# COMPUTER ENGINEERING: SOFTWARE ENGINEERING, BSCP

**Requirements for Students Matriculating in or before Academic Year 2024-2025.** 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:** 128

| Code | Title | Hours |
| --- | --- | --- |
| **General Education Requirements** | | |
| All General Education coursework requirements are satisfied upon completion of this degree plan | | |
| *English Composition* | | |
| ENGL 1113 | Composition I [1] | 3 |
| or ENGL 1313 | Critical Analysis and Writing I | |
| ENGL 3323 | Technical Writing | 3 |
| *American History & Government* | | |
| Select one of the following: | | 3 |
| HIST 1103 | Survey of American History | |
| HIST 1483 | American History to 1865 (H) | |
| HIST 1493 | American History Since 1865 (DH) | |
| POLS 1113 | American Government | 3 |
| *Analytical & Quantitative Thought (A)* | | |
| MATH 2144 | Calculus I (A) (With a grade of "C" or better) | 4 |
| MATH 2153 | Calculus II (A) (With a grade of "C" or better) | 3 |
| MATH 2163 | Calculus III (With a grade of "C" or better) | 3 |
| *Humanities (H)* | | |
| Courses designated (H) | | 6 |
| *Natural Sciences (N)* | | |
| Must include one Laboratory Science (L) course | | |
| CHEM 1414 | General Chemistry for Engineers (LN) | 4 |
| or CHEM 1515 | Chemistry II (LN) | |
| PHYS 2014 | University Physics I (LN) (With a grade of "C" or better) | 4 |
| PHYS 2114 | University Physics II (LN) (With a grade of "C" or better) | 4 |
| *Social & Behavioral Sciences (S)* | | |
| Course designated (S) | | 3 |
| **Hours Subtotal** | | **43** |
| **Diversity (D) & International Dimension (I)** | | |
| 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 | | |
| **College/Departmental Requirements** | | |
| UNIV 1111 | First Year Seminar (or other approved first year seminar course) | 1 |
| *Mathematics* | | |
| MATH 2233 | Differential Equations (With a grade of "C" or better) | 3 |
| *Engineering Science* | | |
| ECEN 3213 | Computer Based Systems in Engineering (With a grade of "C" or better) | 3 |
| ENSC 2611 | Electrical Fabrication Lab (With a grade of "C" or better) | 1 |
| *Computer Science* | | |
| CS 1113 | Computer Science I (A) (With a grade of "C" or better) | 3 |
| CS 2351 | Unix Programming | 1 |
| CS 2433 | C/C++ Programming (With a grade of "C" or better) | 3 |
| CS 3653 | Discrete Mathematics for Computer Science (With a grade of "C" or better) | 3 |
| *Electrical & Computer Engineering* | | |
| ECEN 2233 | Fundamentals of Digital Logic Design (With a grade of "C" or better) | 3 |
| ECEN 2714 | Fundamentals of Electric Circuits (With a grade of "C" or better) | 4 |
| **Hours Subtotal** | | **25** |
| **Major Requirements** | | |
| *Mathematics* | | |
| MATH 3013 | Linear Algebra (A) (With a grade of "C" or better) | 3 |
| *Electrical & Computer Engineering* | | |
| ECEN 3314 | Electronic Devices and Applications | 4 |
| ECEN 3513 | Signal Analysis | 3 |
| ECEN 3613 | Applied Fields and Waves I | 3 |
| ECEN 3714 | Network Analysis (With a grade of "C" or better) | 4 |
| ECEN 3903 | Introduction to Semiconductor Devices (With a grade of "C" or better in ECEN 3903 or PHYS 3313) | 3 |
| or PHYS 3313 | Introduction to Semiconductor Device Physics | |
| ECEN 4013 | Design of Engineering Systems | 3 |
| ECEN 4024 | Capstone Design | 4 |
| ECEN 4213 | Embedded Computer Systems Design | 3 |
| ECEN 4243 | Computer Architecture | 3 |
| ECEN 4303 | Digital Integrated Circuit Design | 3 |
| ECEN 4503 | Applications of Probability and Statistics to Random Signals | 3 |
| *Computer Science* | | |
| CS 4323 | Design and Implementation of Operating Systems I | 3 |
| or ECEN 4283 | Computer Networks | |
| CS 3353 | Data Structures and Algorithm Analysis I (With a grade of "C" or better) | 3 |
| *Industrial Engineering & Management* | | |
| IEM 3503 | Engineering Economic Analysis | 3 |
| **Software Engineering Electives** | | |
| 12 credit hours designated as software engineering courses | | 12 |
| **Hours Subtotal** | | **60** |
| **Total Hours** | | **128** |

[1]

If a "B" or higher is not earned in ENGL 1113 Composition I or ENGL 1313 Critical Analysis and Writing I, then 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/)).

# Graduation Requirements

1. A minimum GPA of 2.00 Technical GPA. The Technical GPA is calculated from all courses in the curriculum with a prefix belonging to the degree program, or substitutions for these courses.
2. A "C" or better in courses listed above as requiring a "C" or better.
3. 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 2030.