**Mathematics Core and Major Requirements (Bachelor of Science) – Catalog Year 2010**

**Major Requirements for a Bachelor of Science Degree in Mathematics:**

- **Science Requirements:**
  1. Select two of the following sequences:
     - **A.** MATH 2003 Principles of Biology AND one of the following:
       - MATH 2533/2531L Cell Biology (MATH 1543/1541L, Pre/Co-req: CHEM 1123/1121L or CHEM 1223/1221L) OR MATH 1613/1611L Plant Biology (MATH 1543/1541L)
       - MATH 1603/1601L Principles of Zoology (MATH 1543/1541L) OR MATH 2013/2011L General Microbiology (MATH 1543/1541L & 2 semesters of general chemistry)
     - **B.** MATH 1603/1601L Principles of Zoology (MATH 1543/1541L) OR MATH 2013/2011L General Microbiology (MATH 1543/1541L & 2 semesters of general chemistry)
     - **C.** MATH 1203/1210L University Chemistry (MATH 1203) AND MATH 1223/1221L University Chemistry II (MATH 1203, CHEM 1103)
     - **D.** GEOL 1113/1111L General Geology AND GEOL 1133/1131L Environmental Geology (GEOL 1113)
     - **E.** PHYS 2054/2050L University Physics I (Pre or Co-req: MATH 2554) AND PHYS 2074/2070L University Physics II (PHYS 2054, Pre/Co-req: MATH 2564)
  2. Select one advanced course from one of the chosen sequences above. Course must be approved by the department.

- **Requirements for all Mathematics Majors:**
  - MATH 2603 Discrete Mathematics (MATH 1203)
  - MATH 2701 Survey of Higher Math (MATH 2564)
  - MATH 3093 Abstract Linear Algebra (MATH 2564)
  - MATH 4932 Mathematics Major Seminar
  - CSCE 2004 Programming Foundations I and Lab

- **In addition to the requirements above, all mathematics majors must complete one of the following options:**

  **OPTION 1:** For students pursuing careers in industrial work or graduate work in a field other than math or statistics
  - MATH 3423 Numerical Linear Algebra (MATH 3083)
  - MATH 4533 Numerical Linear Algebra (MATH 3083)
  - MATH 4363 Numerical Analysis (MATH 4513 and programming experience)
  - OR STAT 3013 Introduction to Probability and Statistics (MATH 2564 and STAT 4003 Statistical Methods (MATH 2544)
  - An additional 3 hours of mathematics electives in courses numbered above 3000
  - Strongly recommended electives in this program are MATH 4523 Advanced Calculus II (MATH 4513) and MATH 4443 Complex Variable for Application (MATH 3404)

  **OPTION 2:** For students seeking a broad background in mathematics or preparation for graduate study in mathematics
  - MATH 5253 Advanced Calculus II (MATH 4513)
  - MATH 4113 Introduction to Abstract Algebra II (MATH 3113)
  - 3 hours of Mathematics electives in courses numbered above 3000

  **OPTION 3:** For students seeking to emphasize statistics or who wish to pursue graduate studies in statistics
  - MATH 5453 Numerical Linear Algebra (MATH 3083)
  - STAT 4003/4001L Statistical Methods (MATH 2554)
  - STAT 4043 Sampling Techniques (STAT 4003)
  - Strongly recommended electives in this program are STAT 5103 Theory of Statistics (MATH 2574) and STAT 5113 Statistical Inference (STAT 5103)

- For more information on Mathematics, contact the Mathematical Sciences Department: Science & Engineering Hall 301 / 479-575-3351 / [www.uark.edu/depts/mathinfo](http://www.uark.edu/depts/mathinfo/)

**This form is NOT a substitute for the Catalog of Studies. Students should verify this information with their advisor, their degree audit, and the Catalog of Studies.**

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Requirements for Departmental Honors in Mathematics:

The Departmental Honors Program in Mathematics is designed for the superior student and is intended to help the student develop a more comprehensive view of the nature of mathematics. The program provides a vehicle for the recognition of the achievements of work beyond the usual course of study and earns the student the distinction “Mathematics Scholar Cum Laude” at graduation. Higher degree distinctions are recommended only in truly exceptional cases and are based upon the whole of the candidate’s program of honors studies.

**40-Hour Rule**

Students must complete at least 40 hours of work in courses number 3000 and above. Included in this 40 hours can be courses numbered 2000 if each has a specific course designated as a prerequisite, with the exception of MILS 2001 and 2011, AERO 2001 and 2011, and foreign language courses numbered 2003 and 2013.

**24-Hour Rule**

A student graduating from Fulbright College must complete at least 24 hour of work in courses numbered 3000 and above from departments within the Fulbright College of Arts and Sciences.