Major Required

57-61 units

ENGL1101 - Stretch Composition II (3) (A2) or
ENGL1102 - First Year Composition (3) (A2)

MAT1140 - Calculus I (4) (B4)
MAT1150 - Calculus II (4) (B4)
MAT2010 - Introduction to Computational Methods in Mathematics (2)
MAT2010L - Introduction to Computational Methods in Mathematics Laboratory (1)
MAT2250 - Linear Algebra with Applications to Differential Equations (4)
MAT3100 - Introduction to Mathematical Proof (4)
MAT3140 - Introduction to Real Analysis I (4)
MAT4170 - Introduction to Abstract Algebra I (4)
MAT4190 - Advanced Linear Algebra (4)
MAT4260 - Functions of a Complex Variable (4)
PHY1510 - Introduction to Newtonian Mechanics (3) (B1)
PHY1510L - Newtonian Mechanics Laboratory (1) (B3)
PHY1520 - Introduction to Electromagnetism and Circuits (3) and
PHY1520L - Introductory Laboratory on Electromagnetism and Circuits (1)

OR

BIO1210 - Foundations of Biology: Energy, Matter, and Information (3) and
BIO1210L - Foundations of Biology: Energy, Matter, and Information Laboratory (1) (B3) and
BIO1220 - Foundations of Biology: Evolution, Ecology, and Biodiversity (3) and
BIO1220L - Foundations of Biology: Evolution, Ecology, and Biodiversity Laboratory (1)

ENG1101 - Stretch Composition II (3) (A2)
ENGL1102 - First Year Composition (3) (A2)

ENG1101 - Stretch Composition II (3) (A2)
ENGL1102 - First Year Composition (3) (A2)

STA2100L - Introduction to Statistics Laboratory (1)
STA2200 - Introduction to Probability (3)

Subplan/Option Required

16 units

Choose 16 units from the following list:

MAT3060 - History of Mathematics (3)
MAT3150 - Introduction to Real Analysis II (3)
MAT3250 - Introduction to Number Theory (3)
MAT3300 - Modern Euclidean Geometry (4)
MAT3310 - Modern Geometry (3)
MAT3470 - Combinatorics (3)
MAT4180 - Introduction to Abstract Algebra II (3)
MAT4200 - Differential Geometry (3)
MAT4210 - Introduction to Topology (3)
MAT4750 - Graph Theory (3)
MAT4850 - Teaching Mathematics in Secondary Schools I (4)
MAT4860 - Teaching Mathematics in Secondary Schools II (4)

Unrestricted Electives

0-11 units

Select a sufficient number of courses so that the total from "Major Required", "GE", and "Unrestricted Electives" is at least 104 units.

General Education Requirements

48 Units

Students should consult the Academic Programs website
https://www.cpp.edu/~academic-programs/general-education-course-listings.shtml
for current information regarding this requirement. Unless specific courses are required, please refer to the list of approved courses under General Education Requirements, Areas A through E.

Area A. English Language Communication and Critical Thinking (9 units)

At least 3 units from each sub-area:
1. Oral Communication
2. Written Communication
3. Critical Thinking

Area B. Scientific Inquiry and Quantitative Reasoning (12 units)

At least 3 units from B1, B2, B4, and B5 including 1 unit of lab from B1 or B2 to fulfill B3:
1. Physical Sciences
2. Life Sciences
3. Laboratory Activity
4. Mathematics/Quantitative Reasoning
5. Science and Technology Synthesis

Area C. Arts and Humanities (12 units)

At least 3 units from each sub-area and 3 additional units from sub-areas 1 and/or 2:
1. Visual and Performing Arts
2. Literature, Modern Languages, Philosophy and Civilization
3. Arts and Humanities Synthesis

Area D. Social Sciences (12 units)

At least 3 units from each sub-area
1. U.S. History and American Ideals
2. U.S. Constitution and California Government
4. Social Science Synthesis

Area E. Lifelong Learning and Self-Development (3 units)

Interdisciplinary General Education

21 Units

An alternate pattern for partial fulfillment of GE Areas A, C, and D available for students is the Interdisciplinary General Education (IGE) program. Students should see an advisor for specific GE coursework required by their major. Please refer to the University Catalog General Education Program section for additional information.

How IGE fulfills General Education Requirements:

<table>
<thead>
<tr>
<th>Year</th>
<th>Completion of IGE Courses</th>
<th>Satisfies GE Requirements</th>
</tr>
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<tbody>
<tr>
<td>First</td>
<td>IGE 1100, IGE 1200</td>
<td>A2 and C2</td>
</tr>
<tr>
<td>Second/Third</td>
<td>IGE 2100, IGE 2200</td>
<td>C1 and C2</td>
</tr>
<tr>
<td>Third/Fourth</td>
<td>IGE 3100</td>
<td>C3 or D4</td>
</tr>
</tbody>
</table>

American Institutions

6 Units

Courses that satisfy this requirement may also satisfy GE Area D1 and D2.

American Cultural Perspectives Requirement

3 Units

Refer to the University Catalog General Education Program section for a list of courses that satisfy this requirement. Course may also satisfy major, minor, GE, or unrestricted elective requirements.

Graduation Writing Test

All persons who receive undergraduate degrees from Cal Poly Pomona must pass the Graduation Writing Test (GWT). The test must be taken by the semester following completion of 60 units for undergraduates.