

3, 4, 5 on AP calculus AB, or 3 on AP calculus BC

224/225, Calculus I

5 on AP calculus AB, 4 or 5 on AP calculus BC, B or better in Calculus I while in high school, A or A- in Calculus I.

4, 5 on AP calculus BC

226, Calculus II (1/2)

314, Discrete Math

230, Honors Calculus

227, Calculus II (2/2)

**Legends**

→ Prerequisite  
 - - - - - Alternative prerequisite  
 = = = Alternative requirement

Every Semester  
 Every Fall Only  
 Every Spring Only  
 Varies

323, Calculus III

324, ODE Engineering

330, Number Systems

304, Linear Algebra

Lower level

Upper level

**Analysis**

375, Complex Analysis  
 472, PDE & Math. Analysis  
 471, Partial Diff. Equations  
 \* 330 is not a prereq for 471.

371, Ordinary Diff. Equations  
 372, Dynamical Systems  
 478, Real Analysis I  
 479, Real Analysis II

**Algebra**

401, Modern Algebra I  
 402, Modern Algebra II  
 404, Adv. Linear Algebra  
 407, Number Theory  
 \* 304 is not a prereq for 407.

**Geometry/Topology**

461, Topology  
 463, Differential Geometry  
 465, Foundation of Geometry  
 \* 304 and 323 are not prereqs for 465.

**Statistics**

346, Intro Financial Math  
 447, Probability Theory  
 448, Math. Statistics  
 455, Regression Models  
 458, Time Series

329, Computing  
 \* 329 is a lower-level course.

454, Financial Math  
 450, Life Contingency I  
 452, Life Contingency II  
 457, Statistical Learning

**Combinatorics**

386, Combinatorics  
 381, Graph Theory

Computer Science: CS 373, 375, 432, 433, 435, 436, 458, 460, 471, 472

Others: 356, 489

Review course descriptions and degree requirements in the University Bulletin.  
Rev: 6/21/2023

324 is alternative to 371 or 372 as a prereq for 471 and 472 (useful for engineering students).

324, ODE Engineering

### Upper-level Courses

**Algebra**

401, Modern Algebra I

402, Modern Algebra II

404, Adv. Linear Algebra

407, Number Theory

\* 304 is not a prereq for 407.

### Foundation Courses

**Combinatorics**

386, Combinatorics

381, Graph Theory

**Geometry/Topology**

461, Topology

463, Differential Geometry

465, Foundation of Geometry

\* 304 and 323 are not prereqs for 465.

**Legends**

→ Prerequisite

- - - Alternative prerequisite

Every Semester

Every Fall Only

Every Spring Only

Varies

Others: 356, 489

Computer Science: CS 373, 375, 432, 433, 435, 436, 458, 460, 471, 472

Review course descriptions and degree requirements in the University Bulletin.  
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**Analysis**

375, Complex Analysis

472, PDE & Math. Analysis

471, Partial Diff. Equations

\* 330 is not a prereq for 471.

371, Ordinary Diff. Equations

372, Dynamical Systems

478, Real Analysis I

479, Real Analysis II

329, Computing

**Statistics**

346, Intro Financial Math

\* 346 only requires 227.

447, Probability Theory

448, Math. Statistics

450, Life Contingency I

452, Life Contingency II

454, Financial Math

455, Regression Models

457, Statistical Learning

458, Time Series

323, Calculus III

330, Number Systems

314, Discrete Math

314 is alternative to 330 as prereq for 448, 381 and 386 (useful for engineering students).

#### For all majors:

- Finish 330 as soon as possible, no later than by the end of the fourth semester, preferably the third semester.
- Finish 304, 323 and 330 before advancing to upper-level courses, defined as MATH course above 330.
- For all courses, grade of C or better is required to count towards the major and as a prerequisite.
- If you did not get C or better in a required course twice, you will be automatically dropped from the major.
- Prerequisite requirements are strictly enforced. You will be automatically dropped from a course if you did not get C or better in the prerequisite course.
- Meet with your assigned faculty advisor.
- Plan to take 2 math courses per semester on average.
- Make a contingency plan – what if you flunk a class?

#### For BA Math Track majors.

1. Finish the five lower-level courses.
2. Take one course from each of analysis, algebra, and geometry/ topology (the the light yellow boxes).
3. Take two more upper-level courses, as long as the two are NOT BOTH from the SAME light yellow box.
4. Within the five upper-level courses above, make sure that there exist a pair of courses from a pre-defined list shown in the University Bulletin.

#### For Actuarial majors:

- Take 346, 447 and 448 as soon as possible since they are prerequisites for many electives.
- It is too late to take 448 in the senior year.
- Take the School of Management VEE courses if you could, but they are not required.

#### For Statistics majors:

- Take 447, 448 and 329 as soon as possible. It is too late to take them in the senior year.

#### Transfer Courses

- Seek pre-approval from the Director of Undergraduate Studies before registering courses outside of Binghamton, even if they appear on the transfer equivalency table.
- Asynchronous online courses are not transferred.
- Courses from a foreign country, especially summer/winter ones, are generally not transferred.
- Upper-level courses are rarely transferred.