ELECTRICAL ENGINEERING
Bachelor of Science

Electrical engineers are in high demand for a wide range of influential positions. Professional duties range from analytical problem solving to the design of components and systems. The scope of employment requires a unique breadth and depth of knowledge and technical skills, which are reflected in the Electrical Engineering program. This program also offers an excellent preparation for graduate education. Detailed information can be found at www.clemson.edu/ces/departments/ece/.

Building on a foundation of mathematical and physical sciences, students progress into the application of these in the engineering science areas of circuits, electronics, communications, controls, power, and electromagnetics. In these subjects, students also begin to apply the concepts and techniques learned to the design of circuits and systems. Senior technical design courses offer the opportunity to further develop expertise in a selected area.

In addition to these technical skills, students learn to communicate effectively, both orally and with the written word. Because engineers work for the benefit of society, the curriculum includes a strong component of humanities and social science courses. Also, many project design assignments enable the development of interpersonal, teamwork, and management skills, which are necessary for success in a professional engineering career.

Freshman Year
First Semester
1. ENGR 1080 Programming and Problem Solving II
2. ENGR 1070 Programming and Problem Solving I
3. MATH 1070 Calculus of One Variable
4. MATH 1060 Calculus of One Variable I
5. Arts and Humanities Requirement
6. Social Science Requirement

Second Semester
1. ENGR 2100 Computer-Aided Design and Applications
2. CH 1010 General Chemistry
3. PHYS 1220 Physics with Calculus I
4. MATH 1080 Calculus of One Variable II
5. Arts and Humanities Requirement
6. Social Science Requirement

Sophomore Year
First Semester
1. CPSC 1110 Elementary Computer Programming in C/C++
2. ECE 2010 Logic and Computing Devices
3. ECE 2020 Electric Circuits I
4. ECE 2090 Electric Circuits Lab.
5. ECE 2110 Electrical Engineering Lab. I
6. MATH 2060 Calculus of Several Variables
7. PHYS 2210 Physics with Calculus II

Second Semester
1. ECE 2120 Electrical Engineering Lab. II
2. ECE 2620 Electric Circuits II
3. ECE 2720 Computer Organization
4. ECE 2730 Computer Organization Laboratory
5. MATH 2080 Intro. to Ordinary Diff. Equations
6. Arts and Humanities Requirement
7. Social Science Requirement

Junior Year
First Semester
1. ECE 3100 Electrical Engineering Lab. III
2. ECE 3200 Electronics I
3. ECE 3300 Signals, Systems, and Transforms
4. ECE 3600 Electric Power Engineering
5. ECE 3800 Electromagnetics
6. Advanced Mathematics Requirement

Second Semester
1. ECE 3120 Electrical Engineering Lab. IV
2. ECE 3170 Random Signal Analysis
3. ECE 3210 Electronics II
4. ECE 3710 Microcontroller Interfacing
5. ECE 3720 Microcontroller Interfacing Lab.
6. ECE 3810 Fields, Waves, and Circuits
7. ENGL 3140 Technical Writing

Senior Year
First Semester
1. COMM 1500 Intro. to Human Comm.
2. COMM 2500 Public Speaking
3. ECE 4900 Continuous and Discrete Syst. Des.
4. ECE 4270 Communications Systems
5. ECE 4950 Integrated Systems Design I
6. Electrical Engineering Technical Requirement

Second Semester
1. ECE 4960 Integrated System Design II
2. Arts and Humanities Requirement
3. Social Science Requirement
4. Electrical Engineering Technical Requirement
5. Special Requirement

16 Total Semester Hours

ENR 1070 Programming and Problem Solving I
1. ENGR 1080 Programming and Problem Solving II
2. ENGR 1090 Programming and Problem Solving Applications
3. HIST 1240 Environmental History Survey
4. MATH 1080 Calculus of One Variable II
5. PHYS 1220 Physics with Calculus I

Sophomore Year
First Semester
1. BIOL 1030 General Biology
2. BIOL 1050 General Biology Lab
3. CE 2010 Statics
4. CH 2010 Survey of Organic Chemistry
5. EES 2010 Environmental Engineering Fund. I
6. MATH 2060 Calculus of Several Variables
7. PHYS 2210 Physics with Calculus II

Second Semester
1. CE 2080 Dynamics
2. CH 2100 Computer-Aided Design and Engineering Applications
3. MATH 2080 Intro. to Ordinary Diff. Equations