

ELECTRICAL AND COMPUTER 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	5	_____
_____	Critical Thinking Course	3	_____
Additional University Requirements			
_____	Writing Intensive	3	_____
_____	Writing Intensive	3	_____
_____	Multicultural or International	3	_____
EE 420	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	University Physics I	4	_____
_____	Core II Humanities	3	_____
_____	Core II Social Science	3	_____
_____	Core II Fine Arts	3	_____

MAJOR-SPECIFIC

All Electrical and Computer Engineering majors are required to take the following courses:

CODE	COURSE NAME	HRS	GRADE	CODE	COURSE NAME	HRS	GRADE
MTH 229	Calculus I	5	_____	EE 211	Intro to Comp. Engr. Conc & Desig	3	_____
MTH 230	Calculus II	4	_____	EE 310	Electromagnetic Fields	3	_____
MTH 231	Calculus III	4	_____	EE 320	Signals & Systems	3	_____
MTH 335	Differential Equations	3	_____	EE 330	Random Signals & Systems	3	_____
MTH 220	Discrete Structures	3	_____	EE 340	Computer Architec & Design	4	_____
CHM 211	Chemistry I	3	_____	EE 350	Elec Properties of Materials	3	_____
PHY 211	University Physics I	4	_____	EE 360	Control Systems	3	_____
PHY 213	University Physics II	4	_____	EE 370	Electric Machinery	3	_____
PHY 204	General Physics II Lab	1	_____	EE 375	Communication Systems I	3	_____
ENGR 103	Freshman Engineering Seminar	1	_____	EE 380	Microprocessors	3	_____
ENGR 104	Engineering Profession	1	_____	EE 401	Communication Systems II	3	_____
ENGR 201	Circuits I	4	_____	EE 415	Intro to VHDL Design	3	_____
ENGR 217	Co-Op Prep	1	_____	EE 425	Electric Power Systems	3	_____
ENGR 222	Engr. Cost Analysis & Economy	3	_____	EE 440	Digital Control	3	_____
ENGR 335	Advance Engr. Analysis	3	_____	EE 410 or	Electrical Engineering Design or	3	_____
CS 110	Computer Science I	3	_____	EE 412	Computer Engineering Design		
EE 202	Circuits II	3	_____	EE 420	Capstone	3	_____
EE 204	Intro to Digital Systems	3	_____	_____	Technical Elective	3	_____
EE 210	Programming Lab	3	_____	_____	Technical Elective	3	_____

MAJOR INFORMATION






- EE 410 or EE 412: To be eligible for EE 410 or EE 412 students must have senior standing in BSEE and have completed the following courses: EE 370, 375, and 380.
- Capstone EE 420: To be eligible to take the capstone design course (EE 420), students must have completed EE 410 or EE 412.
- Technical Electives: At least 2 technical elective courses related to the area of emphasis must be taken. The courses must be approved by the student's advisor and the division chair. The following is a suggested list: EE 445, 447, 448, ME 465, 475, CS 412, 430, or 440.
- 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.
- The B.S.E.E. degree program requires a minimum of 132 credit hours of coursework to graduate.

General Education Requirement
 College Requirement
 Major Requirement
 Area of Emphasis

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.

ELECTRICAL AND COMPUTER ENGINEERING

Electrical and Computer Engineers design and maintain electrical control systems and components. They are multi-skilled and are able to work in projects from the design phase, through development, implementation, testing, up to client follow-up. The impact of their work is seen all over the building industry, services, transportation, manufacturing, and production and distribution of power.

FALL SEMESTER					SPRING SEMESTER				
CODE	COURSE NAME	HRS	GRADE		CODE	COURSE NAME	HRS	GRADE	
 CHM 211	Chemistry I	3	◆	_____	CS 110	Computer Science I	3	◆	_____
 MTH 229	Calculus I (CT)	5	◆	_____	 MTH 230	Calculus II	4	◆	_____
ENGR 103	Freshman Engineering Seminar	1	◆	_____	PHY 211	University Physics I	4	◆	_____
ENGR 104	Engineering Profession	1	◆	_____	CMM 103	Fund Speech Comm	3	●	_____
ENG 101	Beginning Composition	3	●	_____	MTH 220	Discrete Structures	3	◆	_____
FYS 100	First Year Sem Crit Thinking	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	
 EE 210	Programming Lab	3	◆	_____	EE 202	Circuits II	3	◆	_____
ENGR 201	Circuits I	4	◆	_____	ENGR 222	Engr. Cost Analysis & Economy	3	◆	_____
MTH 231	Calculus III	4	◆	_____	EE 204	Intro to Digital Systems	3	◆	_____
PHY 213	University Physics II	4	◆	_____	EE 211	Intro to Comp Engr. Concept & Des	3	◆	_____
PHY 204	Physics II Lab	1	◆	_____	 MTH 335	Differential Equations	3	◆	_____
ENGR 217	Co-Op Prep	1	◆	_____	_____	Core II Social Science (MC/I, WI)	3	●	_____
TOTAL HOURS		17			TOTAL HOURS		18		
Summer Term (optional):									
FALL SEMESTER					SPRING SEMESTER				
CODE	COURSE NAME	HRS	GRADE		CODE	COURSE NAME	HRS	GRADE	
ENGR 335	Advance Engr. Analysis	3	◆	_____	 ENG 201	Advanced Composition	3	●	_____
 EE 310	Electromagnetic Fields	3	◆	_____	EE 360	Control Systems	3	◆	_____
EE 340	Computer Architecture & Design	4	◆	_____	EE 330	Random Signals & Systems	3	◆	_____
EE 350	Elec Properties of Materials	3	◆	_____	EE 375	Communication Systems I	3	◆	_____
EE 320	Signals & Systems	3	◆	_____	EE 370	Electric Machinery	3	◆	_____
					EE 380	Microprocessors	3	◆	_____
TOTAL HOURS		16			TOTAL HOURS		18		
Summer Term (optional):									
FALL SEMESTER					SPRING SEMESTER				
CODE	COURSE NAME	HRS	GRADE		CODE	COURSE NAME	HRS	GRADE	
EE 401	Communication Systems II	3	◆	_____	EE 420	Capstone	3	◆	_____
EE 410 or	Electrical Engineering Design or	3	◆	_____	EE 415	Intro to VHDL Design	3	◆	_____
EE 412	Computer Engineering Design			_____	_____	Technical Elective	3	◆	_____
EE 425	Electric Power Systems	3	◆	_____	_____	Technical Elective	3	◆	_____
EE 440	Digital Control	3	◆	_____	_____	Core II Fine Arts	3	●	_____
_____	Core II Humanities (WI, CT)	3	●	_____					
TOTAL HOURS		15			TOTAL HOURS		15		
Summer Term (optional):									

◆ Area of Emphasis

◆ Major Requirement

■ College Requirement

● General Education Requirement

YEAR ONE

YEAR TWO

YEAR THREE

YEAR FOUR

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.