

MECHANICAL ENGINEERING

REQUIREMENTS

CORE CURRICULUM

The Core Curriculum is designed to foster critical thinking skills and introduce students to basic domains of thinking that transcend disciplines. The Core applies to all majors. Information on specific classes in the Core can be found at marshall.edu/gened.

CORE 1: CRITICAL THINKING

CODE	COURSE NAME	HRS	GRADE
FYS 100	First Year Seminar	3	_____
MTH 229	Critical Thinking Course I	5	_____
_____	Critical Thinking Course	3	_____
Additional University Requirements			
_____	Writing Intensive	3	_____
_____	Writing Intensive	3	_____
_____	Multicultural or International	3	_____
ME 452	Capstone	1	_____
ME 453	Capstone	3	_____

CORE 2:

CODE	COURSE NAME	HRS	GRADE
ENG 101	Beginning Composition	3	_____
ENG 201	Advanced Composition	3	_____
CMM 103	Fund Speech-Communication	3	_____
MTH 229	Calculus I	5	_____
PHY 211/202	University Physics I/ Lab	5	_____
_____	Core II Humanities	3	_____
_____	Core II Social Science	3	_____
_____	Core II Fine Arts	3	_____

MAJOR-SPECIFIC

All Mechanical Engineering majors are required to take the following courses:

CODE	COURSE NAME	HRS	GRADE	CODE	COURSE NAME	HRS	GRADE
MTH 229	Calculus I	5	_____	ENGR 335	Adv Engineering Analysis	3	_____
MTH 230	Calculus II	4	_____	ME 111	Mech Engineering Computations	3	_____
MTH 231	Calculus III	4	_____	ME 240	Manufacturing Processes	3	_____
MTH 335	Differential Equations	3	_____	ME 245	Circuits and Instrumentation	3	_____
STA 345	Applied Prob and Stat	3	_____	ME 310	Thermodynamics II	3	_____
CHM 211	Chemistry I	3	_____	ME 325	Mech. Engr. Lab I	1	_____
PHY 211	University Physics I	4	_____	ME 340	Machine Element Design	3	_____
PHY 202	General Physics I Lab	1	_____	ME 350	Heat Transfer	3	_____
PHY 213	University Physics II	4	_____	ME 410	Kinematics & Design of Machine	3	_____
PHY 204	General Physics II Lab	1	_____	ME 420	Control Systems	3	_____
ENGR 102	Intro to CAD	2	_____	ME 425	Mech. Engr. Lab II	1	_____
ENGR 103	First-Year Engineering Semin	1	_____	ME 455	Metallurgy	3	_____
ENGR 104	Engineering Profession	1	_____	_____	ME Design Elective	3	_____
ENGR 213	Statics	3	_____	_____	Technical Elective	3	_____
ENGR 214	Dynamics	3	_____	_____	Technical Elective	3	_____
ENGR 215	Engineering Materials	3	_____	_____	Technical Elective	3	_____
ENGR 216	Mech of Deformable Bodies	3	_____	ME 452	Senior Capstone Design I	1	_____
ENGR 217	Engineering Career Prep	1	_____	ME 453	Senior Capstone Design II	3	_____
ENGR 219	Engineering Thermodynamics	3	_____				
ENGR 222	Engineering Cost Analysis & Economy	3	_____				
ENGR 318	Fluid Mechanics	3	_____				

General Education Requirement
 College Requirement
 Major Requirement
 Area of Emphasis

MAJOR INFORMATION












- Senior Capstone Design I: To be eligible to take the Senior Engineering Seminar course (ME 452), students must have senior standing in mechanical engineering. Senior standing is defined for the B.S.M.E. as having completed these three courses: ME 325, ME 350, and ME 410.
- Senior Capstone Design II: To be eligible to take the capstone design course, students must have completed ME 452 and at least one of the design electives (ME 430 or ME 435).
- ME Design Elective: At least one design elective must be taken from the following courses: ME 430, or ME 435.
- Technical Electives: At least three technical electives must be taken from the following approved list of courses: Any 300-level or higher ME course

- not taken to satisfy other B.S.M.E. degree requirements, any 300-level or higher BME, CE, EE, or ENGR course not taken to satisfy other B.S.M.E. requirements. Other courses with the approval of the student's advisor and the department chair.
- Course offerings and course attributes are subject to change each semester. Please consult each semester's schedule of courses for availability and attributes.
- Students are required to know and track their degree requirements for graduation or for entrance to a professional school.

