### Bachelor of Science (B.S.) Major in Physics

**Minimum required: 120 semester credit hours**

**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. Students must complete a minimum of 36 advanced hours (3000 or 4000 level courses).
3. Students must select a minor from the approved list of Undergraduate Minors (http://www.mycatalog.txstate.edu/undergraduate/minors/). The recommended minor is Mathematics. The minor should be chosen in consultation with the academic advisor.
4. Nine semester credit hours must be writing intensive (WI).
5. 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 such high school language, two semesters of the same modern language must be taken at the college level.

**Course Requirements**

<table>
<thead>
<tr>
<th>Freshman First Semester Hours</th>
<th>Freshman Second Semester Hours</th>
<th>Sophomore First Semester Hours</th>
<th>Sophomore Second Semester Hours</th>
<th>Junior First Semester Hours</th>
<th>Junior Second Semester Hours</th>
<th>Senior First Semester Hours</th>
<th>Senior Second Semester Hours</th>
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<tbody>
<tr>
<td>MATH 2471 (Mathematics Component Code 020 [TCCN MATH 2413])</td>
<td>4 PHYS 2435 (TCCN PHYS 2427)</td>
<td>CHEM 1335 (Life and Physical Sciences Component Code 030 [TCCN CHEM 1309])</td>
<td>3 MATH 3323</td>
<td>16</td>
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<td>US 1100</td>
<td>1 MATH 2472 (Component Area Option Code 090/092 [TCCN MATH 2414])</td>
<td>PHYS 2425 (Component Area Option Code 090/093 [TCCN PHYS 2426])</td>
<td>4 PHYS 2150</td>
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<tr>
<td>ENG 1310 (Communication Component Code 010 [TCCN ENGL 1301])</td>
<td>3 ENG 1320 (Communication Component Code 010 [TCCN ENGL 1302])</td>
<td>MATH 2393 (TCCN MATH 2315)</td>
<td>3 Electives/Minor</td>
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<tr>
<td>PHYS 1430 (Life and Physical Sciences Component Code 030 [TCCN PHYS 2425])</td>
<td>4 American History Component Code 060</td>
<td>PHIL 1305 or 1320 (Language, Philosophy, and Culture Component Code 040 [TCCN PHIL 1301 or 2306])</td>
<td>3 PHYS 3320</td>
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<tr>
<td>Social and Behavioral Sciences Component Code 080</td>
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<td>Total Hours: 120</td>
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1. BIO 1330/BIO 1130 or BIO 1331/BIO 1131 may be taken instead of CHEM 1335/CHEM 1135.

2. Upper Division Labs: PHYS 3411, PHYS 3416, PHYS 3417, PHYS 3418

**PHYS Electives**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>PHYS 3210</td>
<td>Physics Cognition and Pedagogy</td>
<td>2</td>
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<tr>
<td>PHYS 3313</td>
<td>Astrophysics</td>
<td>3</td>
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<tr>
<td>PHYS 3411</td>
<td>Advanced Physics Laboratory</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 3416</td>
<td>Applied Electronics</td>
<td>4</td>
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<tr>
<td>PHYS 3417</td>
<td>Optics</td>
<td>4</td>
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<tr>
<td>PHYS 3418</td>
<td>Methods in Observational Astrophysics</td>
<td>4</td>
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<tr>
<td>PHYS 4121</td>
<td>Undergraduate Research</td>
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<tr>
<td>PHYS 4221</td>
<td>Undergraduate Research</td>
<td>2</td>
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<tr>
<td>PHYS 4311</td>
<td>Condensed Matter Physics</td>
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<td>Course Code</td>
<td>Course Title</td>
<td>Credits</td>
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<td>PHYS 4320</td>
<td>Selected Study in Physics</td>
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<td>PHYS 4321</td>
<td>Undergraduate Research (see dept.)</td>
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<td>PHYS 4350B</td>
<td>Relativity</td>
<td>3</td>
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<td>PHYS 4350D</td>
<td>Biophysics</td>
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<td>PHYS 4360</td>
<td>Physics Cognition and Pedagogy II</td>
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Or courses approved by the department advisor