

# ELECTRICAL ENGINEERING, BSEE

**Requirements for Students Matriculating in or before Academic Year 2019-2020.** Learn more about University Academic Regulation 3.1 (<http://catalog.okstate.edu/university-academic-regulations/#matriculation>).

**Minimum Overall Grade Point Average: 2.00**

**Total Hours: 123**

| Code  | Title   | Hours     |
|---|---|-----------|
| <b>General Education Requirements</b>   |   |           |
| All General Education coursework requirements are satisfied upon completion of this degree plan |   |           |
| <i>English Composition</i>  |   |           |
| ENGL 1113   | Composition I <sup>1,2</sup>                      | 3         |
| ENGL 3323   | Technical Writing                                 | 3         |
| <i>American History &amp; Government</i>  |   |           |
| Select one of the following:  |   |           |
| HIST 1103   | Survey of American History                        | 3         |
| HIST 1483   | American History to 1865 (H)                      | 3         |
| HIST 1493   | American History Since 1865 (DH)                  | 3         |
| POLS 1113   | American Government                               | 3         |
| <i>Analytical &amp; Quantitative Thought (A)</i>  |   |           |
| MATH 2144   | Calculus I (A) <sup>2</sup>                       | 4         |
| MATH 2153   | Calculus II (A) <sup>2</sup>                      | 3         |
| MATH 2163   | Calculus III <sup>2</sup>                         | 3         |
| <i>Humanities (H)</i>   |   |           |
| Courses designated (H)  |   |           |
| 6   |   |           |
| <i>Natural Sciences (N)</i>   |   |           |
| Must include one Laboratory Science (L) course  |   |           |
| CHEM 1414   | General Chemistry for Engineers (LN) <sup>2</sup> | 4         |
|   | or CHEM 1515 Chemistry II (LN)                    |           |
| PHYS 2014   | University Physics I (LN) <sup>2</sup>            | 4         |
| <i>Social &amp; Behavioral Sciences (S)</i>   |   |           |
| Course designated (S)   |   |           |
| 6   |   |           |
| <b>Hours Subtotal</b>   |   | <b>42</b> |
| <b>Diversity (D) &amp; International Dimension (I)</b>  |   |           |
| May be completed in any part of the degree plan   |   |           |
| Select at least one Diversity (D) course  |   |           |
| Select at least one International Dimension (I) course  |   |           |
| <b>College/Departmental Requirements</b>  |   |           |
| <i>Basic Science</i>  |   |           |
| PHYS 2114   | University Physics II (LN) <sup>2</sup>           | 4         |
| PHYS 3313   | Introduction to Semiconductor Device Physics      | 3         |
| <i>Mathematics</i>  |   |           |
| MATH 2233   | Differential Equations <sup>2</sup>               | 3         |
| <i>Engineering</i>  |   |           |
| ENGR 1111   | Introduction to Engineering <sup>2</sup>          | 1         |
| <i>Engineering Science</i>  |   |           |
| ENSC 2113   | Statics <sup>2</sup>                              | 3         |

