



















ELECTRICAL AND COMPUTER ENGINEERING, B.S.E.E.




 - General Education Course

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

Major

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 <https://www.marshall.edu/gened/>.

Code	Title	Credit Hours
Core Curriculum		
<i>Core 1: Critical Thinking</i>		
FYS 100	First Yr Sem Critical Thinking	3
MTH 229 	Calculus/Analytic Geom I (CT)	5
	Critical Thinking Course	3
<i>Core 2</i>		
ENG 101 	Beginning Composition	3
ENG 201 	Advanced Composition	3
CMM 103 	Fund Speech-Communication	3
MTH 229 	Calculus/Analytic Geom I (CT)	5
PHY 211 	University Physics I (Physical/Natural Science)	4
	Core II Humanities	3
	Core II Social Science	3
	Core II Fine Arts	3
<i>Additional University Requirements</i>		
	Writing Intensive	3
	Writing Intensive	3
	Multicultural or International	3
EE 420 	Capstone Design	3
Major-Specific		
MTH 229 	Calculus/Analytic Geom I (CT)	5
MTH 230 	Calculus/Analytic Geom II	4
MTH 231 	Calculus/Analytic Geom III	4
MTH 335 	Ordinary Diff Equations	3
MTH 220 	Discrete Structures	3
CHM 211 	Principles of Chemistry I	3
PHY 211 	University Physics I	4
PHY 213 	University Physics II	4
PHY 204 	General Physics 2 Laboratory	1
ENGR 103	Freshman Engineering Seminar	1
ENGR 104	The Engineering Profession	1
ENGR 217	Engineering Co-Op Preparation	1

ENGR 201	Circuits I	4
ENGR 222	Engr Cost Analysis & Economy	3
ENGR 335	Adv Engineering 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
EE 211	Intro to Computer Engineering	3
EE 310 	Electromagnetic Fields	3
EE 320	Analysis of Signals & Systems	3
EE 330	Random Signals and Systems	3
EE 340	Computer Architecture & Design	4
EE 350	Elect Properties of Materials	3
EE 360	Control Systems	3
EE 370	Electric Machinery	3
EE 375	Communication Systems I	3
EE 380	Microprocessor Design	3
EE 401	Communication Systems II	3
EE 415	Intro VHDL Design & HW Systems	3
EE 425	Electric Power Systems	3
EE 440	Digital Control Systems	3
EE 410	Electrical Engineering Design ¹	3
or EE 412	Computer Engineering Design	
EE 420 	Capstone Design ²	3

Technical Electives

Select at least 2 technical elective courses related to the area of emphasis. The courses must be approved by the student's advisor and the division chair. 6

Suggested Electives:

EE 445	Radio Freq & Microwave Engr
EE 447	Real-Time Digital Processing
EE 448	Power Electronics
ME 465	Mechatronics
CS 412	Embedded Systems
CS 430	Cyber Security
CS 440	Digital Image Processing

¹ To be eligible for EE 410 Electrical Engineering Design or EE 412 Computer Engineering Design students must have senior standing in BSEE and have completed the following courses: EE 370 Electric Machinery, EE 375 Communication Systems I, and EE 380 Microprocessor Design.

² To be eligible to take the capstone design course, students must have completed EE 410 Electrical Engineering Design or EE 412 Computer Engineering Design.

Major Information

- 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.