

Mechanical Engineering, B.S.

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Requirements

Mechanical engineering, which has evolved over the years as new technologies have emerged, is one of the broadest engineering disciplines. The Bachelor of Science in Mechanical Engineering prepares graduates to apply mathematical and scientific principles to the design, development, testing, and manufacturing of machines, robots, tools, biomedical devices, power generating equipment such as steam and gas turbines, wind turbines, solar systems, internal combustion engines, and heating, cooling, and refrigeration equipment.

Total Program Credits: 126

Matriculation Requirements:		
1.	To be admitted to the BSME program, a student must complete the foundation courses in Mathematics (MATH 1210, 1220, 2210, 2250); Physics (PHYS 2210, 2215, 2220, 2225); Chemistry (CHEM 1210, 1215); English (ENGL 1005 or ENGL 1010, 2010); and Engineering (ENGR 1000, 1030, 2010, 2030, 2140, 2160, 2450) with a minimum grade of C.	
2.	Students need a grade point average of 2.5 or above.	
3.	A student not meeting all of the admission requirements, may request in writing, a provisional admission status for a semester from the department. The provisional admission status must be approved by the mechanical engineering program coordinator.	
General Education Requirements:		39 Credits
	ENGL 1010 Introduction to Academic Writing	3
or	ENGL 1005 Literacies and Composition Across Contexts (5.0)	
	ENGL 2010 Intermediate Writing Academic Writing and Research	3
	MATH 1210 Calculus I	5
Complete one of the following:		3
	HIST 1700 American Civilization (3.0)	
	HIST 1740 US Economic History (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)	
Complete the following:		
	PHIL 2050 Ethics and Values	3
	HLTH 1100 Personal Health and Wellness	2
or	PES 1097 Fitness for Life (2.0)	
Distribution Courses:		
	Biology	3
	Fine Arts	3
	Humanities (COMM 1020 and COMM 1025 Recommended)	3
	Social/Behavioral Science (COMM 2110 Recommended)	3
	PHYS 2210 Physics for Scientists and Engineers I	4
	CHEM 1210 Principles of Chemistry I	4

Discipline Core Requirements:			78 Credits
	CHEM 1215	Principles of Chemistry I Laboratory	1
	ECE 2210	Fundamentals of Electric Circuit Analysis	3
	ENGR 1000	Introduction to Engineering WE	3
	ENGR 1030	Engineering Programming	3
	ENGR 2010	Engineering Statics	3
	ENGR 2030	Engineering Dynamics	3
	ENGR 2140	Mechanics of Materials	3
	ENGR 2160	Introduction to Materials Science and Engineering	3
	ENGR 2300	Engineering Thermodynamics	3
	ENGR 2450	Computational Methods for Engineering Analysis	3
	MATH 1220	Calculus II	5
	MATH 2210	Calculus III	3
	MATH 2250	Differential Equations and Linear Algebra	4
	ME 3010	Linear Systems	3
	ME 3140	Machine Design	3
	ME 3210	Manufacturing Processes for Engineers	3
	ME 3310	Fluid Mechanics	3
	ME 3320	Heat Transfer	3
	ME 3335	Thermal/Fluid Experimentation WE	2
	ME 4010	Automatic Controls	3
	ME 4015	Control and Vibration Experimentation	2
	ME 4410	Computer Aided Engineering	3
	ME 4510	Mechanical Engineering Seminar	1
	ME 4810	Mechanical Engineering Capstone I	3
	ME 4820	Mechanical Engineering Capstone II	3
	PHYS 2215	Physics for Scientists and Engineers I Lab	1
	PHYS 2220	Physics for Scientists and Engineers II	4
	PHYS 2225	Physics for Scientists and Engineers II Lab	1
Elective Requirements:			9 Credits
Choose 9 credits from the following. One course may be taken from Technical Elective list. At least six credit-hours must be at 4000 level.			9
ME Elective Courses			
	ME 3130	Kinematics (3)	
	ME 3160	Intermediate Materials (3)	
	ME 3170	Introduction to Plastics and Composites (3)	
	ME 3300	Applied Thermodynamics (3)	
	ME 4180	Compliant Mechanisms (3)	
	ME 4380	Design of Thermal/Fluid Systems (3)	
	ME 4390	Heating Ventilating and Air Conditioning Design (3)	

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	ME 4420	Finite Element Methods (3)	
	ME 4550	Global Engineering (3)	
	ME 490R	Advanced Current Topics in Mechanical Engineering (1)	
Technical Elective Courses			
	ECE 3710	Applied Probability and Statistics for Engineers and Scientists (3)	
	TECH 3400	Project Management WE (3)	
	TECH 3850	Quality Management in Technology (3)	
Students may also take upper level computer, electrical, and mechanical engineering classes as technical electives in consultation with their faculty advisors and approval of the department offering the courses.			

