COMPUTER SCIENCE, BS

Degree Requirements
Requirements for Students Matriculating in or before Academic Year 2023-2024. 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: 120

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tr>
<td></td>
<td><strong>General Education Requirements</strong></td>
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<tr>
<td></td>
<td><strong>English Composition</strong></td>
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<td></td>
<td>See Academic Regulation 3.5 (<a href="http://catalog.okstate.edu/university-academic-regulations/#english-composition">http://catalog.okstate.edu/university-academic-regulations/#english-composition</a>)</td>
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<tr>
<td>ENGL 1113</td>
<td>Composition I</td>
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<tr>
<td>or ENGL 1313</td>
<td>Critical Analysis and Writing I</td>
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<td>Select one of the following:</td>
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<tr>
<td>ENGL 1213</td>
<td>Composition II</td>
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<tr>
<td>ENGL 1413</td>
<td>Critical Analysis and Writing II</td>
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<tr>
<td>ENGL 3323</td>
<td>Technical Writing</td>
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<tr>
<td></td>
<td><strong>American History &amp; Government</strong></td>
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<tr>
<td>HIST 1103</td>
<td>Survey of American History</td>
<td>3</td>
</tr>
<tr>
<td>or HIST 1483</td>
<td>American History to 1865 (H)</td>
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<tr>
<td>or HIST 1493</td>
<td>American History Since 1865 (DH)</td>
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<td>POLS 1113</td>
<td>American Government</td>
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<td></td>
<td><strong>Analytical &amp; Quantitative Thought (A)</strong></td>
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<tr>
<td>CS 1113</td>
<td>Computer Science I (A)</td>
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<tr>
<td>MATH 2144</td>
<td>Calculus I (A)</td>
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<tr>
<td></td>
<td><strong>Humanities (H)</strong></td>
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<td></td>
<td>Courses designated (H)</td>
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<tr>
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<td><strong>Natural Sciences (N)</strong></td>
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<tr>
<td></td>
<td>Must include one Laboratory Science (L) course.</td>
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<tr>
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<td>Courses designated (N)</td>
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<tr>
<td></td>
<td><strong>Social &amp; Behavioral Sciences (S)</strong></td>
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<tr>
<td>SPCH 2713</td>
<td>Introduction to Speech Communication (S)</td>
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<td></td>
<td><strong>Additional General Education</strong></td>
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<td>Courses designated (A), (H), (N), or (S)</td>
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<td><strong>Hours Subtotal</strong></td>
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<td><strong>Diversity (D) &amp; International Dimension (I)</strong></td>
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<tr>
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<td>May be completed in any part of the degree plan</td>
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<td>Select at least one Diversity (D) course.</td>
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<tr>
<td></td>
<td>Select at least one International Dimension (I) course</td>
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<td><strong>College/Departmental Requirements</strong></td>
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<tr>
<td></td>
<td><strong>First Year Seminar</strong></td>
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<td>(Transfer students with 15 hours exempt)</td>
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<td><strong>Arts &amp; Humanities</strong></td>
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<td>See note 2.a.</td>
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<td><strong>Natural &amp; Mathematical Sciences</strong></td>
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<tr>
<td>CS 2133</td>
<td>Computer Science II</td>
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<tr>
<td>MATH 2153</td>
<td>Calculus II (A)</td>
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<tr>
<td>STAT 4033</td>
<td>Engineering Statistics</td>
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<th>Code</th>
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<tr>
<td></td>
<td><strong>Foreign Languages</strong></td>
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<td></td>
<td>See note 3</td>
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<td><strong>Upper Division General Education</strong></td>
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<td>Select 6 hours outside major department (see note 2.c.)</td>
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<td><strong>Major Requirements</strong></td>
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<td>Minimum major GPA 2.50 with a minimum grade of &quot;C&quot; in each course and all MATH and CS courses</td>
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<tr>
<td>CS 3353</td>
<td>Data Structures and Algorithm Analysis I</td>
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<tr>
<td>CS 3363</td>
<td>Organization of Programming Languages</td>
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<tr>
<td>CS 3443</td>
<td>Computer Systems</td>
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<tr>
<td>CS 3513</td>
<td>Numerical Methods for Digital Computers</td>
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<tr>
<td>CS 3613</td>
<td>Theoretical Foundations of Computing</td>
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<tr>
<td>CS 3653</td>
<td>Discrete Mathematics for Computer Science</td>
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<tr>
<td>CS 4243</td>
<td>Introduction to Computer Security</td>
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<tr>
<td>CS 4323</td>
<td>Design and Implementation of Operating Systems I</td>
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<tr>
<td>CS 4883</td>
<td>Social Issues in Computing</td>
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<tr>
<td>CS 4983</td>
<td>Senior Capstone Project</td>
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<tr>
<td>MATH 2163</td>
<td>Calculus III</td>
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<td>MATH 3013</td>
<td>Linear Algebra (A)</td>
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<td>Select one of the following:</td>
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<tr>
<td>ENGL 3323</td>
<td>Technical Writing</td>
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<tr>
<td>BCOM 3113</td>
<td>Written Communication</td>
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<td>BCOM 3223</td>
<td>Oral Communication</td>
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<td>SPCH 3723</td>
<td>Business and Professional Communication</td>
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<td><strong>CS electives</strong></td>
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<td>Select 12 hours CS electives (upper-division courses and CS 2433 and excluding CS 4113)</td>
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<td>Select 6 hours in the following areas:</td>
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<tr>
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<td>Computer Science (upper-division courses and CS 2433 and excluding CS 4113)</td>
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<td>Engineering (upper-division courses)</td>
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<tr>
<td></td>
<td>Geography (GEOG 3333, GEOG 4303, GEOG 4323, GEOG 4333, GEOG 4343, GEOG 4353, GEOG 4383)</td>
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<td></td>
<td>Management Science and Information Systems (upper-division courses)</td>
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<tr>
<td></td>
<td>Mathematics (upper-division courses and MATH 2233 and excluding MATH 3303, MATH 3403, and MATH 3603)</td>
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<tr>
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<td>Natural Sciences (upper-division courses with natural science designation or upper-division courses in BIOC, BIOL, CHEM, GEOL, MICR, PBIO, PHYS)</td>
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<td>Statistics (upper-division courses)</td>
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<td><strong>Hours Subtotal</strong></td>
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<td><strong>Electives</strong></td>
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<td>Select 10 hours of electives</td>
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<td>May need to include 6 hours of a foreign language. See note 3</td>
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<td>May need to include 6 hours upper-division general education outside major department (see note 2.c.)</td>
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<td>May need to include MATH 1513 and/or MATH 1813 if student does not place into MATH 2144.</td>
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### CS Electives

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<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>CS 2433</td>
<td>C/C++ Programming</td>
<td>3</td>
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<tr>
<td>CS 3030</td>
<td>Industrial Practice in Computer Science</td>
<td>1-6</td>
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<tr>
<td>CS 3570</td>
<td>Special Problems in Computer Science</td>
<td>1-6</td>
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<tr>
<td>CS 4143</td>
<td>Computer Graphics</td>
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<tr>
<td>CS 4153</td>
<td>Mobile Applications Development</td>
<td>3</td>
</tr>
<tr>
<td>CS 4173</td>
<td>Video Game Development</td>
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<tr>
<td>CS 4183</td>
<td>Video Game Design</td>
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</tr>
<tr>
<td>CS 4273</td>
<td>Software Engineering</td>
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<tr>
<td>CS 4283</td>
<td>Computer Networks</td>
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<tr>
<td>CS 4373</td>
<td>Agile Software Development</td>
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<tr>
<td>CS 4433</td>
<td>Introduction to Database Systems</td>
<td>3</td>
</tr>
<tr>
<td>CS 4513</td>
<td>Numerical Mathematics: Analysis</td>
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<tr>
<td>CS 4523</td>
<td>Cloud Computing and Distributed Systems</td>
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<td>CS 4570</td>
<td>Special Topics in Computing</td>
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<tr>
<td>CS 4623</td>
<td>Introduction to Cyber Physical Systems</td>
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<td>CS 4743</td>
<td>Extended Reality</td>
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<td>CS 4783</td>
<td>Machine Learning</td>
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<td>CS 4793</td>
<td>Artificial Intelligence I</td>
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<td>CS 4993</td>
<td>Senior Honors Project</td>
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### Other Requirements
- See the College of Arts and Sciences Requirements.
- **Upper-Division Credit:** Total hours must include at least 40 hours in courses numbered 3000 or above.

### College of Arts and Sciences Requirements

1. **Hours in One Department:** For B.A. and B.S. degrees, no more than 54 hours in one department may be required to meet degree requirements. Courses used to satisfy the General Education English Composition, U.S. History, American Government, and Mathematics or Statistics requirements will not count toward the 54-hour maximum required from one department.

2. **A&S College/Departmental Requirements**
   - a. Arts and Humanities are defined as any course carrying an (H) designation or courses from AMST, ART, DANC, ENGL (except ENGL 3323 Technical Writing) HIST, MUSI, PHIL (except PHIL 1313 Logic and Critical Thinking (A), PHIL 3003 Symbolic Logic (A) and PHIL 4003 Mathematical Logic and Computability), REL, TH, and foreign languages.
   - b. Natural and Mathematical Sciences are defined as any course from the following prefixes: ASTR, BIOC, BIOL, CHEM, CS (except CS 4883 Social Issues in Computing), GEOL, MATH, MICR, PBIO, PHYS, and STAT; or courses from other departments that carry an (A) or (N) general education designation.
   - c. Six upper-division hours are required from General Education or any CAS courses outside the student’s major department. This requirement may be satisfied by courses also used to satisfy any part of a student’s degree program (i.e., in General Education, College Departmental Requirements, Major Requirements or Electives).
   - d. Non-Western Studies Requirement for B.A. and B.F.A.; One course in Non-Western Studies (N.W.). This requirement may be satisfied by courses also used to satisfy any part of a student’s degree program (i.e., in General Education, College Departmental Requirements, Major Requirements or Electives).
   - e. The College of Arts & Sciences requires a minimum 2.0 GPA in all major requirements and a minimum 2.0 GPA in all major-prefix courses applied to the degree.

3. **Foreign Language Proficiency**
   - a. The foreign language requirement for the B.A. may be satisfied by 9 hours college credit in the same language, which must include 3 hours at the 2000-level, or equivalent proficiency (e.g., passing an advanced standing examination; TOEFL exam; presenting a high school transcript which demonstrates the high school was primarily conducted in a language other than English; etc.).
   - b. The foreign language requirement for the B.S., B.M. and B.F.A. may be satisfied by presenting a high school transcript which demonstrates two years of study of a single foreign language (passing grades at second-year level of study). It may also be satisfied by 6 hours college credit in the same language, which must include language courses 1713 and 1813, or equivalent proficiency (e.g., passing an advanced standing examination; TOEFL exam; presenting a high school transcript which demonstrates the high school was primarily conducted in a language other than English; etc.).

4. **Exclusions.** Courses with ATHL or LEIS prefixes and leisure activity courses may not be used for degree credit.

### 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 2029.