CalPolyPomona

Name:

Plan: **Mathematics, B.S.**

SubPlan/Option: **Secondary Teacher Prep/Pure Mathematics**

Min. Units Required: **120 units**

Major Required   54-58 units

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)

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) (B2) *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)

STA2100 - Introduction to Statistics (3)
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)

MAT4950 - Teaching Mathematics in Secondary Schools I (4) *and*
MAT4960 - 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 view their Degree Progress Report (DPR) for information regarding their General Education requirements. Unless specific GE courses are required for their major, please refer to the list of approved courses in the General Education Program in the University Catalog, catalog.cpp.edu. When viewing the catalog, students should select the catalog year associated with the GE requirements listed in their Degree Progress Report.

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 (9 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)

Area F. Ethnic Studies (3 units)

Interdisciplinary General Education   18 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
First	IGE 1100, IGE 1200	A2 and C2
Second/Third	IGE 2150, IGE 2250	D1 and C2
	IGE 2350	C1
	IGE 3100	C3 or D4

American Institutions   6 Units

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

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.