

Mechatronics Engineering Technology, B.S.

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

General Education Requirements:		38 Credits	
	ENGL 1010	Introduction to Writing	3
	ENGL 2020	Intermediate Writing--Science and Technology	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	PES 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
	PHYS 2010	College Physics I (4.0) (fulfills Physical Science distribution)	4
	PHYS 2015	College Physics I Lab (1.0)	1
	CHEM 1010	Introduction to Chemistry (fulfills additional Biology or Physical Science)	3
	ENGL 2310	Technical Communication (fulfills Humanities Distribution)	3
	Fine Arts		3
	ECON 1010	Economics as a Social Science (fulfills Social/Behavioral Science) (3.0)	
or	MGMT 1010	Introduction to Business (fulfills Social/Behavioral Science) (3.0)	3
Discipline Core Requirements:		80 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 1250	Logic Fundamentals for Mechatronic Design	2
	MECH 1255	Logic Fundamentals for Mechatronic Design Laboratory	1
	MECH 2200	Semiconductors Used 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	1
	MECH 2400	Mechanical Components	4
	MECH 2500	Introduction to PLCs in Mechatronic Design	4
	MECH 2510	Automation Systems Sensors	3
	MECH 2550	Advanced PLC Programming and Applications	4
	MECH 2600	Introduction to Pneumatics	3
	MECH 3000	Wiring Diagrams in Automation Systems	3
	MECH 3100	Advanced Technical Math Applied to Automation	2
	MECH 3220	Automation Motors and Controllers	2
	MECH 3225	Automation Motors and Controllers Laboratory	1
	MECH 3300	Industrial Networks	3
	MECH 3400	Statics and Strength of Materials	4
	MECH 3405	Statics and Material Properties for Mechatronics Laboratory	1
	MECH 3500	Industrial Robots	3
	MECH 3570	Design Analysis and Rapid Prototyping	3
	MECH 3700	CNC Machines	3
	MECH 4300	Advanced Pneumatic Design	3
	MECH 4400	Polymers/Composites and Processes	3
	MECH 4500	Advanced Automation Controls	3
	MECH 4800	Capstone Project	3
	TECH 3000	Introduction to Technology Management	3
Elective Requirements:		3 Credits	
	MECH 490R	Topics in Mechatronics	3
or	TECH 3400	Project Management (3.0)	
or	TECH 4000	Reliability Engineering and Safety (3.0)	

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*.

Semester 1	Course Title	Credit Hours
<i>MATH 1050</i>	College Algebra	4
<i>MECH 1010</i>	Introduction to Mechatronics	3
<i>MECH 1200</i>	Electronics in Automation Design	3
<i>MECH 1205</i>	Electronics in Automation Design Lab	2
<i>ENGL 1010</i>	Introduction to Writing	3
	Semester total:	15
Semester 2	Course Title	Credit Hours
MECH 1250	Logic Fundamentals for Mechatronic Design	2
MECH 1255	Logic Fundamentals for Mechatronic Design Lab	1
<i>EGDT 1071</i>	3 Dimensional Modeling--Solidworks	3
MECH 2200	Semiconductors Used in Mechatronic System	3
MECH 2205	Semiconductors Used in Mechatronic System Lab	1
<i>MECH 2300</i>	Microcontroller Architecture and Programming	3
MECH 2305	Microcontroller Architecture and Programming Lab	1
ENGL 2020	Intermediate Writing--Science and Technology	3
	Semester total:	17
Semester 3	Course Title	Credit Hours
<i>MECH 2400</i>	Mechanical Components	4
<i>MECH 2500</i>	Introduction to PLCs in Mechatronic Design	4
MECH 2510	Automation Systems Sensors	3
MGMT 1010 or ECON 1010	Introduction to Business or Economics as Social Sciences	3
HLTH 1100 or PES 1097	Personal Health and Wellness or Fitness for Life	2
	Semester total:	16
Semester 4	Course Title	Credit Hours
<i>MECH 2550</i>	Advanced PLC Programming and Applications	4
<i>MECH 2600</i>	Introduction to Pneumatics	3
<i>PHYS 2010</i>	College Physics I	4
<i>PHYS 2015</i>	College Physics I and Lab	1
ENGL 2310	Technical Communication	3
	Semester total:	15
Semester 5	Course Title	Credit Hours
<i>MECH 3000</i>	Wiring Diagrams in Automation Systems	3
<i>MECH 3220</i>	Automation Motors and Controllers	2
MECH 3225	Automation Motors and Controllers Lab	1

MECH 4100	Technical Math Applied to Automation	2
Fine Arts	ART 1110 Recommended	3
American Institutions	HIST 1740 Recommended	3
	Semester total:	14
Semester 6	Course Title	Credit Hours
MECH 3300	Industrial Networks	3
MECH 3500	Industrial Robots	3
<i>MECH 3400</i>	Statics and Strength of Materials	4
MECH 3405	Statics and Strength of Materials Lab	1
MECH 490R	Topics in Mechatronics	3
	Semester total:	14
Semester 7	Course Title	Credit Hours
<i>MECH 3570</i>	Design Analysis and Rapid Prototyping	3
MECH 3700	CNC Machines	3
<i>MECH 4300</i>	Advanced Pneumatic Design	3
TECH 3000	Introduction to Technology Management	3
CHEM 1010	Introduction to Chemistry	3
	Semester total:	15
Semester 8	Course Title	Credit Hours
MECH 4400	Polymers/Composites, and Processes	3
MECH 4500	Advanced Automation Controls	3
MECH 4800	Capstone Project	3
PHIL 2050	Ethics and Values	3
Biology	BIOL 1010 Recommended	3
	Semester total:	15
	Degree total:	121