



Below is the natural sequence of Mechanical Engineering program courses designed for students to register per semester. Other degree requirements and comprehensive details are to be found in the AUIS Academic Catalog.

Course Code and Description	Credits	Prerequisite(s)	
<b>1st Semester</b>			
ENGR 230 - Engineering Drawing (Major)	3	None	
CHEM 232 + CHEML 232 - Chemistry I + Chemistry Lab I (Core)	4	None	
MTH 232 - Calculus I (Core)	3	None	
ENG 101 - Argument (Core)	3	None	
CIV 101 - The Ancient World History (Core)	3	None	
<b>Total Credits</b>	<b>16</b>		
<b>2nd Semester</b>			
ENGR 231 - Fabrication Shop (Team-based Problem Solving) (Major)	3	ENGR 230	
PHYS 232 + PHYSYL 232 - Calculus Based Physics I + Calculus Based Physics Lab I (Core)	4	MTH 232	
MTH 233 - Calculus II (Core)	3	MTH 232	
MTH 340 - Linear Algebra (Core)	3	MTH 232	
ENG 102 - Critical Reading (Core)	3	ENG 101	
<b>Total Credits</b>	<b>16</b>		
<b>3rd Semester</b>			
ENGR 344 - Mechanics I (Major)	3	PHYS 232 + PHYSYL 232	
MTH 331 - Calculus III (Core)	3	MTH 233	
PHYS 233 + PHYSYL 233 - Calculus Based Physics II + Calculus Based Physics Lab II (Core)	4	PHYS 232 + PHYSYL 232	
ENGR 244 - Engineering Computing and Numerical Analysis (Major)	3	MTH 340	
ENG 203 - Research & Project - Writing (Core)	3	ENG 102	
<b>Total Credits</b>	<b>16</b>		
<b>4th Semester</b>			
ENGR 358 + 358L - Mechanics of Materials (Major) + Mechanics of Mater	4	ENGR 344	
ENGR 352 - Thermodynamics (Major)	3	PHYS 232 + PHYSYL 232	
MTH 332 - Differential Equations (Core)	3	MTH 331	
ENGR 390 - Circuits (Major)	3	PHYS 233 + PHYSYL 233	
ENGR 313 - Measurements Laboratory (Major)	3	PHYS 233 + PHYSYL 233	
<b>Total Credits</b>	<b>16</b>		
<b>5th Semester</b>			
ENGR 354 - Materials Science (Major)	3	ENGR 231	
ENGR 356 + ENGR 356L - Fluid Mechanics (Major) + Fluids Laboratory	4	ENGR 344	
ENGR 413 - Manufacturing Processes (Major)	3	ENGR 231	
ENGR 453 - Applications of Thermodynamics (Major)	3	ENGR 352	
Core Elective: Humanities, Social Science (Core)	3	See Course Description	
<b>Total Credits</b>	<b>16</b>		
<b>6th Semester</b>			
CIV 203 - Civilization III: The Ancient World (Humanities) (Core)	3	CIV 101	
ENGR 432 - Component Design (Major)	3	ENGR 358	
ENGR 348 - Mechanics II, Dynamics (Major)	3	ENGR 344 + Corequisite: MTH 332	
ENGR 452 - Transport Phenomena (Major)	3	MTH 332	
STT 342 - Engineering Statistics (Major)	3	ENGR 244	
<b>Total Credits</b>	<b>15</b>		
<b>7th Semester</b>			
ENGR 480 - Engineering Vibration (Major)	3	ENGR 348	
ENGR 484 - Engineering Laboratory (Major)	3	ENGR 313	
ENGR 461 - System Dynamics and Control (Major)	3	ENGR 390 + MTH 332	
ENGR 444 - Engineering Project Management (Major)	3	ENGR 231	
ENGR 491 - Design I (Major)	3	ENG 203 + 75 Credit Hours	
<b>Total Credits</b>	<b>15</b>		
<b>8th Semester</b>			
Engineering Elective	3	See Course Description	
Engineering Elective	3	See Course Description	
ENGR 433 - Machine Design (Major)	3	ENGR 358	
ENGR 483 - Mechatronics (Major)	3	ENGR 390	
ENGR 492 - Design II (Major)	3	ENGR 491	
<b>Total Credits</b>	<b>15</b>		
<b>9th Semester</b>			
Engineering Elective	3	Senior Standing	
<b>Summer/Winter</b>			
ENGR 490 - Engineering Internship (Major)	1	Senior Standing (to be taken alone)	
<b>Program Total Credits</b>	<b>129</b>		
<b>Program Credits</b>			
Core	45 Credits (14 Courses)		
Major	75 Credits (25 Courses)		
Engineering Electives	9 Credits (3 Courses)		
<b>Total</b>	<b>129 Credits (42 Courses)</b>		
<b>General Tips and Recommendations</b>			
Engineering electives are 200+ engineering courses.			
<b>Varied Degree Paths:</b>			
Student degree paths may vary slightly from this form. If academic record differs from the courses listed in this form, please contact the Registration and Records Office during the advising week for clarification. Independent study, transfer credits or other unique circumstances are typically accounted for in the elective category.			