

2021-22 ACADEMIC CATALOG



Midway University Course Catalog - Mathematics

Table of Contents

Midway University.....	
Course Catalog - Mathematics.....	
Mathematics.....	2
Bachelor of Arts in Mathematics - Bachelor of Arts in Mathematics.....	2
Student Learning Outcomes of Program.....	2
Requirements.....	3
Mathematics Minor - Mathematics Minor.....	3
Requirements.....	4

Mathematics

Bachelor of Arts in Mathematics - Bachelor of Arts in Mathematics

Type:Major

The Bachelor of Arts in Mathematics provides an opportunity for students to fulfill their potential and become contributing members of society in fields that are becoming increasingly important and in which there is growing demand. Students who complete this program will have the skills in logic, problem-solving and data analysis and the familiarity with mathematical concepts necessary for success in such fields as actuarial science, engineering, operations research, data processing, computer science, and Education. In addition, a broad-based background in mathematics has applicability for study or employment in fields outside of mathematics and science, e.g., banking, law, and economics.

Student Learning Outcomes of Program

- Students will be able to effectively apply critical thinking skills to mathematically model and solve problems.
- Students will be able to critically interpret numerical and graphical data.
- Students will be able to read and construct mathematical arguments and proofs.
- Students will be able to effectively use computer technology to solve problems and create models.
- Students will be able to demonstrate effective oral and written communication of mathematical concepts and applications.

- Students will be able to demonstrate applications of mathematical knowledge to a mathematically-related career or post-baccalaureate studies.

Students who are non-majors in Mathematics will be able to:

- Effectively apply appropriate quantitative tools and logic to analyze and synthesize information for problem solving in specific career fields as well as common life experiences.

Requirements

Major Course Requirements

Calculus I - 4 hours

Calculus II - 4 hours

Calculus III - 4 hours

Probability and Statistics - 3 hours

Differential Equations - 3 hours

Mathematical Reasoning and Proofs - 3 hours

Linear Algebra - 3 hours

Discrete Mathematics - 3 hours

Choose three of the following:

Mathematical Statistics I - 3 hours

Abstract Algebra I - 3 hours

Real Analysis I - 3 hours

Senior Seminar - 3 hours

Select either series of PSC courses below:

Physics I - 3 hours

Physics Laboratory I - 1 hour

Physics for Engineers I - 4 hours

Physics for Engineers I Lab - 1 hour

General Education Hours - 34-40

Elective Hours - 31-37

Total Hours to Complete - 120

Mathematics Minor - Mathematics Minor

Type:Minor

The minor in mathematics requires a minimum of 18 semester hours. At least 6 semester hours must be selected from courses numbered 300 or higher.

Requirements

Minor Requirements

Calculus I - 4 hours

Calculus II - 4 hours

Calculus III - 4 hours

Any two of the following

Differential Equations - 3 hours

Mathematical Reasoning and Proofs - 3 hours

Linear Algebra - 3 hours

Mathematical Statistics I - 3 hours

Mathematical Statistics II - 3 hours

Discrete Mathematics - 3 hours

Abstract Algebra I - 3 hours

Abstract Algebra II - 3 hours

Real Analysis I - 3 hours

Real Analysis II - 3 hours

Number Theory - 3 hours

Senior Seminar - 3 hours

Elective Hours - 0

Total Hours to Complete - 18

$\{\text{majorMinorDetails}\}$

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Midway University

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