

B.S. in Mechanical Engineering

Mechanical Engineering

Mechanical Engineering is a broad and versatile field. Concerned with the principles of force, energy and motion, mechanical engineers use their knowledge of design, manufacturing and operational processes to advance the world around us.

Mechanical engineers enhance our safety, safeguard our economic vitality, and foster enjoyment for all mankind.

Virtually every aspect of life is affected by mechanical engineering. Mechanical engineers are involved in designing and manufacturing items such as athletic equipment, medical devices, power plants, computers, automobiles and engines, aircraft and space shuttles.

Code	Title	Semester Hours
St. Mary's University Core ¹		
SMC 1301	Foundations of Civilization	3
SMC 1311	Foundations of Reflection:Self	3
SMC 1312	Foundations of Reflection: Nature	3
SMC 1313	Foundations of Reflection: Others	3
SMC 1314	Foundations of Reflection: God	3
SMC 2301	Foundations of Practice: Ethics	3
SMC 2302	Foundations of Practice: Civic Engagement and Social Action	3
SMC 2303	Foundations of Practice:Fine Arts and Creative Process	3
SMC 2304	Foundations of Practice: Literature	3
EG 4363	Senior Design Project II ²	3
School of Science, Engineering, and Technology Specific Core		
Foreign Languages		
Computer, Electrical, Industrial and Mechanical Engineering majors are exempt from the foreign language requirement.		
Rhetoric & Composition ³		3
EN 1311	Rhetoric and Composition	
Fine Arts		3
EG 1301	Engineering Graphics and Design	
Social Science		3
EG 3334	Engineering Economy	
Speech		3
EG 4362	Senior Design Project I	
Theology		3
Select one of the following:		
Advanced Theology TH 33XX/43XX		
HU 3300	Perspectives and Themes in History, Philosophy and/or Theology	
B.S. Mechanical Engineering Major Courses ⁴		
CH 1401	General Chemistry I	4
CH 1402	General Chemistry II	4
EG 1101	Introduction to Engineering	1
EG 1302	Programming for Engineers	3
EG 2306	Materials Science	3
EG 2307	Engineering Mechanics	3
EG 2308	Strength of Materials	3
EG 2309	Fluid Mechanics	3
EG 2385	Dynamics	3
EG 2386	Engineering Thermodynamics I	3
EG 3145	Circuits and Systems Lab	1
EG 3345	Circuits and Systems	3
EG 3380	Mechanical Design I	3

EG 3381	Numerical Methods	3
EG 3382	Heat Transfer	3
EG 3383	Experimental Methods	3
EG 4331	Manufacturing Processes	3
MT 2412	Calculus I	4
MT 2413	Calculus II	4
MT 3311	Differential Equations	3
MT 3312	Advanced Math for Engineers I	3
MT 4332	Statistics	3
PY 1404	University Physics I	4
PY 2404	University Physics II	4
System Realization Elective (Meeting with Advisor to Schedule Courses)		3
EG 3384	Aerospace and Wind Power Structures	
or EG 3387	Power Systems	
Technical Elective (Meeting with Advisor to Schedule Courses)		6
Select two of the following:		
EG 2141	Logic Design Laboratory	
EG 2310	Human Computer Interaction	
EG 2325	Industrial Automation and Control	
EG 2341	Fundamentals of Logic Design	
EG 3316	Human Factors	
EG 3333	Lean Production Systems	
EG 3335	Optimization	
EG 3363	Microprocessors I	
EG 3384	Aerospace and Wind Power Structures	
EG 3387	Power Systems	
EG 4369	Control Systems	
EG 4386	Engineering Thermodynamics II	

Proficiency in Information Technology and Information Literacy

For this major, this requirement will be fulfilled by passing coursework within the degree plan.

Total Semester Hours 128

- ¹ All St. Mary's Core SMC 13XX "Reflection" courses must be completed before registering for SMC 23XX "Practice" courses, unless authorized by student's adviser.
- ² EG 4363 fulfills SMC 4301 requirement.
- ³ Grade of "C" or better is required. International students may be required to take EN 1313 to fulfill this requirement.
- ⁴ Engineering students must make a grade of "C" or better in all engineering courses and their prerequisites. One exception applies to the graduating senior who may petition his/her adviser to allow one grade of "D." Students are not permitted to take an engineering, science, or mathematics courses unless all prerequisites are passed with a grade of "C" or better.

This is a recommended degree plan subject to changes. Please meet with your advisor on a regular basis.

First Year

Fall	Semester Spring Hours	Semester Hours
SMC 1301	3 SMC 1311	3
EN 1311	3 SMC 1312	3
EG 1101	1 EG 1302	3
EG 1301	3 MT 2413	4
MT 2412	4 PY 2404	4
PY 1404	4	
ND 0101	0	
18		17

Second Year

Fall	Semester Spring Hours	Semester Hours
SMC 1313	3 CH 1402	4
SMC 1314	3 EG 2308	3
CH 1401	4 EG 2385	3
EG 2307	3 EG 2386	3
MT 3311	3 MT 3312	3
	16	16

Third Year

Fall	Semester Spring Hours	Semester Hours
SMC 2302	3 SMC 2301	3
EG 2306	3 EG 3145	1
EG 2309	3 EG 3382	3
EG 3345	3 MT 4332	3
EG 3380	3 System Realization Elective	3
EG 3381	3 Technical Elective	3
	18	16

Fourth Year

Fall	Semester Spring Hours	Semester Hours
SMC 2303	3 SMC 4301	3
SMC 2304	3 Advanced Theology	3
EG 3383	3 EG 3334	3
EG 4331	3 Technical Elective	3
EG 4362	3	
	15	12

Total Semester Hours 128