CAL POLY POMONA

Name:
Plan: **Mathematics, B.S.**
SubPlan/Option: **Applied Mathematics/Statistics**
Min. Units Required: **120 units**

2018-2019 University Catalog
Degree Curriculum Sheet

Major Required Core — 61 units

BIO1210 - Foundations of Biology: Energy, Matter, and Information (3) (B2)
BIO1210L - Foundations of Biology: Energy, Matter, and Information Laboratory (1) (B3)

BIO1220 - Foundations of Biology: Evolution, Ecology, and Biodiversity (3) and
BIO1220L - Foundations of Biology: Evolution, Ecology, and Biodiversity Laboratory (1)
OR
PHY1520 - Introduction to Electromagnetism and Circuits (3) and
PHY1520L - Introductory Laboratory on Electromagnetism and Circuits (1)

ENG1101 - Stretch Composition II (3) (A2) or
ENG1103 - 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)
MAT2140 - Calculus III (4)
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)
MAT4280 - Functions of a Complex Variable (4)
PHY1510 - Introduction to Newtonian Mechanics (3) (B1)
PHY1510L - Newtonian Mechanics Laboratory (1) (B3)
STA2100 - Introduction to Statistics (4)
STA2200 - Introduction to Probability (3)

Subplan/Option Required Core — 16 units

Choose 16 units from the following list:

MAT3470 - Combinatorics (3)
MAT3800 - Mathematics of Operations Research I (3)
MAT3810 - Mathematics of Operations Research II (3)
MAT4010 - Introduction to Numerical Analysis I (3)
MAT4020 - Introduction to Numerical Analysis II (3)
MAT4310 - Differential Equations (3)
MAT4320 - Differential Equations and Dynamical Systems (3)
MAT4440 - Vector and Tensor Analysis (3)
MAT4750 - Graph Theory (3)
MAT4800 - Mathematical Programming (3)
MAT4850 - Introduction to Mathematical Modeling I (3)
MAT4860 - Introduction to Mathematical Modeling II (3)
STA3100 - Sampling Methods and Applications (3)
STA4200 - Nonparametric Statistics (3)
STA4250 - Survival Analysis (3)
STA4300 - Introduction to Random Processes (4)
STA4320 - Applied Regression Analysis (4)
STA4350 - Analysis of Variance and Design of Experiments (4)
STA4400 - Mathematical Statistics I (3)
STA4430 - Mathematical Statistics II (3)
STA4700 - Categorical Data Analysis (3)

Unrestricted Electives — 0-7 units

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

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)
1. Oral Communication
2. Written Communication
3. Critical Thinking

Area B. Scientific Inquiry and Quantitative Reasoning (12 units)
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)
1. Visual and Performing Arts
2a. Philosophy and Civilization
2b. Literature and Language Other than English
3. Arts and Humanities Synthesis

Area D. Social Sciences (12 units)
1. U.S. History and American Ideals
2. U.S. Constitution and California Government
3. Social Sciences: Principles, Methodologies, Value Systems, and Ethics
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:

Year	*Completion of IGE Courses*	*Satisfies GE Requirements*
Freshman	*IGE 1100, IGE 1200*	*A2 and C2b*
Sophomore	*IGE 2100, IGE 2200*	*C1 and C2a*
Junior	*IGE 2300, IGE 2400*	*D1 and D3*
Senior	*IGE 3100*	*C3 or D4*

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.