

**Annual Academic Assessment Report**  
**Department of Mathematical Sciences**  
**MATHMS**  
**2023-2024**

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Across the many programs within the Department of Mathematical Sciences (BA/BS, MS, PhD) there are common learning objectives recognized by the faculty. While the program requirements show differences in the skills and tools employed within the various options, the learning objectives are stated broadly to apply to each.

- Critical and analytical thinking
- Effective communication of abstract and technical information
- Logical reasoning
- Mastery of computational tools for analyzing data and/or mathematical structure
- Problem solving
- Understanding of algorithms and processes

The data below is from the Office of Strategic Analytics & Insights and records the number of Master of Science degrees in Mathematics awarded in the last seven years (average: 7).

2017	2018	2019	2020	2021	2022	2023
8	7	13	6	5	2	6

Note: data from 2024 not available yet.

Several of these students go on to enter a doctoral program in mathematics, either at the University of Arkansas or elsewhere.

**Analysis of Assessment of Student Learning Outcomes**

The Department of Mathematical Sciences employs two main tools for assessing the student learning outcomes of the masters-level graduate students in our department.

- A. [Course work](#)
- B. [Comprehensive Examination](#)

A. Course Work: Students complete a rigorous program of courses that is routinely monitored and updated by the department's Graduate Committee. Courses include assignments that assess the previously mentioned learning outcomes by means of written work (both computational and theoretical) and presentations (both formative and summative). The assignments involve a mix of individual work and work in groups.

B. Comprehensive Examination: Students must pass four 2-hour long examinations in accordance with the department's Comprehensive Examination policy. These exams are taken at the end of the student's second year in the program and cover a wide range of topics in advanced mathematics. Students can replace two of the examinations by receiving a score of "Master's" or "PhD" on the corresponding Qualify Examination.

In 2024 to date, the Comprehensive Examination was taken by four students. Two passed four of the exams (resulting in complete passes), one passed one exam and failed three, and one student is currently taking the exams as this report is written. In 2023, the Comprehensive Examination was taken by one student that passed four of the examinations and failed one, ultimately resulting in a complete pass. In 2022, two of the exams that constitute part of Comprehensive Examination were taken and passed by one student, ultimately resulting in a complete pass (that student had previously passed to Qualifying Examinations).

#### Changes To Degree Planned or Made Based on Assessment

We have no immediate plans to change the degree based on this assessment.

#### Changes To the Assessment Process Planned or Made

An "Exit Interview" survey has been informally conducted in recent years to some of our graduating graduate students. A Exit Interview was created for formalize this procedure and distributed recently. There is insufficient data at this point to include in this report.