

# ELECTRICAL ENGINEERING

Courses highlighted below are available at Francis Marion University

Curriculum Example\*

## FRESHMAN YEAR

\_\_\_\_\_ 4 CH 1010 General Chemistry  
 \_\_\_\_\_ 3 ENGL 1030 Accelerated Composition  
 \_\_\_\_\_ 2 ENGR 1020 Engineering Discipline and Skills<sup>1</sup>  
 \_\_\_\_\_ 4 MATH 1060 Calculus of One Variable I<sup>2</sup>  
 \_\_\_\_\_ 3 Gen Ed<sup>3</sup>  
 16

\_\_\_\_\_ 4 CH 1020 General Chemistry  
 \_\_\_\_\_ 3 ENGR 1410 Programming and Problem Solving<sup>1,2</sup>  
 \_\_\_\_\_ 4 MATH 1080 Calculus of One Variable II<sup>2</sup>  
 \_\_\_\_\_ 3 PHYS 1220 Physics with Calculus I<sup>2</sup>  
 \_\_\_\_\_ 3 Gen Ed<sup>3</sup>  
 17

## SOPHOMORE YEAR

\_\_\_\_\_ 3 CPSC 1110 Introduction to Programming in C<sup>2</sup>  
 \_\_\_\_\_ 2 ECE 2010 Logic and Computing Devices<sup>2</sup>  
 \_\_\_\_\_ 3 ECE 2020 Electric Circuit I<sup>2</sup>  
 \_\_\_\_\_ 1 ECE 2090 Logic and Computing Devices Lab.  
 \_\_\_\_\_ 1 ECE 2110 Electrical Engineering Lab. I<sup>2</sup>  
 \_\_\_\_\_ 4 MATH 2060 Calculus of Several Variables<sup>2</sup>  
 \_\_\_\_\_ 3 PHYS 2210 Physics with Calculus II<sup>2</sup>  
 17

\_\_\_\_\_ 1 ECE 2120 Electrical Engineering Lab. II<sup>2</sup>  
 \_\_\_\_\_ 3 ECE 2620 Electrical Circuits II<sup>2</sup>  
 \_\_\_\_\_ 3 ECE 2720 Computer Organization<sup>2</sup>  
 \_\_\_\_\_ 1 ECE 2730 Computer Organization Laboratory  
 \_\_\_\_\_ 4 MATH 2080 Int. to Ordinary Differential Eqtns<sup>2</sup>  
 \_\_\_\_\_ 3 Gen Ed<sup>3</sup>  
 15

## JUNIOR YEAR

\_\_\_\_\_ 1 ECE 3110 Electrical Engineering Lab. III<sup>2</sup>  
 \_\_\_\_\_ 3 ECE 3200 Electronics I<sup>2</sup>  
 \_\_\_\_\_ 3 ECE 3300 Signals, Systems, and Transforms<sup>2</sup>  
 \_\_\_\_\_ 3 ECE 3600 Electric Power Engineering<sup>2</sup>  
 \_\_\_\_\_ 3 ECE 3800 Electromagnetics<sup>2</sup>  
 \_\_\_\_\_ 3 Advanced Mathematics Requirement<sup>4</sup>  
 16

\_\_\_\_\_ 1 ECE 3120 Electrical Engineering Lab. IV  
 \_\_\_\_\_ 3 ECE 3170 Random Signal Analysis<sup>2</sup>  
 \_\_\_\_\_ 3 ECE 3210 Electronics II<sup>2</sup>  
 \_\_\_\_\_ 3 ECE 3710 Microcontroller Interfacing<sup>2</sup>  
 \_\_\_\_\_ 1 ECE 3720 Microcontroller Interfacing Lab.  
 \_\_\_\_\_ 3 ECE 3810 Field, Waves, and Circuits<sup>2</sup>  
 \_\_\_\_\_ 3 ENGL 3140 Technical Writing  
 17

## SENIOR YEAR

\_\_\_\_\_ 3 COMM 1500 Intro. to Human Comm. *OR*  
 \_\_\_\_\_ 3 COMM 2500 Public Speaking  
 \_\_\_\_\_ 3 ECE 4090 Intro. to Linear Control Systems<sup>2</sup>  
 \_\_\_\_\_ 3 ECE 4270 Communications Systems  
 \_\_\_\_\_ 2 ECE 4950 Integrated System Design I<sup>2</sup>  
 \_\_\_\_\_ 3 Electrical Engr. Technical Requirement<sup>5</sup>  
 14

\_\_\_\_\_ 2 ECE 4960 Integrated System Design II  
 \_\_\_\_\_ 3 Gen Ed<sup>3</sup>  
 \_\_\_\_\_ 6 Electrical Engr. Technical Requirement<sup>5</sup>  
 \_\_\_\_\_ 3 Special Requirement<sup>6</sup>  
 14

126 Total Semester Hours

Footnotes: **departmental standards are completed. Clemson courses ENGL 1030, MATH 1060 and 1080, PHYS 1220, CH 1010, ENGR 1020 and ENGR 1410/or CHE 1300 must all be completed with a "C" or higher before declaring and starting courses in your engineering major.**

- <sup>1</sup> ENGR 1070, ENGR 1080 and ENGR 1090 may be substituted for ENGR 1410; ENGR 1050 and ENGR 1060 may be substituted for ENGR 1020
- <sup>2</sup> This course must be passed with a grade of C or better either to transfer into Electrical Engineering from General Engineering or to satisfy later course requirements.
- <sup>3</sup> See General Education section. Six of these credit hours must also satisfy General Education Cross-Cultural Awareness and Science and Technology in Society requirements.
- <sup>4</sup> MATH 4190, MATH 4340, MATH 4350, MATH 4530 or MATH 4540
- <sup>5</sup> Nine credits selected from BIOE 3700, BIOE 4310, BIOE 4350, BIOE 4710, ECE 2220, ECE 4040, ECE 4050\*, ECE 4060, ECE 4160, ECE 4180, ECE 4190, ECE 4200, ECE 4220, ECE 4300, ECE 4320, ECE 4360, ECE 4370, ECE 4380, ECE 4400, ECE 4420, ECE 4460, ECE 4550, ECE 4570, ECE 4590, ECE 4600, ECE 4610, ECE 4670, ECE 4680, ECE 4730, ECE 4910\*, ECE 4920\*, ECE 4930\*, ECE 4990\* or ME 3100. A maximum of three credits of courses marked with an asterisk may be used to satisfy this requirement.
- <sup>6</sup> Three additional credits of university or college approved Arts and Humanities or Social Science courses; or ELE 3010 or ELE 4010; or any additional three-credit, 4000-level course from the list of courses in footnote 5 above; or a course selected from the following list: ECE 4310, ECE 4490; or one additional course selected from MATH 3110, MATH 4120, MATH 4190, MATH 4340, MATH 4350, MATH 4400, MATH 4410, MATH 4530 or MATH 4540.

General Education Requirements						
LIT	Non-Lit	SS1	SS2	CCA	STS	
Other						
LIFE	Palmetto Fellows	Honors	Athlete	RiSE	ROTC	Med School

Comments: