REQUIREMENTS FOR THE BACHELOR OF SCIENCE IN COMPUTER SCIENCE
GALLOGLY COLLEGE OF ENGINEERING
THE UNIVERSITY OF OKLAHOMA

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

Accredited by the Computing Accreditation Commission of ABET, http://www.abet.org

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

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<tr>
<th>Year</th>
<th>FIRST SEMESTER</th>
<th>Hours</th>
<th>SECOND SEMESTER</th>
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<td>FRESHMAN</td>
<td>ENGL 1113</td>
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<td>ENGL 1213 or</td>
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<td>Principles of English Composition (Core I)</td>
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<td>Principles of English Composition (Core I) or Expository Writing</td>
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<td>MATH 1914</td>
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<td>ENGR 1411</td>
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<td>C S 2334</td>
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<td></td>
<td>Freshman Engineer Experience</td>
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<td>Programming Structures and Abstractions</td>
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<td>C S 1323</td>
<td>1-4</td>
<td>Approved Elective, Natural Science (Core II)</td>
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<tr>
<td></td>
<td>Introduction to Computer Programming for Programmers</td>
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<td>C S 1321</td>
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<td>Java for Programmers</td>
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<td>C S 1324</td>
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<td>Introduction to Computer Programming for Non-Pro-</td>
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<td></td>
<td>Approved Elective, Artistic Forms (Core IV)</td>
<td></td>
<td>Grammers</td>
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<td>CREDIT HOURS</td>
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<td>CREDIT HOURS</td>
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<td>C S 2614</td>
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<td>Differential and Integral Calculus III</td>
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<td>PHYS 2514</td>
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<td>Professional Development</td>
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<td>General Physics for Engineering and Science Majors (Core II)</td>
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<td>Data Structures</td>
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<td>General Physics Lab I (Core II-Lab)</td>
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<td>C S 2813 or</td>
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<td>Approved Elective, Social Science (Core III)</td>
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<td>Discrete Structures or Discrete Mathematical Structures</td>
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<td>Open Elective 4</td>
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<td>MATH Majors, or Complete a Minor</td>
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<td>C S 3053</td>
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<td>Software Requirements and Specifications</td>
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<td>Human Computer Interaction</td>
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<td>C S 3823</td>
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<td>C S 3323</td>
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<td></td>
<td>Theory of Computation</td>
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<td>Principles of Programming Languages</td>
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<td>MATH 4753</td>
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<td>American Federal Government (Core III)</td>
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<td>Approved Elective, Western Civ. &amp; Culture (Core IV)</td>
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<td>MATH 4743</td>
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<td>C S 4263</td>
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<td>C S 4275</td>
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<td>Software Engineering II (Capstone)</td>
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<td>Algorithm Analysis</td>
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<td>Approved C S Elective 8</td>
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<td>Approved C S Elective 8</td>
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<td>Approved C S Elective 8</td>
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<tr>
<td></td>
<td>MATH 4073</td>
<td>3</td>
<td>Approved Elective, Non-Western Culture (Core IV)</td>
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<td>Numerical Analysis 1</td>
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<td>Database Management Systems</td>
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<td></td>
<td>Approved C S Elective 8</td>
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</table>

1. MATH 1823, MATH 2423, MATH 2433, and MATH 2443 sequence can be substituted for MATH 1914, MATH 2924, and MATH 2934. 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. Students are required to make a B or better in C S 1323/C S 1324/C S 1321 or C S 2334 before they can enroll in any other CS courses.
4. The credits from C S 1321, C S 1323, and C S 1324 plus the open electives must add up to 5.
5. To be chosen from the University-Wide General Education Approved Course List. Three of these 12 hours must be upper-division (3000-4000). See list in the Class Schedule.
6. 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. The number of credits in Core II Natural Science and open electives must be 14 credit hours or more. All science courses must be for science or engineering majors. Open electives are not required to be General Education approved. Laboratory Core II requirement must be met.
7. Another laboratory science Core II course may be substituted for PHYS 1311.
8. Honors College students may substitute C S 3980 for an approved C S elective.

Courses designated as Core I, II, III, IV or Capstone are part of the General Education curriculum. Students must complete a minimum of 40 hours of General Education courses, chosen from the approved list.
Students should read the Gallogly College of Engineering Scholastic Regulations posted on the WSSC website.

## APPROVED CS ELECTIVES

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<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tr>
<td>C S 4013</td>
<td>Artificial Intelligence</td>
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<tr>
<td>C S 4023</td>
<td>Introduction to Intelligent Robotics</td>
<td>3</td>
</tr>
<tr>
<td>C S 4033</td>
<td>Machine Learning</td>
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</tr>
<tr>
<td>C S 4053</td>
<td>Computer Graphics</td>
<td>3</td>
</tr>
<tr>
<td>C S 4113</td>
<td>Operating Systems Theory</td>
<td>3</td>
</tr>
<tr>
<td>C S 4133</td>
<td>Data Networks</td>
<td>3</td>
</tr>
<tr>
<td>C S 4323</td>
<td>Compiler Construction</td>
<td>3</td>
</tr>
<tr>
<td>C S 4433</td>
<td>Computational Methods in Discrete Optimization</td>
<td>3</td>
</tr>
<tr>
<td>C S 4613</td>
<td>Computer Architecture</td>
<td>3</td>
</tr>
<tr>
<td>C S 4743</td>
<td>Scientific Computing I</td>
<td>3</td>
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<tr>
<td>C S 4823</td>
<td>Cryptography</td>
<td>3</td>
</tr>
<tr>
<td>C S 4973</td>
<td>Special Topics</td>
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