GENERAL EDUCATION AND COLLEGE REQUIREMENTS

Courses designated as Core I, II, III, IV, or V are part of the General Education curriculum. Students must complete a minimum of 40 hours of General Education courses, chosen from the approved list, including at least one upper-division Gen. Ed. course outside of the student's major. Courses graded P/NP will not apply.

A grade of C or better is required in each course in the curriculum, including all prerequisite courses.

UNIVERSITY-WIDE GENERAL EDUCATION (MINIMUM 40 HOURS) AND COLLEGE REQUIREMENTS

### Code | Title                                                                 | Credit Hours |
---|---|---|
ENGL 1113 | Principles of English Composition | 3 |
ENGL 1213 | Principles of English Composition | 3 |
or ENGL 1213 | Expository Writing | |
**Language** (0-10 hours in the same language)

This requirement can be met by two years of the same language in high school:

- **Beginning Course** (0-5 hours)
- **Beginning Course, continued** (0-5 hours)

**Mathematics** (minimum 3 hours)

MATH 1914 | Differential and Integral Calculus I (Core II) | 4 |

**Core Area II: Natural Science (minimum 7 hours, including one laboratory)**

- **Natural Science**
- **Natural Science elective**
- **Natural Science with lab**

Choose one natural science elective from a different discipline, with lab

- **Core Area III: Social Science**
- **PSC 1113** | American Federal Government | 3 |

Choose one course

- **Core Area IV: Arts & Humanities**

- **Artistic Forms**

Choose one course

- **Western Culture**

HIST 1483 | United States to 1865 | 3 |
or HIST 1493 | United States, 1865 to the Present | 3 |

Choose one course (excluding HIST 1483 and HIST 1493)

- **World Culture**

Choose one course

- **Core Area V: First-Year Experience**

Choose one course

- **Total Credit Hours** | 38-48 |

FREE ELECTIVES

Electives to bring total applicable hours to the minimum total required for the degree including a minimum of 40 upper-division hours.

OU encourages students to complete at least 30 hours of applicable coursework each year to have the opportunity to graduate in 4 years.

**Program**

Computer Science

B235

Bachelor of Science

### MAJOR REQUIREMENTS

**Code** | **Title** | **Credit Hours** |
---|---|---|
**Required Courses**

Choose one of the following:

- C S 1323 | Introduction to Computer Programming for Programmers | 1-4 |
- C S 1321 | Java for Programmers | |
- C S 1324 | Introduction to Computer Programming for Non-Programmers | |

- C S 2334 | Programming Structures and Abstractions | 4 |
- C S 2413 | Data Structures | 3 |
- C S 2813 | Discrete Structures | 3 |
or C S 2513 | Discrete Mathematical Structures | |

- C S 2614 | Computer Organization | 4 |
- C S 3323 | Principles of Programming Languages | 3 |
- C S 3113 | Introduction to Operating Systems | 3 |
- C S 3203 | Software Engineering | 3 |
- C S 3823 | Theory of Computation | 3 |
- C S 4173 | Computer Security | 3 |
- C S 4413 | Algorithm Analysis | 3 |
- C S 4513 | Database Management Systems | 3 |
- C S 4273 | Capstone Design Project | 3 |
- C S 4473 | Parallel, Distributed, and Network Programming | 3 |

**C S Electives**

Choose 12 credits of approved C S electives from a list maintained by the department

- **Total Credit Hours** | 54-57 |

### MAJOR SUPPORT REQUIREMENTS

**Code** | **Title** | **Credit Hours** |
---|---|---|
**Math**

- MATH 2924 | Differential and Integral Calculus II | 4 |
- MATH 3333 | Linear Algebra I | 3 |

Choose one of the following:

- ECE 2523 | Probability, Statistics and Random Processes | 3 |
- ISE 3293 | Applied Engineering Statistics | |
- MATH 4743 | Introduction to Mathematical Statistics | |
- MATH 4753 | Applied Statistical Methods | |

**Technical Electives**

Choose 9 credits of approved technical electives from a list maintained by the department.

**Additional College Requirements**

- ENGR 1411 | Pathways to Engineering Thinking | 1 |
- ENGR 2002 | Professional Responsibilities and Skills of Engineers and Scientists | 2 |

- **Total Credit Hours** | 22 |

1. Engineering transfer students may take ENGR 3511 in place of ENGR 1411.

More information in the catalog (http://ou-public.courseleaf.com/gallogly-engineering/computer-science/computer-science-bachelor-science/).
SUGGESTED SEMESTER PLAN OF STUDY

Bachelor of Science in Computer Science is accredited by the Computing Accreditation Commission of ABET, [https://www.abet.org](https://www.abet.org), under the General Criteria and the Computer Science and Similarly Named Computing Programs Program Criteria.

In order to progress in your curriculum in the Gallogly College of Engineering, and as a specific graduation requirement, a grade of C or better is required in each course in the curriculum, including all prerequisite courses.

Two college-level courses in a single world language are required; this may be satisfied by successful completion of 2 years in a single world language in high school. Students who must take language at the University will have an additional 6-10 hours of coursework.