Milestone Course: This is a key success marker for your major. See your advisor to discuss the importance of this course in your plan of study.

MECHANICAL ENGINEERING

Mechanical Engineers apply fundamental math and physics laws to design, fabricate and innovate mechanical devices. They are multi-skilled and have working knowledge of computers, electricity, structures and mechanisms, materials, and manufacturing processes. The Bachelors of Science in Mechanical Engineering (B.M.S.E.) at Marshall University is designed to emphasize service, systems-based knowledge, and sustainability combining a traditional engineering approach with new and emerging fields.

FALL SEMESTER					SPRING SEMESTER				
CODE	COURSE NAME	HRS	GRADE		CODE	COURSE NAME	HRS	GRADE	
 CHM 211	Principles of Chemistry I	3	◆	_____	 MTH 230	Calculus II	4	◆	_____
 MTH 229	Calculus I (CT)	5	◆	_____	ENG 101	Beginning Composition	3	●	_____
ENGR 103	First-Year Engineering Semin	1	◆	_____	ENGR 102	Intro to CAD	2	◆	_____
ENGR 104	Engineering Profession	1	◆	_____	PHY 211	University Physics I	4	◆	_____
CMM 103	Fund Speech Communication	3	●	_____	 PHY 202	General Physics I Lab	1	◆	_____
FYS 100	First Year Sem Crit Thinking	3	●	_____	ME 111	Mech Engineering Computations	3	◆	_____
UNI 100	Freshman First Class	1		_____					_____
TOTAL HOURS		17			TOTAL HOURS		17		
Summer Term (optional):									
FALL SEMESTER					SPRING SEMESTER				
CODE	COURSE NAME	HRS	GRADE		CODE	COURSE NAME	HRS	GRADE	
 ENGR 213	Statics	3	◆	_____	 ENGR 214	Dynamics	3	◆	_____
ENGR 215	Engineering Materials	3	◆	_____	ENGR 216	Mech of Deformable Bodies	3	◆	_____
ME 245	Circuits and Instrumentation	3	◆	_____	ENGR 217	Engineering Career Prep	1	◆	_____
MTH 231	Calculus III	4	◆	_____	ENGR 219	Engr. Thermodynamics	3	◆	_____
PHY 213	University Physics II	4	◆	_____	ME 240	Manufacturing Processes	3	◆	_____
				_____	 MTH 335	Differential Equations	3	◆	_____
TOTAL HOURS		17			TOTAL HOURS		16		
Summer Term (optional):									
FALL SEMESTER					SPRING SEMESTER				
CODE	COURSE NAME	HRS	GRADE		CODE	COURSE NAME	HRS	GRADE	
ME 310	Thermodynamics II	3	◆	_____	ME 420	Control Systems	3	◆	_____
 ENGR 335	Adv Engineering Analysis	3	◆	_____	ME 325	Mech. Engr. Lab I	1	◆	_____
ME 340	Machine Element Design	3	◆	_____	 ME 350	Heat Transfer	3	◆	_____
ENGR 222	Engineering Cost Analysis & Economy	3	◆	_____	ME 410	Kinematics & Design of Machine	3	◆	_____
ENGR 318	Fluid Mechanics	3	◆	_____	 ENG 201	Advanced Composition	3	●	_____
STA 345	Applied Prob and Stat	3	◆	_____	_____	Core II Social Science (MC/I, WI)	3	●	_____
TOTAL HOURS		18			TOTAL HOURS		16		
Summer Term (optional):									
FALL SEMESTER					SPRING SEMESTER				
CODE	COURSE NAME	HRS	GRADE		CODE	COURSE NAME	HRS	GRADE	
 ME 452	Senior Capstone Design I	1	◆	_____	ME 453	Senior Capstone Design II	3	◆	_____
ME 425	Mech. Engr. Lab II	1	◆	_____	ME 455	Metallurgy	3	◆	_____
_____	Technical Elective	3	◆	_____	_____	ME Technical Elective	3	◆	_____
_____	Technical Elective	3	◆	_____	_____	Core II Humanities (WI, CT)	3	●	_____
_____	Technical Elective	3	◆	_____					_____
_____	Core II Fine Art	3	●	_____					_____
TOTAL HOURS		14			TOTAL HOURS		12		
Summer Term (optional):									

◆ Area of Emphasis

◆ Major Requirement

■ College Requirement

● General Education Requirement

◆ Milestone Course: This is a key success marker for your major. See your advisor to discuss the importance of this course in your plan of study.