

2009-11 Cal Poly Catalog

Mathematics Department

Flowchart

BS MATHEMATICS

- ☐ 60 units upper division ☐ GWR
☐ 2.0 GPA ☐ USCP

* = Required in Major; also satisfies GE

Course sequencing: See flowcharts at
www.csmadvising.calpoly.edu

Note: No major, support or concentration courses
may be taken as credit/no credit.

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 412 Introduction to Analysis I.....	4
MATH 459 Senior Seminar <i>or</i> MATH 460 Applied Math Senior Seminar	4
MATH 461 Senior Project I	2
MATH 462 Senior Project II.....	2
MATH 481 Abstract Algebra I.....	4
PHYS 141 General Physics IA.....	4
PHYS 132 General Physics II <i>or</i> PHYS 133 General Physics III (B3 & B4)*	4
General curriculum or concentration	48/56/52/52 ¹
	105/113/109/109¹

GENERAL EDUCATION (GE)

72 units required, 12 of which are specified in Major.

→See page 50 for complete GE course listing.

→Minimum of 12 units required at the 300 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 *in Major	

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
	60
ELECTIVES	15/7/11/11¹
	180

General Curriculum in Mathematics or Concentrations (select one)

General Curriculum in Mathematics

This is the pathway for students who do not wish to select a concentration.

CSC/CPE 101 Fund. of Computer Science I <i>or</i> CSC/CPE 235 Fundamentals of Computer Science for Scientists and Engineers I	4
STAT 301 Statistics I <i>or</i> STAT 325 Introduction to Probability Models	4
MATH 336 Combinatorial Mathematics	4
Tracks.....	24

Choose three tracks from the following list, with at least one track chosen from the first two tracks listed. A track consists of two paired courses representing depth of study with a particular focus.

MATH 413 <i>and</i> MATH 414	
MATH 406 <i>and</i> MATH 482	
MATH 304 <i>and</i> MATH 404	
MATH 335 <i>and</i> MATH 435	
MATH 344, <i>and</i> MATH 416 <i>or</i> MATH 418	
MATH 350, <i>and</i> MATH 341 <i>or</i> MATH 344	
MATH 408 <i>and</i> MATH 409	
MATH 437 <i>and</i> MATH 453	
MATH 440 <i>and</i> MATH 441	
MATH 442 <i>and</i> MATH 443	
MATH 451 <i>and</i> MATH 452	
Electives.....	12
Select 12 units from the following:	
MATH 304, 335, 341, 344, 350, 404, 406, 408, 409, 413, 414, 416, 418, 419, 435, 436, 437, 440, 441, 442, 443, 451, 452, 453, 470, 482;	
CSC/CPE 102, 103, 236, 349;	
PHYS 132, 133, 211, 301, 302, 322, 323, 405, 408;	
STAT 301, 302, 325, 425, 426, 427	
	48

Applied Mathematics Concentration

CSC/CPE 101 Fund. of Computer Science I <i>or</i> CSC/CPE 235 Fundamentals of Computer Science for Scientists and Engineers I	4
MATH 304 Vector Analysis.....	4
MATH 344 Linear Analysis II.....	4
MATH 350 <i>or</i> CSC/CPE 102 <i>or</i> CSC/CPE 236	4
MATH 413 Introduction to Analysis II	4

¹ General Curriculum/Applied Concentration/Pure Concentration/
Mathematics Teaching Concentration.

MATH 451 Numerical Analysis I.....	4
STAT 301 Statistics I <i>or</i> STAT 325 Introduction to Probability Models	4
Tracks.....	12 16

Corrected effective Summer 2009

Choose two tracks from the following list. A track consists of two paired courses representing depth of study with a particular focus.

MATH 408 *and* MATH 409

MATH 416 *and* MATH 418

MATH 452 *and* MATH 453

Advisor approved electives	12
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To be taken outside of the Mathematics Department with significant applications to mathematics; at least one course at 300 level or above.

56

Pure Mathematics Concentration

MATH 336 Combinatorial Mathematics.....	4
MATH 408 Complex Analysis I	4
MATH 413 Introduction to Analysis II.....	4
MATH 440 Topology I	4
MATH 482 Abstract Algebra II.....	4
Select 12 units from the following:	12
MATH 406, 409, 414, 435, 441	
Select 8 units from the following	8
CSC/CPE 101 <i>or</i> CSC/CPE 235 (4)	
MATH 350 (4)	
STAT 301 <i>or</i> STAT 325 (4)	
Select 12 units from the following	12
MATH 304, 335, 341, 344, 350, 404, 406, 409, 414, 416, 418, 435, 436, 437, 441, 451, 452, 453, 470	

52

Mathematics Teaching Concentration

CSC/CPE 101 Fundamentals of Computer Science I <i>or</i> CSC/CPE 235 Fundamentals of Computer Science for Scientists and Engineers I.....	4
SCM 300 Early Field Experience, Science/Math.....	4
MATH 300 Technology in Mathematics Education	4
STAT 301 Statistics I.....	4
STAT 302 <i>or</i> STAT 325 <i>or</i> STAT 425.....	4
MATH 336 Combinatorial Mathematics.....	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
CSC/CPE 102, 236;	
MATH 304, 335, 344, 406, 408, 413, 416, 435, 437, 440, 451, 470;	
PHYS 132, 133, 302	

52