Mathematics Minor

Prerequisite

To declare the minor, students must demonstrate proficiency in single and multivariable calculus at the grade level of C or better. Select one of the following options to meet this prerequisite:

- MATH 2310 - Calculus III Credits: 4
  Note: Students may need to complete one or both of MATH 1310 -Calculus I and MATH 1320 -Calculus II prior to enrolling in Calculus III. Students should determine their appropriate starting placement in the calculus sequence by consulting with advisors and placement resources on the Department of Mathematics website.
- MATH 2315 - Advanced Calculus and Linear Algebra I Credits: 4
- APMA 2120 - Multivariable Calculus Credits: 4
- Complete a course of study at another university or program that the Director of Undergraduate Programs determines is equivalent to one of the above options.

  Notes:

  1. The sequence MATH 1210, 1220 (Survey of Calculus I and II) is insufficient preparation for continuing to Calculus Ill and should therefore not be taken by students who might want to major/minor in mathematics or any other field requiring Calculus III or beyond.
  2. The above prerequisite is not part of the minor itself. Prerequisite courses do not, factor into the major GPA, are not subject to restrictions on transfer credit, double counting, or other rules pertaining to credit applied to the major/minor.

Program Requirements

All courses for the minor must be taken for a letter grade and passed with a C or better, except that two of them may be passed with a C- or better.

Complete one of the following core courses:

- MATH 3310 - Basic Real Analysis Credits: 4
- MATH 3354 - Survey of Algebra Credits: 3
- MATH 4310 - Introduction to Real Analysis Credits: 3
- MATH 4652 - Introduction to Abstract Algebra Credits: 3

Electives

- Complete 4 MATH elective courses.
  - Any course with a MATH prefix numbered 3000 or higher (excluding MATH 3350), that is not being used to satisfy another requirement of the minor.

Learning Objectives

A student who earns the minor in mathematics will have achieved ***proficiency*** in the following:

1. **Communication** - read, interpret, write about, and talk about mathematics, in a manner appropriate to the audience and purpose; recognize and construct logical ar- guments and rigorous proofs; understand the differences between proofs and other less formal arguments;
2. **Problem solving and computation** - devise problem solving strategies; carry out computations and derivations accurately and efficiently; assess the correctness of solutions; create and explore examples; carry out mathematical experiments, and devise and test conjectures;

A student who earns the minor in mathematics will have also achieved ***competency*** in the following:

1. **Abstraction** - work with abstract mathematical structures, generalize from the concrete to the abstract, deduce general principles from particular instances;
2. **Mathematical maturity** - absorb new mathematical ideas efficiently; link theory with examples and applications; exhibit independence and perseverance; approach open- ended inquiry with curiosity and creativity.
