

## Recommended Schedule for Math Majors Not Seeking Secondary Licensure

### First and Second Years

Complete the following required courses:

#### Calculus I

**MATH 235** (4 credits)  
OR **MATH 231 and 232** (6 credits total)

#### Calculus II

**MATH 236** (4 credits)  
[Pre-requisite: MATH 235 or 232 or 234]

#### Calculus III

**MATH 237** (4 credits)  
[Pre-requisite: MATH 236]

#### Intro to Probability & Statistics<sup>1</sup>

**MATH 229 and 329** (6 credits total)  
OR **MATH 318** (4 credits)  
[Prerequisites for 329: MATH 229 and 236]  
[Prerequisite for 318: MATH 236]

#### Discrete Mathematics

**MATH 245** (3 credits)  
[Prerequisite/Corequisite: MATH 236]

#### Linear Algebra<sup>2</sup>

**MATH 300** (3 credits)  
[Pre-requisite: MATH 236]

#### Elementary Differential Equations<sup>2</sup>

**MATH 336** (3 credits)  
[Prerequisite: MATH 236]

#### Computers & Numerical Algorithms

**MATH 248** (4 credits, but meets 5 hours per week)  
[Prerequisite: MATH 236]

After their first semester, math majors typically enroll in 2 or 3 math major courses per semester. For most students, it is not a good idea to enroll in more than 3 math major classes in a semester. In consultation with their advisors, students may decide to delay one or more first/second year courses until their third/fourth year. In making such a decision, students should pay close attention to the prerequisite requirements of the upper level courses to ensure that they complete prerequisites courses sufficiently early in their studies. Math majors interested in completing the statistics minor should note that MATH 229 and 329 (recommended) or MATH 318 are entry points for the statistics minor.

### Third and Fourth Years

Complete the following required courses:

#### Advanced Calculus I

**MATH 410** (3 credits) ●● [Prerequisite: 245 and 300]

#### Abstract Algebra I

**MATH 430** (3 credits) ●● [Prerequisite: 245 and 300]

Complete one of the seven options listed in the table below (12 credits)<sup>4</sup>

<p><b>Advanced Calculus II Option</b></p> <p>MATH 411 (3 credits, Spring) ●●● [Prerequisite: 410] 9 credits of MATH electives numbered 310 or above</p>	<p><b>Abstract Algebra II Option</b></p> <p>MATH 431 (3 credits, Spring) ●●● [Prerequisite: 430] 9 credits of MATH electives numbered 310 or above</p>
<p><b>Advanced Linear Algebra Option</b></p> <p>MATH 434 (3 credits, Spring) ●● [Prerequisite: 245 and 300] 9 credits of MATH electives numbered 310 or above</p>	<p><b>Topology Option</b></p> <p>MATH 435 (3 credits, Fall) ●● [Prerequisites: 245 and 300] 9 credits of MATH electives numbered 310 or above</p>
<p><b>Probability and Mathematical Statistics Option</b></p> <p>MATH 426 (3 credits, Fall) ● [Prerequisite: 329 or 318] MATH 427 (3 credits, Spring) [Prerequisite: 426] 6 credits of MATH electives numbered 310 or above</p>	<p><b>Advanced Differential Equations Option</b></p> <p>MATH 440 (3 credits, Fall) ● [Prerequisite: 336] MATH 441 (3 credits, Spring) ●●● [Prerequisites: 300, 336, and (245 or 440)] 6 credits of MATH electives numbered 310 or above</p>
<p><b>Numerical Analysis Option</b></p> <p>MATH 448 (3 credits, Every 3<sup>rd</sup> Semester) ●●● [Prereq: 237, 248, and 300] MATH 449 (3 credits, Offered Semester after 448) ●●● [Prereq: 237, 248, and 336] 6 credits of MATH electives numbered 310 or above</p>	

**How to Use the Colors on This Sheet:** The titles of courses required for all math majors are listed in color. The dots next to the third/fourth year courses indicate the colors of the required courses past MATH 236 that form a pathway of pre-requisites for that course. Match the colors of the dots to the colors of the course titles.

See the notes on the back of this sheet for important information about approved substitutions and MATH electives.

**The university catalog takes precedence over this document. Please consult the university catalog for full information on requirements, prerequisites, course descriptions, and approved substitutions.**

## Notes

<sup>1</sup> MATH 229 and MATH 329 are recommended, but MATH 318 may be substituted for MATH 229 and MATH 329. For students making this substitution, a course with statistical data analysis (MATH 321, 322, 324, 327, or 354) is recommended.

<sup>2</sup> MATH 238 Linear Algebra with Differential Equations may be substituted for MATH 300 and MATH 336 in both the major requirements and prerequisites if the student is completing a double major, seeking the computational sciences concentration, or received credit for MATH 238 before declaring a math major.

<sup>3</sup> The option chosen and the courses chosen to satisfy an option by a student are made in consultation with the student's adviser and are dependent upon the student's interests and career objectives. Students interested in pursuing graduate studies in mathematics are strongly urged to complete both MATH 411 and MATH 431. In options requiring 9 hours of MATH electives, no more than 6 of the 9 hours may be MATH 486 and/or MATH 497. )●