<table>
<thead>
<tr>
<th>Year</th>
<th>FIRST SEMESTER</th>
<th>Hours</th>
<th>SECOND SEMESTER</th>
<th>Hours</th>
</tr>
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<tbody>
<tr>
<td>FRESHMAN</td>
<td>ENGL 1113 Principles of English Composition (Core I)</td>
<td>3</td>
<td>ENGL 1213 or EXPO 1213 Principles of English Composition (Core I) or Expository Writing</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>MATH 1914 Differential and Integral Calculus I (Core I)</td>
<td>4</td>
<td>MATH 2924 Differential and Integral Calculus II</td>
<td>4</td>
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<td>ENGR 1411 Pathways to Engineering Thinking</td>
<td>1</td>
<td>C S 2334 Programming Structures and Abstractions</td>
<td>4</td>
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<tr>
<td></td>
<td>Choose one of the following:</td>
<td>1-4</td>
<td>Approved Elective, Natural Science (Core II)</td>
<td>3</td>
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<tr>
<td></td>
<td>C S 1323 Introduction to Computer Programming for Programmers</td>
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<tr>
<td></td>
<td>C S 1321 Java for Programmers</td>
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<td></td>
<td>C S 1324 Introduction to Computer Programming for Non-Programmers</td>
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<td>Approved Elective, First-Year Experience (Core V)</td>
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<td></td>
<td>Approved Elective, Artistic Forms (Core IV)</td>
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<td>CREDIT HOURS</td>
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<td>CREDIT HOURS</td>
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<td>SOPHOMORE</td>
<td>ENGR 2002 Professional Responsibilities and Skills of Engineers and Scientists</td>
<td>2</td>
<td>C S 2614 Computer Organization</td>
<td>4</td>
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<td>C S 2413 Data Structures</td>
<td>3</td>
<td>C S 3323 Principles of Programming Languages</td>
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<td>P S 1113 American Federal Government (Core III)</td>
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<td>Open Elective</td>
<td>0-3</td>
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<tr>
<td></td>
<td>C S 2813 or MATH 2513 Discrete Structures or Discrete Mathematical Structures</td>
<td>3</td>
<td>Approved Elective, Natural Science w/lab (Core II)</td>
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<tr>
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<td>Approved Elective, Social Science (Core III)</td>
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<td>Choose one of the following:</td>
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<tr>
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<td>ECE 2523 Probability, Statistics and Random Processes</td>
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<td></td>
<td>ISE 3293 Applied Engineering Statistics</td>
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<td></td>
<td>MATH 4743 Introduction to Mathematical Statistics</td>
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<td></td>
<td>MATH 4753 Applied Statistical Methods</td>
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<td>CREDIT HOURS</td>
<td>14-17</td>
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<td>JUNIOR</td>
<td>C S 3113 Introduction to Operating Systems</td>
<td>3</td>
<td>MATH 3333 Linear Algebra I</td>
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<td>C S 3203 Software Engineering</td>
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<td>Approved C S Elective</td>
<td>3</td>
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<tr>
<td></td>
<td>C S 3823 Theory of Computation</td>
<td>3</td>
<td>Approved Technical Electives</td>
<td>6</td>
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<tr>
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<td>Approved Technical Elective</td>
<td>3</td>
<td>Approved Elective, Western Culture (Core IV)</td>
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<td>Open Elective</td>
<td>3</td>
<td></td>
<td></td>
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<td>15</td>
<td>CREDIT HOURS</td>
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<tr>
<td>SENIOR</td>
<td>C S 4173 Computer Security</td>
<td>3</td>
<td>C S 4273 Capstone Design Project</td>
<td>3</td>
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<td>C S 4413 Algorithm Analysis</td>
<td>3</td>
<td>C S 4473 Parallel, Distributed, and Network Programming</td>
<td>3</td>
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<td>C S 4513 Database Management Systems</td>
<td>3</td>
<td>Approved C S Elective</td>
<td>3</td>
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<tr>
<td></td>
<td>Approved C S Electives</td>
<td>6</td>
<td>United States to 1865 (Core IV) or United States, 1865 to the Present</td>
<td>3</td>
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<tr>
<td></td>
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<td></td>
<td>Approved Elective, World Culture (Core IV)</td>
<td>3</td>
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<tr>
<td></td>
<td>CREDIT HOURS</td>
<td>15</td>
<td>CREDIT HOURS</td>
<td>15</td>
</tr>
</tbody>
</table>

1 MATH 1823, MATH 2423 and MATH 2433 sequence can be substituted for MATH 1914 and MATH 2924. MATH 1523 will have to be taken by students who are not ready to start MATH 1823 or MATH 1914. Note: See an advisor in the Arts and Sciences Advising Center (EL 124) about a possible minor in mathematics.

2 Engineering transfer students may take ENGR 3511 in place of ENGR 1411.

3 Open electives should bring the total number of credits for the degree to 120-121. Physical education classes cannot be open electives.

4 To be chosen from the University-Wide General Education Approved Course List. Three of these hours must be upper-division (3000-4000). See list in the Class Schedule.

5 Courses taken to fulfill the Natural Science requirement must be chosen from the University-Wide General Education Approved Course List (Core II). At least one of the Natural Science courses must be a non-Physics course. All science courses must be for science or engineering majors. Laboratory Core II requirement must be met. Courses must come from a department maintained list.