BACHELOR OF SCIENCE (B.S.) MAJOR IN MICROBIOLOGY (PRE-PHYSICIAN ASSISTANT CONCENTRATION)

Minimum required: 120-124 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 Chemistry or Biochemistry. Minor and electives should be chosen in consultation with the academic advisor.

4. The minimum number of hours required for this degree program is 120. The number of elective hours a student completes depends on the number of hours a student may need to achieve the required 120 total or 36 advanced hours.

5. Nine semester credit hours must be writing intensive (WI).

6. If two years of the same foreign language were taken in high school, then no additional language hours will be required. In the absence of such high school language, two semesters of the same modern language must be taken at the college level.

7. Students in this concentration must complete MATH 2328, BIO 3421, PHIL 1320, and PSY 1300.

8. For transfer students, 24 semester credit hours in biology, chemistry and physics (or their equivalents) may be transferred from a Texas public institution of higher education for the Biology Field of Study and be applied to the Bachelor of Science degree with a major in Microbiology 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. 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>BIO 1330</td>
<td>Functional Biology</td>
<td>3</td>
</tr>
<tr>
<td>TCCN: BIOL 1306</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BIO 1130</td>
<td>Functional Biology Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>TCCN: BIOL 1106</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BIO 1331</td>
<td>Organismal Biology</td>
<td>3</td>
</tr>
<tr>
<td>TCCN: BIOL 1307</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BIO 1131</td>
<td>Organismal Biology Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>TCCN: BIOL 1107</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHEM 1341</td>
<td>General Chemistry I</td>
<td>3</td>
</tr>
<tr>
<td>TCCN: CHEM 1311</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHEM 1141</td>
<td>General Chemistry Laboratory I</td>
<td>1</td>
</tr>
<tr>
<td>TCCN: CHEM 1111</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHEM 1342</td>
<td>General Chemistry II</td>
<td>3</td>
</tr>
<tr>
<td>TCCN: CHEM 1312</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHEM 1142</td>
<td>General Chemistry Laboratory II</td>
<td>1</td>
</tr>
<tr>
<td>TCCN: CHEM 1112</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHEM 2341</td>
<td>Organic Chemistry I</td>
<td>3</td>
</tr>
<tr>
<td>TCCN: CHEM 2323</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHEM 2141</td>
<td>Organic Chemistry Laboratory I</td>
<td>1</td>
</tr>
<tr>
<td>TCCN: CHEM 2123</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHYS 1315</td>
<td>General Physics I</td>
<td>3</td>
</tr>
<tr>
<td>TCCN: PHYS 1301</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHYS 1115</td>
<td>General Physics I Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>TCCN: PHYS 1101</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total Hours 24

Course Requirements

First Semester Hours  Second Semester Hours

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 1330</td>
<td>Life and Physical Sciences Component Code 030</td>
<td>3</td>
</tr>
<tr>
<td>TCCN: CHEM 1311</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHEM 1130</td>
<td>General Chemistry Laboratory I</td>
<td>1</td>
</tr>
<tr>
<td>TCCN: CHEM 1111</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHEM 1342</td>
<td>General Chemistry II</td>
<td>3</td>
</tr>
<tr>
<td>TCCN: CHEM 1312</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHEM 1142</td>
<td>General Chemistry Laboratory II</td>
<td>1</td>
</tr>
<tr>
<td>TCCN: CHEM 1112</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHEM 2341</td>
<td>Organic Chemistry I</td>
<td>3</td>
</tr>
<tr>
<td>TCCN: CHEM 2323</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHEM 2141</td>
<td>Organic Chemistry Laboratory I</td>
<td>1</td>
</tr>
<tr>
<td>TCCN: CHEM 2123</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHYS 1315</td>
<td>General Physics I</td>
<td>3</td>
</tr>
<tr>
<td>TCCN: PHYS 1301</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHYS 1115</td>
<td>General Physics I Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>TCCN: PHYS 1101</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total Hours 24

First Semester Hours  Second Semester Hours

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 2450</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHEM 2141</td>
<td>1 CHEM 2142</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 2341</td>
<td>3 CHEM 2342</td>
<td>3</td>
</tr>
<tr>
<td>Mathematics (Component Code 020)</td>
<td>3 Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>American History Component Code 060</td>
<td>3 POSI 2320 (Government/Political Science Component Code 070)</td>
<td>3</td>
</tr>
<tr>
<td>ART 2313, DAN 2313, MU 2313, or TH 2313 (Creative Arts Component Code 050)</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

Total Hours 17

First Semester Hours  Second Semester Hours

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO Advanced Electives</td>
<td>8 BIO Advanced Electives</td>
<td>3-4</td>
</tr>
<tr>
<td>PHYS 1315</td>
<td>3 PHYS 1325</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 1115</td>
<td>1 PHYS 1125</td>
<td>1</td>
</tr>
</tbody>
</table>
Bachelor of Science (B.S.) Major in Microbiology (Pre-Physician Assistant Concentration)

<table>
<thead>
<tr>
<th>Course Description</th>
<th>First Semester Hours</th>
<th>Second Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHIL 1320 (Language, Philosophy, and Culture Component Code 040)</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Component Area Option Code 090/091/092/093/094</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>BIO 4464</td>
<td>4</td>
<td>BIO 4301</td>
</tr>
<tr>
<td>Minor/Advanced Electives</td>
<td>8-9</td>
<td>BIO 4416</td>
</tr>
<tr>
<td>PSY 1300 (Social and Behavioral Sciences Component Code 080)</td>
<td>3 Minor/Advanced Electives</td>
<td>1-2</td>
</tr>
<tr>
<td>Component Area Option Code 090/091/092/093/094</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Electives</td>
<td>5-6</td>
<td></td>
</tr>
</tbody>
</table>

Total Hours: 120-124

1 Mathematics requirements may be satisfied by taking MATH 2321 and MATH 2328, or MATH 2471 and MATH 2328.

2 Fifteen hours of advanced BIO electives are required of which 11-12 hours must be chosen from BIO 3200, BIO 3376, BIO 3430 (fall), BIO 3442, BIO 4326/BIO 4126, BIO 4376 (spring), BIO 4432, BIO 4431, BIO 4366/BIO 4166, BIO 4446 (spring), BIO 4447 (fall), BIO 4448 (spring), BIO 4480 (fall), or BIO 4413 (fall).