics Engineering Technology, Electrical Automation Robotic Technology (E.A.R.T) or Automation and Electrical Technology (A.E.T) A.A.S. degree programs at UVU may automatically matriculate into the Bachelor of Science degree program in Mechatronics Engineering Technology.			
2. E.A.R.T and A.E.T graduates that have not taken college algebra (MATH 1050) should enroll prior to or during their first semester in which they are enrolled in the Mechatronics B.S. program.			
General Education Requirements:			36 Credits
	ENGL 1010	Introduction to Academic Writing	3
or	ENGL 1005	Literacies and Composition Across Context (5.0)	
	ENGL 2010	Intermediate Writing Academic Writing and Research	3
	MATH 1050	College Algebra	4
or	MATH 1055	College Algebra with Preliminaries (5.0)	
	PHIL 205G	Ethics and Values	3
	HLTH 1100	Personal Health and Wellness (2.0)	
or	EXSC 1097	Fitness for Life	2
Complete one of the following:			3
	HIST 1700	American Civilization (3.0)	
	HIST 1740	US Economic History (recommended) (3.0)	
	HIST 2700	US History to 1877 (3.0)	
and	HIST 2710	US History since 1877 (3.0)	
	POLS 1000	American Heritage (3.0)	
	POLS 1100	American National Government (3.0)	
Distribution Courses:			
	Biology	BIOL 1010 Recommended	3
	Physical Science	PHYS 1010 Recommended	3
	Additional Biology or Physical Science		3
	Humanities	ENGL 2310 Recommended	3
	Social Science		3

	Fine Arts		3
Discipline Core Requirements:			79 Credits
	EGDT 1071	3 Dimensional Modeling--Solidworks	3
	MECH 1010	Introduction to Mechatronics	3
	MECH 1200	Electronics in Automation Design	3
	MECH 1205	Electronics in Automation Design Laboratory	2
	MECH 1300	Industrial Wiring for Mechatronic Systems	1
	MECH 1305	Industrial Wiring for Mechatronic Systems Laboratory	2
	MECH 2205	Semiconductors in Mechatronic Systems Lab	1
	MECH 2300	Microcontroller Architecture and Programming	4
	MECH 2305	Microcontroller Architecture and Programming Lab	1
	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
	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
	MECH 3220	Motion Control for Mechatronic Systems	3
	MECH 3225	Motion Control for Mechatronic Systems Laboratory	1
	MECH 3300	Industrial Networks	2
	MECH 3305	Industrial Networks Laboratory	1
	MECH 3400	Statics and Material Properties for Mechatronics	4
	MECH 3405	Statics and Material Properties for Mechatronics Laboratory	1
	MECH 3500	Industrial Robots	2
	MECH 3505	Industrial Robots Laboratory	1
	MECH 3570	Design Analysis and Rapid Prototyping WE	3
	MECH 3700	CNC Machines in Mechatronic Design	2
	MECH 3705	CNC Machines in Mechatronic Design Laboratory	1

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	MECH 4300	Advanced Design in Mechatronic Systems	2
	MECH 4305	Advanced Design in Mechatronic Systems Laboratory	1
	MECH 4400	Polymers/Composites and Processes	3
	MECH 4500	Advanced Automation Controls	3
	MECH 4505	Advanced Automation Controls Laboratory	1
	MECH 4800	Capstone Project WE	3
Elective Requirements:			6 Credits
	MECH 481R	Mechatronics Internship (3)	6
	MECH 490R	Topics in Mechatronics (3)	

Graduation Requirements:

1. Completion of 121 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 30 credit hours through course attendance at UVU.
4. Successful completion of at least one Global/Intercultural course.

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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](#).

Milestone courses (pre-requisites for a course in one of the subsequent semesters) are marked in red and italicized.

<trclass="semester-head">Semester 2Course TitleCredit Hours

Semester 1	Course Title	Credit Hours
MECH 1010	Introduction to Mechatronics	3
MECH 1200	Electronics in Automation Design	3
MECH 1205	Electronics in Automation Design Lab	2
ENGL 1010 or ENGH 1005	Introduction to Writing or Literacies and Composition Across Contexts	3
MATH 1050 OR 1055	College Algebra or College Algebra with Preliminaries	4
	Semester Total	15
Semester 2	Course Title	Credit Hours
EGDT 1071	3 Dimensional Modeling - SolidWorks	3
MECH 1300	Industrial Wiring for Mechatronics Systems	1
MECH 1305	Industrial Wiring for Mechatronics Systems Lab	2
MECH 2200	Semiconductors in Mechatronics Systems	3
MECH 2205	Semiconductors in Mechatronics Systems Lab	1
MECH 2300	Microcontroller Architecture and Programming	4
MECH 2305	Microcontroller Architecture and Programming Lab	1
	Semester Total	15
Semester 3	Course Title	Credit Hours
HLTH 1100 OR EXSC 1097	Personal Health and Wellness or Fitness for Life	2
Social Science	(ECON 1010 Recommended)	3
MECH 2400	Mechanical Components	4
MECH 2500	Introducion to PLC's in Mechatonic Design	2
MECH 2505	Introducion to PLC's in Mechatonic Design Lab	2
MECH 2510	Fundamentals of Automation Controls	2
MECH 2515	Fundamentals of Automation Controls Lab	1
	Semester Total	16
Semester 4	Course Title	Credit Hours
MECH 2550	Advanced PLC Programming and Applications	2
MECH 2555	Advanced PLC Programming and Applications Lab	2
MECH 2600	Introduction to Fluid Power Systems	2

MECH 2605	Introduction to Fluid Power Systems Lab	1
MECH 2700	Industrial Motor Control in Mechatronic Systems	2
MECH 2705	Industrial Motor Control Lab	2
Physical Science	PHYS 1010 Recommended	3
Humanities	ENGL 2310 Recommended	3
	Semester Total	17
Semester 5	Course Title	Credit Hours
ENGL 2010	Intermediate Writing	3
MECH 3220	Motion Control for Mechatronic Systems	3
MECH 3225	Motion Control for Mechatronic Systems Lab	1
MECH 3500	Industrial Robots	2
MECH 3505	Industrial Robots Lba	1
Science	Choose from approved list	3
Fine Arts	Choose from approved list	3
	Semester Total	16
Semester 6	Course Title	Credit Hours
MECH 3300	Industrial Networks	2
MECH 3305	Industrial Networks Lab	1
MECH 3400	Statics and Strength of Materials	4
MECH 3405	Statics and Strength of Materials Lab	1
MECH Elective		3
Biology	BIOL 1010 Recommended	3
	Semester Total	14
Semester 7	Course Title	Credit Hours
MECH 3570	GD&T, Design Analysis, Rapid Prototyping	3
MECH 4300	Advanced Design in Mechatronic Systems	2
MECH 4305	Advanced Design in Mechatronic Systems Lab	1
MECH 3700	CNC Machines in Mechatronics Design	2
MECH 3705	CNC Machines in Mechatronics Design Lab	1
MECH Elective		3
American Institutions	Choose from approved list	3
	Semester Total	15
Semester 8	Course Title	Credit Hours
MECH 4400	Polymiers, Composites, and Processes	3
MECH 4500	Advanced Automation Controls	3
MECH 4505	Advanced Automation Controls Lab	1
MECH 4800	Capstone Project	3
PHIL 205G	Ethics and Values (Global/Intercultural)	3
	Semester total:	13
	Degree Total:	121

