

Electrical Engineering Major, Bachelor of Science (92 credit hours)

Electrical Engineering students are exposed to the concepts of electricity, electronics, and electromagnetism and how they apply to the generation of power, designing complex electrical systems, and the design of electromechanical machines. Students will have the opportunity to see various applications of Electrical Engineering from electronics, power systems, telecommunications, control systems, and signal processing.

49 credit hours from the Common Engineering Core, Including Mathematics and Basic Sciences:

- ENGR 2001, Introduction to Engineering, 1 credit hour
- ENGR 2002, Introduction Mechanical Laboratory, 1 credit hour
- ENGR 2003, Introduction to Electrical and Computer Laboratory, 1 credit hour
- ENGR 2010, Statics, 3 credit hours
- ENGR 2030, Circuit Analysis, 3 credit hours
- ENGR 2080, Service Through Engineering and Technology, 3 credit hours¹
- ENGR 2090, Systems Engineering, 3 credit hours^{1,2}
- ENGR 2310, Computational Problem Solving, 3 credit hours
- ENGR 4950, Senior Design I, 2 credit hours²
- ENGR 4960, Senior Design II, 2 credit hours³
- CHEM 2110, General Chemistry I, 4 credit hours⁴
- MATH 2010, Calculus I, 4 credit hours⁵
- MATH 2020, Calculus II, 4 credit hours
- MATH 3010, Linear Algebra with Differential Equations, 4 credit hours
- MATH 3100, Differential Equations, 3 credit hours
- PHYS 2240, General Physics I, 4 credit hours
- PHYS 2250, General Physics, II, 4 credit hours

43 credit hours of major specific requirements:

- MATH 3020, Calculus III, 4 credit hours
- MATH 4010, Probability, 3 credit hours
- ENGR 2200, Foundations of Digital Electronics, 2 credit hours
- ENGR 3030, Signals and Controls, 3 credit hours
- ENGR 3220, Electronics, 3 credit hours
- ENGR 3230, Analog Circuit Design, 3 credit hours
- ENGR 3240, Electromagnetic Fields, 3 credit hours
- ENGR 3260, Embedded Systems, 3 credit hours
- ENGR 3270, Digital Logic, 3 credit hours
- ENGR 3280, Microcontrollers, 3 credit hours
- ENGR 4240: Communications Theory, 3 credit hours
- ENGR 4250: Digital Signal Processing, 3 credit hours
- ENGR 4230, Power Systems, 2 credit hours
- CPSC 2420, Computer Architecture, 2 credit hours
- ENGR Breadth Elective, 3 credit hours: Take at least 3 credit hours from ENGR 2110, 3080, 3180, 4020

¹ This course fulfills the Global/Intercultural Ways of Knowing Requirement in the Liberal Arts Program.

² This is a Writing Intensive course in the Liberal Arts Program.

³ This is both a Writing and Speaking Intensive course in the Liberal Arts Program.

⁴ This course fulfills the Scientific Ways of Knowing requirement in the Liberal Arts Program.

⁵ This course fulfills the Quantitative Ways of Knowing Requirement in the Liberal Arts Program.

NOTE: All students must complete a minimum of 120 total credit hours to graduate from Anderson University.

Questions? Please contact the [Department of Physical Sciences & Engineering](#).

Proposed course sequence:

Freshman: MATH 2010, CHEM 2110, ENGR 2001, 2002, 2003; MATH 2020, PHYS 2240, ENGR 2310

Sophomore: MATH 3010, PHYS 2250, ENGR 2010, 2080; MATH 3020, 3100, ENGR 2030, 2090, 2200

Junior: MATH 4010, ENGR 3030, 3220, 3240; CPSC 2420, ENGR 3230, 4250, ENGR Elective

Senior: ENGR 3270, 3280, 4950; ENGR 3260, 4230, 4240, 4960

SEMESTER 1		SEMESTER 2	
Quantitative Reasoning, MATH 2010	4 Hours	MATH 2020	4 Hours
Scientific Ways, CHEM 2110	4 Hours	PHYS 2240	4 Hours
ENGR 2001, 2002, 2003	3 Hours	ENGR 2310	3 Hours
ENGL 1110	3 Hours	ENGL 1120	3 Hours
LART 1050	1 Hour	Personal Wellness	2 Hours

SEMESTER 3		SEMESTER 4	
MATH 3010	4 Hours	MATH 3020	4 Hours
PHYS 2250	4 Hours	MATH 3100	3 Hours
ENGR 2010	3 Hours	ENGR 2030	3 Hours
Global/Intercultural Ways: ENGR 2080	3 Hour	Global/Intercultural Ways, ENGR 2090 (Writing Intensive)	3 Hours
COMM 1000	3 Hours	ENGR 2200	2 Hours

SEMESTER 5		SEMESTER 6	
MATH 4010	3 Hours	ENGR 4250	3 Hours
ENGR 3030	3 Hours	ENGR 3230	3 Hours
ENGR 3220	3 Hours	CPSC 2420	2 Hours
ENGR 3240	3 Hours	ENGR Elective	3 Hours
Language	4 Hours	BIBL 2000	3 Hours

SEMESTER 7		SEMESTER 8	
ENGR 3270	3 Hours	ENGR 4230	2 Hours
ENGR 3280	3 Hours	ENGR 4240	3 Hours
ENGR 4950 (WI)	2 Hours	ENGR 4960 (Speaking Intensive, WI)	2 Hours
Christian Ways of Knowing	3 Hours	ENGR 3260	3 Hours
Social/Behavioral Ways of Knowing	3 Hours	Aesthetic Ways of Knowing	3 Hours
Civil Discourse and Critical Reasoning	2 Hours	Civic Ways of Knowing	3 Hours

Questions? Please contact the [Department of Physical Sciences & Engineering](#).