

## Mathematics Major Requirements

To earn a major in mathematics, students must complete a total of ten courses of at least one credit each at the 200-level or above.

These courses must be selected so as to satisfy the requirements below. Note that students may elect to complete the general mathematics major which provides the student a broad foundation in both pure and applied mathematics, or may choose to complete the major with a concentration in applied mathematics. In both cases, students must earn a grade of C- or better in each course that is counted toward these requirements.

(In the case of Math 205, the minimum grade requirement is C+.)

Core Requirements		
Requirement	Course	Semester taken
Calculus requirement:	MATH 231 - Calculus III	.....
Linear Algebra requirement:	One of the following*: MATH 228 - Linear Algebra** MATH 229 - Applied Linear Algebra	..... .....
Introduction to Proof requirement:	Math 205 - Abstraction and Argument**	.....
Capstone requirement:	one 400-level seminar course MATH 4--	..... .....

*Choose either the General Concentration or the Applied Mathematical Concentration*

General Mathematics Concentration		
Requirement	Course	Semester taken
Writing Intensive Part II requirement:‡	MATH 307 - Abstract Algebra I-TheoryGrps MATH 331 - Analysis I Intro Real Analysis	..... .....
Electives (4 or more credits):		
two courses 200-level or above#	.....	.....
two courses 300-level or above@	.....	.....

Applied Mathematics Concentration		
Requirement	Course	Semester taken
Writing Intensive Part II requirement:‡	MATH 309 - Numerical Analysis MATH 331 - Analysis I Intro Real Analysis	..... .....
Differential Equation Requirement:	MATH 234 - Differential Equations	.....
Electives (3 or more credits):		
one course 200-level or above#	.....	.....
two courses 300-level or above@	.....	.....
<b>PLEASE NOTE:</b>	one elective must be either MATH 316 or MATH 334; another must be MATH 209, MATH 237, MATH 252, MATH 316, or MATH 334	

List of Approved Cognate Courses - may be substituted for one 200-level Math course as an elective	
CHEM 309L. Physical Chemistry I	ENGR 337. Thermodynamics
CHEM 310. Physical Chemistry II	ENGR 346L. Computational Neuroscience
CHEM 316L. Physical Biochemistry	ENGR 362L. Fluid Dynamics
CPSC 320. Analysis of Algorithms	PHYS 232L. Physics III: Optics and Modern Physics
ECON 312. Mathematical Economics	PHYS 300. Mathematical Methods of Physics
ENGR 212L. Linear Circuit Theory	PHYS 301. Classical Mechanics
ENGR 225. Mechanics I	PHYS 302. Electrodynamics
ENGR 301L. Signal Processing and Applications	PHYS 304. Statistical and Thermal Physics
ENGR 303L. Analog and Digital Communication	PHYS 313. Quantum Mechanics
ENGR 312. Automatic Control Systems	PSYC 221L. Research Design and Analysis

\*Students may take both courses for college credit but only one may be counted towards the ten courses required for the math major.

\*\*Students must earn a grade of C+ or better in either Math 205 or Math 228.

‡At least one of these courses *must* be taken at Trinity.

#Each course must carry a minimum of one credit. **At most** one course may be chosen from the list of cognate courses above

@ not including Math 399 or 497. No cognate course (above) will count toward the fulfillment of this requirement

**Courses offered every semester:** MATH 205, 207, 228, 229, 231, 234, 400

**Courses offered every year:** MATH 252, 307, 309, 331

**Courses offered every other year:** MATH 237, 253, 305, 306, 308, 314, 316, 318, 326, 332, 334, 341

Although a student may begin the mathematics major as late as the fall semester of the sophomore year, the department recommends that prospective majors who have no prior calculus credit adopt the following typical schedule:

<b>Year</b>	<b>Fall</b>	<b>Spring</b>
First	131	132
Sophomore	231, 205	228 or 229, elective
Junior	307 or 331, elective	Two electives
Senior	307 or 331, elective	400 level seminar course