**Notes:**

MOST GENERAL EDUCATION COURSES CAN BE TAKEN IN ANY ORDER AS LONG AS PREREQUISITES ARE MET

* Refer to current catalog for prerequisites.

** One course from each of the following GE areas must be completed: A1, A2, A3, B1, B2, C1, C2, C3, C4, CI-C5 elective, D1, D2, D3, D4, D5 and F.

C4, D5 and F should be taken only after junior standing is reached (90 units).

† Course can be taken previously or concurrently.

‡ Calculus workshops (Math 151, 152, 153) are recommended for elective credit. They require concurrent enrollment in the associated section of Calculus.

§ Supplemental Workshops (SCM 150) recommended in your first year. These courses will count for elective credit.

¶ 8 total units of elective credit required for the major. Electives can be taken at anytime. MATH 151 & SCM 150 workshops recommended.

** Complete 21 units of Advanced Physics Electives. Select 9 units of PHYS 300 or 400 level electives. Select an additional 12 units of 300-400 courses from the following prefixes: PHYS/ASTR/GEOL/MATH/STAT/CSC with at least 2 courses from PHYS 323, 342, 357, 417, 422, 423, 452; ASTR 444 and at least 1 course from PHYS 424 or MATH 418. Total combined elective credit in PHYS 400, PHYS 404, ASTR 404, GEOL 400, and GEOL 404 limited to 8 units, with a maximum of 2 units per quarter.

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**Legend:**

- **Major (112)**
- **General Ed. (60)**
- **[GE Area]**
- **Free Electives (8)**
### BS PHYSICS

#### 2017-2019

**Units Required:** 180

**Note:** This document can be used as a compact display of courses and other curricular requirements at the time of publication of the 2017-2019 catalog. The Degree Progress Report must be used to track students’ progress in all degree requirements, throughout their Cal Poly career.

**Units Required - 180**

**MAJOR COURSES (112)**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYS 141</td>
<td>Gen Physics IA</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 132</td>
<td>Gen Physics II (B3 &amp; B4)</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 133</td>
<td>Gen Physics III</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 202</td>
<td>Physics on the Computer</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 206</td>
<td>Experimental Physics</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 211</td>
<td>Modern Physics I</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 212</td>
<td>Modern Physics II</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 301</td>
<td>Thermal Physics I</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 302</td>
<td>Classical Mechanics I</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 322</td>
<td>Vibrations and Waves</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 340</td>
<td>Quantum Physics Lab I</td>
<td>2</td>
</tr>
<tr>
<td>PHYS 341</td>
<td>Quantum Physics Lab II</td>
<td>2</td>
</tr>
<tr>
<td>PHYS 405</td>
<td>Quantum Mechanics I</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 408</td>
<td>Electromagnetic Fields &amp; Waves I</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 461 or PHYS 463</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>PHYS 462 or PHYS 464</td>
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<td>2</td>
</tr>
<tr>
<td>CHEM 124</td>
<td>Gen Chem for PSE I</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 125</td>
<td>Gen Chem for PSE II</td>
<td>4</td>
</tr>
<tr>
<td>MATH 141</td>
<td>Calculus I (B1)</td>
<td>4</td>
</tr>
<tr>
<td>MATH 142</td>
<td>Calculus I (B1)</td>
<td>4</td>
</tr>
<tr>
<td>MATH 143</td>
<td>Calculus III</td>
<td>4</td>
</tr>
<tr>
<td>MATH 241</td>
<td>Calculus IV</td>
<td>4</td>
</tr>
<tr>
<td>MATH 244</td>
<td>Linear Analysis I</td>
<td>4</td>
</tr>
<tr>
<td>MATH 304</td>
<td>Vector Analysis</td>
<td>4</td>
</tr>
<tr>
<td>MATH 344</td>
<td>Linear Analysis II</td>
<td>4</td>
</tr>
</tbody>
</table>

**Total MAJOR COURSES credit: 112 units**

#### GENERAL EDUCATION (GE)

- **60 units required, 12 of which are specified in Major**
- **Minimum of 12 units required at the 300 level.**

**Area A Communication**

- **12 units**
  - A1 Expository Writing .................................. 4
  - A2 Oral Communication ................................... 4
  - A3 Reasoning, Argumentation & Writing ............. 4

**Area B Science and Mathematics**

- **4 units**
  - B1 Life Science ........................................... 4
  - Other 12 units in Major

**Area C Arts and Humanities**

- **20 units**
  - C1 Literature ............................................. 4
  - C2 Philosophy .............................................. 4
  - C3 Fine/Performing Arts ................................ 4
  - C4 Upper-division elective ............................. 4
  - C1-C5 Elective ............................................. 4

**Area D/E Society and the Individual**

- **20 units**
  - D1 The American Experience (40404) .......... 4
  - D2 Political Economy .................................. 4
  - D3 Comparative Social Institutions ............. 4
  - D4 Self Development (CSU Area E) ............... 4
  - D5 Upper-division elective ......................... 4

**Area F Technology (upper div)**

- **4 units**

**FREE ELECTIVES**

- **8 units**

**OTHER DEGREE REQUIREMENTS:**

- Cal Poly, Higher Ed, and Major GPA must all be at least 2.00
- For students admitted Fall 2016 and after, a grade of C- or higher is required in GE A1, A2, A3, and one GE B1 course

All students must complete:

- United States Cultural Pluralism Requirement
- Graduation Writing Requirement
- 60 units Upper Division (any 300-400 level classes)
- Upper Division units in the Major: 27
- Residency Requirements: See Degree Progress Report for details

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1. Major courses with a lab component may not be selected as CR/NC grading. Examples include: PHYS 132, 133, 206, 323, 340, 341, 342, 357, 417, 422, 423, 452; ASTR 444.

2. Required in Major; also satisfies GE.

3. Students anticipating an industrial career, PHYS 323, 357, 412, 413, 423, and 452 are suggested. Students anticipating graduate work in physics, PHYS 303, 401, 406, 409, 424, and MATH 408 are suggested. Students anticipating a career in experimental physics, PHYS 357 is suggested.

4. Total combined elective credit in PHYS 400, 404; ASTR 400, 404; GEOL 400, 404 limited to 8 units, with a maximum of 2 units per quarter