|   |  |            |
|---|--|------------|
| ENSC 3213   | Computer Based Systems in Engineering <sup>2</sup> | 3          |
| <i>Computer Science</i>   |  |            |
| CS 1113   | Computer Science I (A) <sup>2</sup>                | 3          |
| CS 2433   | C/C++ Programming <sup>2</sup>                     | 3          |
| <i>Electrical &amp; Computer Engineering</i>  |  |            |
| ECEN 2714   | Fundamentals of Electric Circuits <sup>2</sup>     | 4          |
| ECEN 3233   | Digital Logic Design <sup>2</sup>                  | 3          |
| <b>Hours Subtotal</b>   |  | <b>30</b>  |
| <b>Major Requirements</b>   |  |            |
| <i>Mathematics</i>  |  |            |
| MATH 3013   | Linear Algebra (A)                                 | 3          |
| <i>Electrical &amp; Computer Engineering <sup>3</sup></i>   |  |            |
| ECEN 3314   | Electronic Devices and Applications                | 4          |
| ECEN 3513   | Signal Analysis                                    | 3          |
| ECEN 3613   | Applied Fields and Waves I                         | 3          |
| ECEN 3714   | Network Analysis                                   | 4          |
| ECEN 4013   | Design of Engineering Systems                      | 3          |
| ECEN 4024   | Capstone Design                                    | 4          |
| ECEN 4503   | Random Signals and Noise                           | 3          |
| <i>Industrial Engineering &amp; Management <sup>3</sup></i>   |  |            |
| IEM 3503  | Engineering Economic Analysis                      | 3          |
| <i>ECEN Junior Electives <sup>3</sup></i>   |  |            |
| Select one of the following with advisor approval:  |  |            |
| ECEN 3623   | Applied Fields and Waves II                        | 3          |
| ECEN 3723   | Systems I  |            |
| ECEN 3913   | Solid State Electronic Devices                     |            |
| <i>ECEN Electives <sup>3</sup></i>  |  |            |
| Select five ECEN or other courses selected from combinations on the departmentally approved list, including optionally one or more courses listed, but not taken, from the ECEN Junior Elective list above, and with advisor approval |  |            |
| <b>Hours Subtotal</b>   |  | <b>48</b>  |
| <b>Controlled Electives</b>   |  |            |
| Select 3 hours of the following technical electives:  |  |            |
| ENSC 2123   | Elementary Dynamics                                | 3          |
| ENSC 2143   | Strength of Materials                              |            |
| ENSC 2213   | Thermodynamics                                     |            |
| Engineering courses 3000 level and above  |  |            |
| Other courses such as MATH, CS, STAT, etc., may be approved by advisor  |  |            |
| <b>Hours Subtotal</b>   |  | <b>3</b>   |
| <b>Total Hours</b>  |  | <b>123</b> |

<sup>1</sup> If a "B" or higher is not earned in ENGL 1113 Composition I, ENGL 1213 Composition II or ENGL 1413 Critical Analysis and Writing II is also required (per Academic Regulation 3.5 (<http://catalog.okstate.edu/university-academic-regulations/#english-composition>)).

<sup>2</sup> Courses that must be completed prior to admission to professional school.

<sup>3</sup> A minimum GPA of 2.20 is required in all courses applied to Major Requirements.

## Other Requirements

### Admission to Professional School (required)

- Earn a grade of “C” or better in technical courses required for the degree and taken prior to admission to professional school. In these technical courses, meet or exceed the **Technical GPA** requirement listed in the *Departmental GPA Requirements* of the General Catalog. Note: Technical courses include astronomy, biology, biochemistry, chemistry, geology, engineering (BAE, CHE, CIVE, IEM, ECEN, ENGR, ENSC, MAE), math, physics, statistics, zoology, and any additional science courses listed on this degree requirement sheet.
- Refer to the OSU Catalog corresponding to your matriculation date for detailed admissions requirements.

### Graduation Requirements

1. A minimum GPA of 2.00 is required in all courses applied to Major Requirements including ENGL 3323 Technical Writing, 3 hours of (S), and 6 hours of (H).
2. The major engineering design experience, capstone course, is satisfied by ECEN 4013 Design of Engineering Systems and ECEN 4024 Capstone Design.

## Additional State/OSU Requirements

- At least: 60 hours at a four-year institution; 30 hours completed at OSU; 15 of the final 30 or 50% of the upper-division hours in the major field completed at OSU.
- Limit of: one-half of major course requirements as transfer work; one-fourth of hours earned by correspondence; 8 transfer correspondence hours.
- Students will be held responsible for degree requirements in effect at the time of matriculation and any changes that are made, so long as these changes do not result in semester credit hours being added or do not delay graduation.
- Degrees that follow this plan must be completed by the end of Summer 2025.