BS MATHEMATICS
2007-09 Cal Poly Catalog
Mathematics Department
Faculty Offices East Bldg. (25), Room 208 (805) 756-2206

- 60 units upper division
- 2.0 GPA
- USCP
- W = Satisfies General Education requirement

Course sequencing: See flowcharts at www.calpoly.edu/~cosamac

MAJOR COURSES
MATH 141 Calculus I (B1)* .......................... 4
MATH 142 Calculus II (B1)* .......................... 4
MATH 143 Calculus III .............................. 4
MATH 202 Orientation to the Mathematics Major 1
MATH 206 Linear Algebra I .......................... 4
MATH 241 Calculus IV ............................... 4
MATH 242 Differential Equations I .................. 4
MATH 248 Methods of Proof in Mathematics .... 4
MATH 306 Linear Algebra II ......................... 4
MATH 336 Combinatorial Mathematics ............ 4
MATH 412 Introduction to Analysis I ............... 4
MATH 459 Senior Seminar .......................... 4
MATH 461 Senior Project I ........................... 2
MATH 462 Senior Project II .......................... 2
MATH 481 Abstract Algebra I ....................... 4
Advanced Work in Major or Concentration .......... 32-34

SUPPORT COURSES
Choose one of the following tracks: ................ 8
- CSC/CPE 101 and CSC/CPE 102 or
CSC/CPE 235 and CSC/CPE 236 or
CSC/CPE 101 and CSC/CPE 236
- PHYS 141 General Physics IA .................... 4
- PHYS 132 General Physics II (B3 & B4)* .......... 4
- PHYS 133 General Physics III .................... 4
- STAT 301 Statistics I .............................. 4
- STAT 302/STAT 325/STAT 425 .................... 4

GENERAL EDUCATION (GE)
72 units required; 12 units are in Major/Support.
See page 56 for complete GE course listing.
Minimum of 12 units required at the 300-400 level.

Area A Communication (12 units)
A1 Expository Writing .............................. 4
A2 Oral Communication ............................ 4
A3 Reasoning, Argumentation, and Writing ....... 4

Area B Science and Mathematics (4 units)
B1 Mathematics/Stat * 8 units in Major/Support 0
B2 Life Science ...................................... 4
B3 Physical Science * 4 units in Support ......... 0
B4 One lab taken with either a B2 or B3 course 0

Area C Arts and Humanities (20 units)
C1 Literature ........................................ 4
C2 Philosophy ....................................... 4
C3 Fine/Performing Arts ........................... 4
C4 Upper-division elective ........................ 4
Area C elective (Choose one course from C1-C4) 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 Elective (upper division)
(4 units) .............................................. 4

Advanced Work In Major

1. Complete either of the following courses ........ 4
   CSC/CPE 103 Fundamentals of Computer Science III (4) or
   MATH 350 Mathematical Software (4)

2. Complete two tracks from the following four subject areas .......................... 16
   A track consists of two paired courses representing depth of study with a particular focus. Each track chosen must belong to a different subject area A-D.

   A. MATH 341 Theory of Numbers (4) and MATH 482 Abstract Algebra II (4)
      MATH 406 Linear Algebra III (4) and MATH 482 Abstract Algebra II (4)
      MATH 335 Graph Theory (4) and MATH 437 Game Theory (4)

   B. MATH 413 and MATH 414 Introduction to Analysis II, III (4)(4)
      MATH 408 and MATH 409 Complex Analysis I, II (4)(4)
      MATH 408 Complex Analysis I (4) and MATH 413 Introduction to Analysis II (4)

   C. MATH 440 and MATH 441 Topology I, II (4)(4)
      MATH 304 Vector Analysis (4) and MATH 404 Introduction to Differential Geometry (4)
      MATH 416 Differential Equations II (4) and MATH 417 Discrete Dynamical Systems (4)
      MATH 442 Euclidean Geometry (4) and
      MATH 443 Modern Geometries (4)

   D. MATH 304 Vector Analysis (4) and MATH 418 Partial Differential Equations (4)
      MATH 344 Linear Analysis II (4) and MATH 416 Differential Equations II (4)
      MATH 451 and MATH 452 Numerical Analysis I, II (4)(4)
      MATH 431 and MATH 432 Mathematical Optimization I, II (4)(4)

3. Complete 12 additional units from the following courses .......................... 12
   MATH 304, 335, 341, 344, 404, 406, 408, 409, 413, 414, 416, 417, 418, 419, 431, 432, 437, 440, 441, 442, 443, 451, 452, 470, 482,
   CSC 349, 361,
   IME 301,
4. Advanced work must include at least two of the following courses:
MATH 341, 344, 413, 414, 406, 440, 441, 482

Mathematics Teaching Concentration
SCM 300 Early Field Experience, Science/Math..... 2
MATH 300 Technology in Mathematics Education 4
MATH 341 Theory of Numbers...................... 4
MATH 419 Intro to the History of Mathematics..... 4
MATH 423 Advanced Mathematics for Teaching 4
MATH 442 Euclidean Geometry ..................... 4
MATH 443 Modern Geometries ..................... 4
MATH 482 Abstract Algebra II....................... 4
Select 4 units from the following:.................. 4
MATH 304, 335, 344, 406, 408, 413, 416, 417,
431, 437, 440, 451, 470,
IME 301,
PHYS 301, 302, 323, 405,
STAT 425

32
34