ELECTRICAL ENGINEERING, B.S.E.

Degree Requirements (127-141 hours)
See College of Engineering and Computing (https://academicbulletins.sc.edu/undergraduate/engineering-computing/) for progression requirements and special academic opportunities.

Program of Study

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Credit Hours</th>
</tr>
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<tbody>
<tr>
<td>1. Carolina Core</td>
<td>34-46</td>
</tr>
<tr>
<td>2. College Requirements</td>
<td>0</td>
</tr>
<tr>
<td>3. Program Requirements</td>
<td>66-68</td>
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<tr>
<td>4. Major Requirements</td>
<td>27</td>
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</tbody>
</table>

1 Carolina Core Requirements (34-46 hours)

CMW – Effective, Engaged, and Persuasive Communication: Written (6 hours)
Must be passed with a grade of C or higher.

- ENGL 101
- ENGL 102

ARP – Analytical Reasoning and Problem Solving (8 hours)
Must be passed with a grade of C or higher.

- MATH 141
- MATH 142

SCI – Scientific Literacy (8 hours)
Must be passed with a grade of C or higher.

- CHEM 111 & CHEM 111L
- PHYS 211 & PHYS 211L

GFL – Global Citizenship and Multicultural Understanding: Foreign Language (0-6 hours)
Score two or better on foreign language placement test; or complete the 109 and 110 courses in FREN, GERM, LATN or SPAN; or complete the 121 course in another foreign language.

- CC-GFL courses (https://academicbulletins.sc.edu/undergraduate/carolina-core-courses/)

GHS – Global Citizenship and Multicultural Understanding: Historical Thinking (3 hours)
- any CC-GHS course (https://academicbulletins.sc.edu/undergraduate/carolina-core-courses/)

GSS – Global Citizenship and Multicultural Understanding: Social Sciences (3 hours)
- any CC-GSS course (https://academicbulletins.sc.edu/undergraduate/carolina-core-courses/)

AIU – Aesthetic and Interpretive Understanding (3 hours)
- any CC-AIU course (https://academicbulletins.sc.edu/undergraduate/carolina-core-courses/)

CMS – Effective, Engaged, and Persuasive Communication: Spoken Component 1 (0-3 hours)
Select from the following:

- PHIL 325 (CMS/VSR overlay)
- any overlay or stand-alone CC-CMS course (https://academicbulletins.sc.edu/undergraduate/carolina-core-courses/)

INF – Information Literacy 1 (0-3 hours)
Select from the following:

- PHIL 325 (CMS/VSR overlay)
- any overlay or stand-alone CC-INF course (https://academicbulletins.sc.edu/undergraduate/carolina-core-courses/)

VSR – Values, Ethics, and Social Responsibility 1 (0-3 hours)
Select from the following:

- PHIL 325 (CMS/VSR overlay)
- any overlay or stand-alone CC-VSR course (https://academicbulletins.sc.edu/undergraduate/carolina-core-courses/)

1 Carolina Core Stand Alone or Overlay Eligible Requirements — Overlay-approved courses offer students the option of meeting two Carolina Core components in a single course. A maximum of two overlays is allowed. The total Carolina Core credit hours for this program must add up to a minimum of 34 hours.

2. College Requirements (0 hours)
No college-required courses for this program.

3. Program Requirements (66-68 hours)
Supporting Courses (66-68 hours)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNIV 101</td>
<td>The Student in the University</td>
<td>3</td>
</tr>
<tr>
<td>EMCH 220</td>
<td>Mechanical Engineering Fundamentals for Non-Majors</td>
<td>3</td>
</tr>
<tr>
<td>MATH 241</td>
<td>Vector Calculus (must be passed with a grade of C or higher)</td>
<td>3</td>
</tr>
</tbody>
</table>
MATH 242  Elementary Differential Equations (must be passed with a grade of C or higher)  3

PHYS 212  Essentials of Physics II (must be passed with a grade of C or higher)  3

PHYS 212L  Essentials of Physics II Lab (must be passed with a grade of C or higher)  1

STAT 509  Statistics for Engineers  3

Lower Division Engineering

CSCE 145  Algorithmic Design I (must be passed with a grade of C or higher)  4

CSCE 211  Digital Logic Design (must be passed with a grade of C or higher)  3

CSCE 212  Introduction to Computer Architecture  3

CSCE 313  Embedded Systems  3

ELCT 101 or ENCP 101  Electrical and Electronics Engineering Introduction to Engineering  1-3

ELCT 102  Electrical Science  3

ELCT 201  Introductory Electrical Engineering Laboratory  3

ELCT 221  Circuits (must be passed with a grade of C or higher)  3

ELCT 222  Signals and Systems (must be passed with a grade of C or higher)  3

Total Credit Hours  45-47

Career Plan Electives (18 hours)

The student will select 18 hours of Career Plan Electives. These include ELCT courses numbered 430 and higher. These may include up to 6 hours of non-ELCT courses at the 300 level or higher with department approval. Other courses may be approved by the department. Courses can not duplicate a course otherwise applied to the degree.

General Elective (3 hours)

The student will select an additional 3 credit hours to satisfy the General Elective. These include any university course that does not essentially duplicate a course otherwise applied to the degree.

4. Major Requirements (27 hours)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELCT 301</td>
<td>Electronics Laboratory</td>
<td>3</td>
</tr>
<tr>
<td>ELCT 302</td>
<td>Real Time Systems Laboratory</td>
<td>3</td>
</tr>
<tr>
<td>ELCT 321</td>
<td>Digital Signal Processing</td>
<td>3</td>
</tr>
<tr>
<td>ELCT 331</td>
<td>Control Systems</td>
<td>3</td>
</tr>
<tr>
<td>ELCT 361</td>
<td>Electromagnetics</td>
<td>3</td>
</tr>
<tr>
<td>ELCT 363</td>
<td>Introduction to Microelectronics</td>
<td>3</td>
</tr>
<tr>
<td>ELCT 371</td>
<td>Electronics</td>
<td>3</td>
</tr>
<tr>
<td>ELCT 403</td>
<td>Capstone Design Project I</td>
<td>3</td>
</tr>
<tr>
<td>ELCT 404</td>
<td>Capstone Design Project II</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credit Hours  27