CAL POLY POMONA

Name: _____

Plan: **Computer Science, B.S.** _____

SubPlan/Option: _____

Min. Units Required: **120 units**

Major Required Core   65 units

BIO1110 - Life Science (2) (B2)
BIO1110L - Life Science Laboratory (1) (B3)
CS1300 - Discrete Structures (4)
CS1400 - Introduction to Programming and Problem Solving (4)
CS2400 - Data Structures and Advanced Programming (4)
CS2640 - Computer Organization and Assembly Programming (3)
CS3110 - Formal Languages and Automata (3)
CS3310 - Design and Analysis of Algorithms (4)
CS3650 - Computer Architecture (4)
CS3750 - Computers and Society (3) (B5 or D4)
CS4080 - Concepts of Programming Languages (3)
CS4310 - Operating Systems (3)
CS4630 - Undergraduate Seminar (1)
CS4800 - Software Engineering (3)
MAT1140 - Calculus I (4) (B4)
MAT1150 - Calculus II (4) (B4)
MAT2250 - Linear Algebra with Applications to Differential Equations (4)
PHY1510 - Introduction to Newtonian Mechanics (3) (B1)
PHY1510L - Newtonian Mechanics Laboratory (1) (B3)
PHY1520 - Introduction to Electromagnetism and Circuits (3)
PHY1520L - Introductory Laboratory on Electromagnetism and Circuits (1)
STA2260 - Probability and Statistics for Computer Scientists and Engineers (3)

Major Electives   19 units

At least 12 units from:

CS3010 - Numerical Methods (3)
CS3520 - Symbolic Programming (3)
CS3560 - Object-Oriented Design and Programming (3)
CS3700 - Parallel Processing (3)
CS3800 - Computer Networks (3)
CS4110 - Compilers and Interpreters (3)
CS4200 - Artificial Intelligence (3)
CS4350 - Database Systems (3)
CS4450 - Computer Graphics (3)
CS4500 - Computability (3)
CS4600 - Cryptography and Information Security (3)
CS4650 - Big Data Analytics and Cloud Computing (3)
CS4700 - Game Development (3)
CS4810 - Software Engineering Practice (3)
CS4990 - Special Topics for Upper Division Students (1-3)

No more than 3 units from:

CS2450 - Programming Graphical User Interfaces (3)
CS2560 - C++ Programming (3)
CS2600 - Unix and Scripting (3)
CS2990 - Special Topics for Lower Division Students (1-3)

No more than 4 units from:

CS2000 - Special Study for Lower Division Students (1-3)
CS4000 - Special Study for Upper Division Students (1-3)
CS4410 - Internship in Computer Science (1-2)
CS4610 - Senior Project (1)
CS4620 - Senior Project (1)
MAT3470 - Combinatorics (3)
MAT3800 - Mathematics of Operations Research I (3)
MAT3810 - Mathematics of Operations Research II (3)
MAT4020 - Introduction to Numerical Analysis II (3)
MAT4750 - Graph Theory (3)
MAT4800 - Mathematical Programming (3)
MAT4850 - Introduction to Mathematical Modeling I (3)
MAT4860 - Introduction to Mathematical Modeling II (3)

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.