MATHEMATICS B.S. CURRICULUM

Units required: 180

For course prerequisites, refer to the "Course Descriptions" section of the catalog. Academic advisors should be consulted when scheduling courses.

MAJOR REQUIREMENTS (85)	UNITS
MATH 141 Calculus I (B1)	4
MATH 142 Calculus II (B1)	4
MATH 143 Calculus III	4
MATH 202 Orientation to the Math Major	1
MATH 206 Linear Algebra I	4
MATH 241 Calculus IV	4
MATH 242 Differential Equations	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	2
MATH 462 Senior Project	2
MATH 481 Abstract Algebra I	4
Advanced Work in Major:	32

SUPPORT REQUIREMENTS (28)	UNITS
CSC/CPE 101 and 102 Fund Comp Sci I, II **or** CSC/CPE 235 and 236 Fund Comp Sci for Eng. I, II	8
PHYS 131 or 141 General Physics	4
PHYS 132 General Physics (B3 & B4)	4
PHYS 133 General Physics	4
STAT 321 Prob. and Stat. for Engrs and Scientists	4
STAT 322 Stat. Analysis for Engrs and Scientists	4

FREE ELECTIVES:	UNITS
	7

GENERAL EDUCATION (GE) 2001 (60)
72 units required; 12 units are in Major/Support.
Refer to catalog for selection of GE courses.

	Area A: Communication	Units
A1	Expository Writing	4
A2	Oral Communication	4
A3	Reasoning, Argumentation and Writing	4
	Area B: Science and Mathematics	
B1	Mathematics/Statistics	0
B2	Life Science	4
B3	Physical Science	0
B4	B2 or B3 Lab	0
	Area C: Arts and Humanities	
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	
D1	The American Experience	4
D2	Political Economy	4
D3	Comparitive Social Institutions	4
D4	Self Development (CSU Area E)	4
D5	Upper-Division Elective	4
	Area F: Technology	
F	Upper-Division Elective	4

ADVANCED WORK IN MAJOR

ADVANCED WORK: (32 units)

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

Complete two advanced study tracks[1] from two of the following four subject areas (16 units):
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)

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)

MATH 440 *and* MATH 441 Topology I, II (4) (4)
MATH 304 Vector Analysis (4) *and* MATH 404 Differential Geometry (4)
MATH 344 Linear Analysis II (4) *and* MATH 417 Introduction to Dynamical Systems (4)
MATH 442 Euclidean Geometry (4) *and* MATH 443 Modern Geometries (4)

MATH 304 Vector Analysis (4) *and* MATH 418 Partial Differential Equations (4)
MATH 333 *and* MATH 433 Numerical Analysis I, II (4) (4)
MATH 431 *and* MATH 432 Mathematical Optimization I, II (4) (4)

Complete 12 additional units from the following courses:

MATH 304, 333, 335, 341, 344, 404, 406, 408, 409, 413, 414, 417, 418, 419, 431, 432, 433, 437, 440, 441, 442, 443, 470, 482; CSC 349, CSC 361, IME 301, PHYS 301, PHYS 302, PHYS 323, PHYS 405, PHYS 408, STAT 425, STAT 426, STAT 427

Advanced work must include at least two of the following courses:

MATH 341, 344, 413, 414, 406, 440, 441, 482

[1] A track consists of two paired courses representing depth of study in a particular area.