Bachelor of Science (B.S.) Major in Computer Science (Teacher Certification in Computer Science, Grades 8-12)

Minimum required: 131 semester credit hours

Admission Requirement
1. All students pursuing teacher certification must apply and be accepted to the Office of Educator Preparation (http://mycatalog.txstate.edu/undergraduate/education/office-of-educator-preparation).

General Requirements
1. The general education core curriculum courses are listed in the degree plan below along with the statewide component code number. See the General Education Core Curriculum (http://mycatalog.txstate.edu/undergraduate/general-education-core-curriculum) section of this catalog for the Texas State requirements and options in the core curriculum, including Honors courses.
2. A minimum of nine hours must be writing intensive hours, and 36 must be advanced.
3. For transfer students, 26-32 semester credit hours in computer science (or their equivalents) may be transferred from a Texas public institution of higher education for the Computer Science Field of Study and be applied to the Bachelor of Science degree at Texas State University. More information about the Field of Study (http://mycatalog.txstate.edu/undergraduate/general-information/academic-policies/texas-legislative-requirements) is available in the Academic Policies section of this catalog. If transferring additional computer science courses please contact the Department of Computer Science for assistance. The transferable Texas Common Course Number (TCCN) is listed below the Texas State University course number in the following course list.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 1319</td>
<td>Fundamentals of Computer Science</td>
<td>3</td>
</tr>
<tr>
<td>TCCN: COSC 1336 or 1436 (CS 1319 + 1 hour CS ELNA)</td>
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<tr>
<td>CS 1428</td>
<td>Foundations of Computer Science I</td>
<td>4</td>
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<tr>
<td>TCCN: COSC 1337 or 1437</td>
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</tr>
<tr>
<td>CS 2308</td>
<td>Foundations of Computer Science II</td>
<td>3</td>
</tr>
<tr>
<td>TCCN: COSC 2336 or 2436 (CS 2308 + 1 hour CS ELNA)</td>
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<tr>
<td>CS 2318</td>
<td>Assembly Language</td>
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<tr>
<td>TCCN: COSC 2325 or 2425 (CS 2318 + 1 hour CS ELNA)</td>
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<tr>
<td>MATH 2471</td>
<td>Calculus I</td>
<td>4</td>
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<tr>
<td>TCCN: MATH 2313 or 2413</td>
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</tr>
<tr>
<td>MATH 2472</td>
<td>Calculus II</td>
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<tr>
<td>TCCN: MATH 2314 or 2414</td>
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<tr>
<td>PHYS 1430</td>
<td>Mechanics</td>
<td>4</td>
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</table>

4. In addition to satisfying the University graduation requirements, students must earn a grade of C or higher in all computer science and mathematics courses used to satisfy the requirements of the computer science major.

5. Students pursuing this B.S. degree program are required to complete an additional 3 hours of English beyond the general education core curriculum. A grade of C or higher is required in these additional hours to satisfy the graduation requirements of the computer science major. Students may select from the following English courses. ENG 3303 or ENG 3313 is recommended.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>ENG 2310</td>
<td>British Literature before 1785</td>
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</tr>
<tr>
<td>ENG 2320</td>
<td>British Literature since 1785</td>
<td>3</td>
</tr>
<tr>
<td>ENG 2330</td>
<td>World Literature before 1600</td>
<td>3</td>
</tr>
<tr>
<td>ENG 2340</td>
<td>World Literature since 1600</td>
<td>3</td>
</tr>
<tr>
<td>ENG 2359</td>
<td>US Literature before 1865</td>
<td>3</td>
</tr>
<tr>
<td>ENG 2360</td>
<td>US Literature since 1865</td>
<td>3</td>
</tr>
<tr>
<td>ENG 3303</td>
<td>Technical Writing</td>
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<tr>
<td>ENG 3313</td>
<td>Scientific Writing</td>
<td>3</td>
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</table>

5. Computer Science majors must complete 40 hours of CS including a CS project course from: CS 4318, CS 4326, CS 4371, CS 4380 or CS 4398.

6. A minor in Secondary Education is required.

7. In addition to the major, minor and general education core curriculum requirements, students must also complete 21 hours of professional sequence courses under the College of Education. All coursework must be completed prior to EDST 4681.

