MATHEMATICS AND APPLIED MATHEMATICS

Courses required for the first year: A student should begin with either MATH 218 Pre-Calculus, MATH 219 Calculus I or MATH 220 Calculus II. Placement into MATH218 or MATH219 depends on student's Math Index Score. Some students may be required to take MATH 090 before MATH 218. Students with a 4 or 5 on the AB form of the AP calculus test should begin with MATH 220. Please consult with a math advisor for more information. (It is strongly recommended that secondary education majors finish MATH 219 Calculus I and MATH 220 Calculus II during their first year.)

The Major in Mathematics

REQUIRED COURSES

30 credits including 16 credits (5 courses + MATH 479) at the 300-400 level and including:

MATH 221	Calculus III	3 credits
MATH 230	Discrete Mathematics	3 credits
MATH 270	SI Tools of Inquiry	2 credits
MATH 329	Linear Algebra	3 credits
MATH 340	Abstract Algebra (prerequisite: MA 329)	3 credits
MATH 411	Real Analysis (prerequisite: MA 329)	3 credits
Senior Inquiry in Math, which includes:		
	MATH 477 SI Mathematics	3 credits
	MATH 479 SI Presentation	1 credit

RECOMMENDED SUPPORTING COURSE

CSC 211	Introduction to Computer Science I	3 credits
PHIL 310	Modern Formal Logic	3 credits

The Major for Teaching Mathematics (Secondary Education)

29 credits in MATH and CSC, as follows:

REQUIRED COURSES

MATH 219-220	Calculus I & II	3+3 credits
MATH 230	Discrete Mathematics	3 credits
MATH 270	SI Tools of Inquiry	2 credits
MATH 315	Probability and Statistics I	3 credits
MATH 329	Linear Algebra	3 credits
MATH 340	Abstract Algebra	3 credits
MATH 350	Modern Geometry	3 credits
MATH 411	Real Analysis	3 credits
CSC 211	Introduction to Computer Science I	3 credits
Senior Inquiry in Math:		
	EDUC 490 Student Teaching	9 credits

First-Year students planning to become high school math teachers should consult the Director of Secondary Education (Dr. Michael Schroeder, 794-7283).

The Major in Applied Mathematics

The applied mathematics major was designed for students who would be likely to use mathematics in service of another discipline. The major serves as a stand-alone major or as a second major.

REQUIRED COURSES (30 credits)

MATH 219-221	Calculus I-III	9 credits
MATH 230	Discrete Mathematics	3 credits
MATH 270	Tools of Inquiry	2 credits
MATH 315	Probability & Statistics I	3 credits
MATH 329	Linear Algebra	3 credits
MATH 336	Modeling	3 credits
MATH 338	Differential Equations	3 credits
MATH 479	SI Presentation	1 credit
CSC 211	Introduction to Computer Science I	3 credits

SENIOR INQUIRY MATH RESEARCH OPTIONS

MATH 478 SI Applied Mathematics	3 credits
MATH 479 SI Presentation	1 credit

ELECTIVE (3 credits) Students must complete one of the following courses:

MATH 316 Probability & Statistics II	3 credits
MATH 343 Numerical Analysis	3 credits
MATH 340 Abstract Algebra	3 credits
MATH 411 Real Analysis	3 credits

APPLIED DISCIPLINE OPTIONS (9 credits)
Students must complete one of the depth options or the breadth option below (not both). Please note that the options include courses with numerous prerequisites (Students may instead design their own option in applied disciplines. Students who choose to do so will complete a contract major).

Depth Options 9 credits with a single departmental designation from the options below, and including the courses listed for that option:

Accounting: ACCT 311 Accounting Systems and Control, ACCT 321 Intermediate Accounting I.
Biology: BIOL 310 Evolutionary Biology, BIOL 380 Applied Ecology.
Business Administration: BUSN 474 Business Simulation.
Chemistry: CHEM 361 Physical Chemistry 1, CHEM 362 Physical Chemistry 2.
Computer Science: CSC 310 Database Management Systems, CSC 370 Data Structures and Algorithms.
Economics: ECON 301 Intermediate Macroeconomics, ECON 302 Intermediate Microeconomics.
Geography: GEOG 272 Cartography, one of GEOG 373 or GEOG 374Geographic Information Systems.
Geology: One of GEOL 115 or GEOL 116 , and two of three from GEOL 309 , GEOL 330, or GEOL 403.
Physics: PHYS 311 Electricity & Magnetism, PHYS 320 Mechanics.

Breadth Option 9 credits with three different departmental designations, chosen from:
ASTR 311, ASTR 315, BIOL 310,BIOL 380, BUSN 313, BUSN 331, CHEM 122, CSC 212, ECON 201, ECON 202, GEOG 272, GEOG 373, GEOL 101, GEOL 115, GEOL 116, PHIL 312,PHYS 201.

Actuarial Science Note: Students who wish to pursue work in actuarial science should take MATH 316 as their Math elective. In addition, other recommended courses include BUSN 205, BUSN 301, BUSN 321, BUSN 331, COMM 104, CSC 212, ECON 201, and ECON 202.

The Minor in Mathematics

REQUIRED COURSES

18 credits including 6 (2 courses) at the 300-400 level and including:
MATH 329 Linear Algebra (prerequisites: MATH 220 AND MATH 230)

Each of the 300-400 level courses, as well as MATH 221 is usually offered during only one term of the year:

Fall-only courses:	MATH 230, MATH 340
Winter-only courses:	MATH 315, MATH 338, MATH 411
Spring-only courses:	MATH 221, MATH 316/343, MATH 329, MATH 350, MATH 430/450

Advisor: Dr. Jon Clauss, 7260

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