Mathematics  Bachelor of Arts  (BA)  A20D

At least 120 hours are required for graduation, and students must earn a 2.0 overall GPA, a 2.0 WSU GPA, and a 2.0 GPA in the major.

Students must also complete all courses required for Liberal Arts and Sciences General Education. In addition, Foreign Language courses (or the equivalents) are required for every BA degree in the College of Liberal Arts and Sciences. French, German, or Russian is also recommended for students contemplating graduate work in mathematics.

**REQUIREMENTS FOR MAJOR:** 24 hours including:

**Core courses** taken by all Math Majors: **15 hours**
- 415 Introduction to Advanced Mathematics (3)
- 511 Linear Algebra (3)
- 547 Advanced Calculus I (3)
- 551 Numerical Methods (3)
- 555 Differential Equations I (3)

**Plus:**
- 531 Introduction to the History of Mathematics (3)

**Two Courses from** Group A or Group B or Group C: **6 hours**

- **Group A**
  - 513 Fundamental Concepts of Algebra (3)  recommended for students contemplating graduate work
  - 525 Elementary Topology (3)
  - 615 Elementary Number Theory (3)
  - 621 Elementary Geometry (3)
  - 720 Modern Geometry (3)

- **Group B**
  - 460 Elementary Probability & Mathematical Statistics (3)
  - 571 Statistical Methods I (3)
  - 771 Theory of Statistics I (3)
  - 572 Statistical Methods II (3)
  - 775 Applied Statistic Methods I (3)
  - 574 Elementary Survey Sampling (3)
  - 776 Applied Statistic Methods II (3)
  - 576 Applied Nonparametric Statistical Methods (3)

- **Group C**
  - 530 Applied Combinatorics (3)
  - 545 Integration Techniques & Applications (3)
  - 548 Intro to Complex Variables (3)
  - 553 Mathematical Models (3)
  - 640 Advanced Calculus II (3)*
  - 655 Differential Equations II (3)
  - 657 Optimization Theory (3)
  - 751 Numerical Linear Algebra (3)
  - 753 Ordinary Differential Equations (3)
  - 755 Partial Differential Equations I (3)

*recommended for students contemplating graduate work

All bachelor’s degrees in mathematics require a higher-level algorithmic computer language.

Math 451 Computational Math using MATLAB (3) is strongly recommended

**Applied Learning:** Students in the BA in mathematics program are required to complete an applied learning or research experience to graduate from the program. The requirement can be met by completing one of the following: 1) The student completes a thesis; 2) The students attends a conference and presents at least a poster; 3) The student performs outreach in the local school district; 4) The student does a presentation in a venue involving members of the community such as the Science Expo at the Keeper of the Plains, or through participation in Math Circle, or Pi Mu Epsilon, or Math Awareness; 5) The student carries out a research project followed by a seminar presentation.

**REQUIREMENTS FOR A MINOR:** 16 hours, a grade of D will not count in the minor

- 242 Calculus I (5)
- 243 Calculus II (5)
- 344 Calculus III (3)
- 400-level or above: ______ ________________________ (3) Must be approved by Math advisor

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