8. To satisfy graduation requirements for teacher certification, students must have at least a 2.75 Overall GPA. A GPA of at least 2.50 in all assigned courses in the professional sequence with no grade below a “C”.

9. Students pursuing this B.S. degree program are required to complete a total of 17 hours in mathematics from: MATH 2358, MATH 2471, MATH 2472, MATH 3305, or MATH 3398.

10. If two years of the same language are taken in high school, then no additional language hours will be required for the degree. In the absence of language taken in high school, then two semesters of the same modern language (1410 and 1420) must be taken at the college level, and the requirement will be added to the student’s degree audit.
# Course Requirements

<table>
<thead>
<tr>
<th>Freshman</th>
<th>First Semester</th>
<th>Hours</th>
<th>Second Semester</th>
<th>Hours</th>
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<tbody>
<tr>
<td>CS 1428</td>
<td>4 CS 2308</td>
<td>3</td>
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<tr>
<td>MATH 2471 (Mathematics Component Code 020)</td>
<td>4 MATH 2472</td>
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<tr>
<td>US 1100</td>
<td>1 ENG 1320 (Communication Component Code 010)</td>
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<td>ENG 1310 (Communication Component Code 010)</td>
<td>3 PHIL 1305 or 1320 (Language, Philosophy &amp; Culture Component Code 040)</td>
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<tr>
<td>COMM 1310 (Component Area Option Code 090/091)</td>
<td>3 MATH 2358</td>
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| Hours | 15 | 16 |

<table>
<thead>
<tr>
<th>Sophomore</th>
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<th>Hours</th>
<th>Second Semester</th>
<th>Hours</th>
<th>Summer</th>
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<tbody>
<tr>
<td>CS 2318</td>
<td>3 CS 2315</td>
<td>3 Summer I:</td>
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<tr>
<td>CS 3358</td>
<td>3 CS 3354</td>
<td>3 HIST 1310 (American History Component Code 060)</td>
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<tr>
<td>MATH 3398</td>
<td>3 Life &amp; Physical Sciences Component Code 030</td>
<td>4 POSI 2310 (Government/Political Science Component Code 070)</td>
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<tr>
<td>Life &amp; Physical Sciences Component Code 030</td>
<td>4 Social &amp; Behavioral Sciences Component Code 080</td>
<td>3 Summer II:</td>
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<tr>
<td>ENG Literature (Component Area Option Code 090/094)</td>
<td>3 HIST 1320 (American History Component Code 060)</td>
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| Hours | 16 | 16 | 6 |

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<tr>
<th>Junior</th>
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<th>Hours</th>
<th>Summer</th>
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<tr>
<td>CS 3398</td>
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<td>CS 3339</td>
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<td>3 MATH 3305</td>
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<td>CI 4332</td>
<td>3 CS Advanced Elective</td>
<td>3 Summer II:</td>
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<td>ENG Literature</td>
<td>3 CI 3325</td>
<td>3 ART 2313, DAN 2313, MU 2313, or TH 2313 (Creative Arts Component Code 050)</td>
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<td>Life &amp; Physical Sciences</td>
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| Hours | 16 | 16 | 6 |

<table>
<thead>
<tr>
<th>Senior</th>
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<tr>
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<td>CI 4343</td>
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<td>RDG 3323</td>
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<td>CS 4318</td>
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<tr>
<td>CS 4326</td>
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<td>CS 4371</td>
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<td>CS 4328</td>
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Total Hours: 131
Computer Science majors must take sixteen hours (4 courses) of Life & Physical Sciences from: BIO 1330/BIO 1130 & BIO 1331/BIO 1131; PHYS 1315/PHYS 1115 & PHYS 1325/PHYS 1125 [or PHYS 1430 & PHYS 2425]; CHEM 1341/CHEM 1141 and CHEM 1342/CHEM 1142; or GEOL 1410 & GEOL 1420. Eight hours (2 courses) must be from the same science (BIO, CHEM, GEOL, or PHYS) as listed above. Field of Study requirements of PHYS 1430 and PHYS 2425 will be used to satisfy this requirement.