

B.S. in Mechanical Engineering

Mechanical Engineering

The Bachelor of Science degree program in Mechanical Engineering is accredited by the Engineering Accreditation Commission of ABET, <http://www.abet.org> (<http://www.abet.org>)

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
BS Mechanical Engineering Degree Plan (128 hours) ABET Accredited		
Core Requirements (41 hours)		
First Year Seminar		3
FYE 1301	First Year Seminar	
Freshmen Composition I		3
EN 1311	Rhetoric and Composition	
EN 1313 for international students		
Literature		3
Any EN 23XX literature course		
History		3
Any 1000, 2000, or 3000-level HS course		
Social Science		6
EG 1303	Engineering and Society	
EG 2393	Engineering Economy	
Mathematics		4
MT 2412	Calculus I	
Natural or Physical Sciences		4
PY 1404	University Physics I	
Fine Arts		3
EG 1341	Graphics and Design	
Philosophy - Self		3
PL 1301	Intro to Philosophy	
Philosophy - Ethics		3
PL 2301	Foundations of Ethics	
Theology - God		3
TH 1301	Introduction to Theology	
Intermediate Theology		3
Any TH 33xx course		
Mechanical Engineering Major Courses (78 hours)		
CH 1401	General Chemistry I	4
EG 1141	Mechanical Eng. Fund Workshop	1
EG 1194	Python Programming for EG Lab	1
EG 1294	Python Programming for Eng	2
EG 2123	Circuits and Systems Lab	1
EG 2143	Machining and Prototyping Lab	1
EG 2323		3
EG 2343	Statics	3
EG 2344	Dynamics	3

EG 2346	Strength of Materials	3
EG 3101	Eng. Design & Analysis Workshop I	1
EG 3102	Eng. Design & Analysis Workshop II	1
EG 3141	Materials Laboratory	1
EG 3142	Thermodynamics & Fluids Lab	1
EG 3341	Materials Engineering	3
EG 3342	Engineering Thermodynamics I	3
EG 3343	Fluid Mechanics	3
EG 3346	Dynamics and Controls	3
EG 3347	Mechanical Design I	3
EG 3348	Mechanical Design II	3
EG 3349	Computational Methods for Engineering	3
EG 3395	Industrial Statistics and Design of Experiments	3
EG 4101	Eng. Design & Analysis Workshop III	1
EG 4141	Measurements and Instrumentation Laboratory	1
EG 4191	Manufacturing Processes Laboratory	1
EG 4291	Manufacturing Processes	2
EG 4301	Senior Design Project I	3
EG 4302	Senior Design Project II	3
EG 4342	Heat Transfer	3
MT 2332	Advanced Math for Engineers I	3
MT 2333	Adv Math for Engineers II	3
MT 2413	Calculus II	4
PY 2404	University Physics II	4

Mechanical Engineering Electives (9 hours)

SET MT or SCI Selected Elective I: Choose a minimum of 3 credit hours from the following: **3**

BL 1401	General Biology for Majors I
CH 1402	General Chemistry II
CH 1404	Intro to Organic & Biochemistry
MT 2323	Discrete Math Structures
MT 4311	Complex Variables
MT 4312	Boundary Value Problems
MT 4331	Probability Theory
PY 3301	Modern Physics
PY 3303	Mathematical Methods in Physics
PY 3305	Physical Optics
PY 3308	Quantum Mechanics
PY 3350	Biophysics

EG Selected Elective I & II: Choose a minimum of 6 credit hours from the following: **6**

EG 2313	Fundamentals of Logic Design
EG 3296	Human Factors, Ergonomics and Safety
EG 3391	Data Analytics and Information Engineering
EG 3394	Lean Production Systems
EG 3398	Six Sigma Quality
EG 4193	Optimization and Decision Analytics Lab
EG 4303	Special Topics I
EG 4304	Special Topics II
EG 4305	Special Topics III
EG 4306	Special Topics IV
EG 4307	Special Topics Vi
EG 4308	Special Topics VI
EG 4309	Special Topics VII

EG 4393	Optimization	
EG 4394	Smart Manufacturing	
EG 4346	Engineering Thermodynamics II	
EG 4348	Introduction to Biomechanical Engineering	
EG 4349	Aerospace and Wind Power Structures	
EG 3344	Power Systems	
One or more EG63XX/EG73XX for students in combined BSME#MS program (with EG Chair's approval)		
Total Semester Hours		128

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

First Year

Fall	Semester Hours	Spring	Semester Hours
EG 1141		1	
EG 1303		3 MT 2413	4
EG 1341		3 PY 2404	4
MT 2412		4 EG 1194	1
PY 1404		4 EG 1294	2
EN 1311		3 FYE 1301	3
		18	14

Second Year

Fall	Semester Hours	Spring	Semester Hours
EG 2143		1 TH 1301	3
CH 1401		4 SET MT or SCI Selected Elective I	3
MT 2332		3 PL 1301	3
EG 2343		3 MT 2333	3
EG 2323		3 EG 2346	3
EG 2123		1 EG 2344	3
History		3	
		18	18

Third Year

Fall	Semester Hours	Spring	Semester Hours
EG 3101		1 EG 3102	1
EG 3141		1 EG 3142	1
EG 3341		3 EG 3342	3
EG 3343		3 PL 2301	3
EG 3395		3 EG 3348	3
EG 3347		3 EG 3346	3
EG 3349		3	
		17	14

Fourth Year

Fall	Semester Hours	Spring	Semester Hours
EG 4101		1 EG 4302	3
EG 4141		1 EG 4342	3
EG 4301		3 EG Selected Elective II*	3
EG 4191		1 EG 2393	3
EG 4291		2	
Theology II		3	

EG Selected Elective I*	3	
	14	12
Total Semester Hours 125		