Graduation Requirements:

1. Completion of a minimum of 126 semester credits, with a minimum of 40 mechanical engineering upper-division credits.
2. Overall grade point average of 2.5 or above, with a minimum grade of C in all discipline core and elective requirements.
3. Residency hours - minimum of 30 credit hours through course attendance at UVU. Ten of these hours must be within the last 45 hours earned. At least 12 of the credit hours earned in residence must be in approved ME courses.
4. All transfer credits must be approved in writing by UVU and the mechanical engineering program coordinator.
5. No more than 80 semester hours and no more than 20 hours in ME courses of transfer credit.
6. No more than 6 semester hours may be earned through independent study.
7. Successful completion of at least one Global/Intercultural course.

Mechanical Engineering, B.S.**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 1210</i>	Calculus I (May require pre-requisites)	5
<i>CHEM 1210</i>	Principles of Chemistry I	4
CHEM 1215	Principles of Chemistry I Laboratory	1
<i>ENGL 1010 or ENGH 1005</i>	Introduction to Academic Writing or Literacies and Composition Across Contexts	3
ENGR 1000	Introduction to Engineering WE	3
	Semester total:	16
Semester 2	Course Title	Credit Hours
<i>MATH 1220</i>	Calculus II	5
<i>PHYS 2210</i>	Physics for Scientists and Engineers	4
PHYS 2215	Physics for Scientists and Engineers Lab	1
ENGL 2010	Intermediate Writing/Academic Writing and Research	3
ENGR 1030	Engineering Programming	3
	Semester total:	16
Semester 3	Course Title	Credit Hours
MATH 2250	Differential Equations and Linear Algebra	4
PHYS 2220	Physics for Scientists and Engineers II	4
PHYS 2225	Physics for Scientists and Engineers II Lab	1
<i>ENGR 2010</i>	Engineering Statics	3
<i>ENGR 2160</i>	Introduction to Materials Science and Engineering	3
HLTH 1100 or PES 1097	Personal Health and Wellness or Fitness for Life	2
	Semester total:	17
Semester 4	Course Title	Credit Hours
MATH 2210	Calculus III	3
<i>ENGR 2030</i>	Engineering Dynamics	3
<i>ENGR 2140</i>	Mechanics of Materials	3
ECE 2210	Fundamentals of Electric Circuit Analysis	3
ENGR 2450	Computational Methods for Engineering Analysis	3
	Semester total:	15
Semester 5	Course Title	Credit Hours
<i>ENGR 2300</i>	Engineering Thermodynamics	3

<i>ME 3010</i>	Linear Systems	3
<i>ME 3140</i>	Machine Design	3
<i>ME 3310</i>	Fluid Mechanics	3
Biology	Choose from GE approved Biology	3
	Semester total:	15
Semester 6	Course Title	Credit Hours
ME 3210	Manufacturing Processes for Engineers	3
<i>ME 3320</i>	Heat Transfer	3
ME 3335	Thermal/Fluid Experimentation WE	2
ME xxxx	ME Elective	3
COMM 1020 and COMM 1025	Public Speaking and Public Speaking Lab	3
	Semester total:	14
Semester 7	Course Title	Credit Hours
<i>ME 4010</i>	Automatic Controls	3
ME 4410	Computer Aided Engineering	3
ME 4510	Mechanical Engineering Seminar	1
<i>ME 4810</i>	Mechanical Engineering Capstone I	3
	Technical Elective/ME Elective	3
Fine Arts	Choose from the GE approved Fine Arts Electives	3
	Semester total:	16
Semester 8	Course Title	Credit Hours
ME 4015	Control and Vibration Experimentation	2
ME 4820	Mechanical Engineering Capstone II	3
COMM 2110	Interpersonal Communications	3
ME xxxx	4000 level Elective	3
American Institution	Choose from GE approved from History or Political Science app	3
PHIL 2050	Ethics and Values	3
	Semester total:	17
	Degree total:	126