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

		HRS	GRADE
_____	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
🦬	MTH 229	Calculus I	● ◆	5	_____
🦬	MTH 230	Calculus II	◆	4	_____
	MTH 231	Calculus III	◆	4	_____
🦬	MTH 335	Differential Equations	◆	3	_____
	MTH 220	Discrete Structures	◆	3	_____
🦬	CHM 211	Chemistry I	◆	3	_____
	PHY 211	University Physics I	● ◆	4	_____
	PHY 213	University Physics II	◆	4	_____
	PHY 204	General Physics II Lab	◆	1	_____
	ENGR 103	First-Year Engineering Seminar	◆	1	_____
	ENGR 104	Engineering Profession	◆	1	_____
	ENGR 201	Circuits I	◆	4	_____
	ENGR 217	Engineering Career Prep	◆	1	_____
	ENGR 222	Engr. Cost Analysis & Economy	◆	3	_____
	ENGR 335	Advance Engr. Analysis	◆	3	_____
	CS 110	Computer Science I	◆	3	_____
	EE 202	Circuits II	◆	3	_____
	EE 204	Intro to Digital Systems	◆	3	_____
🦬	EE 210	Programming Lab	◆	3	_____

	CODE	COURSE NAME		HRS	GRADE
	EE 211	Intro to Comp. Engr. Conc & Desig	◆	3	_____
🦬	EE 310	Electromagnetic Fields	◆	3	_____
	EE 320	Signals & Systems	◆	3	_____
	EE 330	Random Signals & Systems	◆	3	_____
	EE 340	Computer Architec & Design	◆	4	_____
	EE 350	Elec Properties of Materials	◆	3	_____
	EE 360	Control Systems	◆	3	_____
	EE 370	Electric Machinery	◆	3	_____
	EE 375	Communication Systems I	◆	3	_____
	EE 380	Microprocessors	◆	3	_____
	EE 401	Communication Systems II	◆	3	_____
	EE 415	Intro to VHDL Design	◆	3	_____
	EE 425	Electric Power Systems	◆	3	_____
	EE 440	Digital Control	◆	3	_____
	EE 410 or EE 412	Electrical Engineering Design or Computer Engineering Design	◆	3	_____
	EE 420	Capstone	◆	3	_____
	_____	Technical Elective	◆	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.

● 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.

ELECTRICAL AND COMPUTER ENGINEERING

Eletrical 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.

YEAR ONE

FALL SEMESTER

CODE	COURSE NAME	HRS	GRADE
CHM 211	Chemistry I	3	_____
MTH 229	Calculus I (CT)	5	_____
ENGR 103	First-Year Engineering Seminar	1	_____
ENGR 104	Engineering Profession	1	_____
ENG 101	Beginning Composition	3	_____
FYS 100	First Year Sem Crit Thinking	3	_____
UNI 100	Freshman First Class	1	
	TOTAL HOURS	**17**	

Summer Term (optional):

SPRING SEMESTER

CODE	COURSE NAME	HRS	GRADE
CS 110	Computer Science I	3	_____
MTH 230	Calculus II	4	_____
PHY 211	University Physics I	4	_____
CMM 103	Fund Speech Comm	3	_____
MTH 220	Discrete Structures	3	_____
	TOTAL HOURS	**17**	

YEAR TWO

FALL SEMESTER

CODE	COURSE NAME	HRS	GRADE
EE 210	Programming Lab	3	_____
ENGR 201	Circuits I	4	_____
MTH 231	Calculus III	4	_____
PHY 213	University Physics II	4	_____
PHY 204	Physics II Lab	1	_____
ENGR 217	Engineering Career Prep	1	_____
	TOTAL HOURS	**17**	

Summer Term (optional):

SPRING SEMESTER

CODE	COURSE NAME	HRS	GRADE
EE 202	Circuits II	3	_____
ENGR 222	Engr. Cost Analysis & Economy	3	_____
EE 204	Intro to Digital Systems	3	_____
EE 211	Intro to Comp Engr. Concept & Des	3	_____
MTH 335	Differential Equations	3	_____
_____	Core II Social Science (MC/I, WI)	3	_____
	TOTAL HOURS	**18**	

YEAR THREE

FALL SEMESTER

CODE	COURSE NAME	HRS	GRADE
ENGR 335	Advance Engr. Analysis	3	_____
EE 310	Electromagnetic Fields	3	_____
EE 340	Computer Architecture & Design	4	_____
EE 350	Elec Properties of Materials	3	_____
EE 320	Signals & Systems	3	_____
	TOTAL HOURS	**16**	

Summer Term (optional):

SPRING SEMESTER

CODE	COURSE NAME	HRS	GRADE
ENG 201	Advanced Composition	3	_____
EE 360	Control Systems	3	_____
EE 330	Random Signals & Systems	3	_____
EE 375	Communication Systems I	3	_____
EE 370	Electric Machinery	3	_____
EE 380	Microprocessors	3	_____
	TOTAL HOURS	**18**	

YEAR FOUR

FALL SEMESTER

CODE	COURSE NAME	HRS	GRADE
EE 401	Communication Systems II	3	_____
EE 410 or EE 412	Electrical Engineering Design or Computer Engineering Design	3	_____
EE 425	Electric Power Systems	3	_____
EE 440	Digital Control	3	_____
_____	Core II Humanities (WI, CT)	3	_____
	TOTAL HOURS	**15**	

Summer Term (optional):

SPRING SEMESTER

CODE	COURSE NAME	HRS	GRADE
EE 420	Capstone	3	_____
EE 415	Intro to VHDL Design	3	_____
_____	Technical Elective	3	_____
_____	Technical Elective	3	_____
_____	Core II Fine Arts	3	_____
	TOTAL HOURS	**15**	

- 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.