



Advisor: _____

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BACHELOR OF ARTS
GRADUATION REQUIREMENTS

The student must do the following to receive a bachelor of arts degree:

1. Complete a minimum of 120 credit hours of study, at least 60 of which or at least the last 36 credits before graduation are at Southern Virginia. No more than 9 credit hours will be granted for internship courses.
2. Complete all requirements of the Southern Virginia Core.
3. Complete all requirements of at least one major.
4. Earn a minimum grade point average of 2.00 on all course work taken at the university.
5. Comply with all university standards, regulations, and procedures, from the date of matriculation through the date of final graduation.

MATHEMATICS MAJOR REQUIREMENTS
(38 CREDIT HOURS)

The wide applicability and intrinsic beauty of mathematics motivate its study. Mathematical theories often grow out of problems that appear in physical sciences, engineering, and social sciences such as economics and business. The mathematics minor provides a strong background in mathematics to students as it enhances their analytical skill and attention to detail—abilities useful in any field.

Learning Objectives

A student successfully completing this major will:

1. Competently work with the concepts of calculus, differential equations, geometry, analysis, algebra, and statistics.
2. Learn to read, understand, analyze, and produce proofs at increasing depth. Use appropriate technology to enhance mathematical thinking and understanding, solve mathematical problems, and judge the reasonableness of results.
3. Exhibit knowledge of formulating and solving problems, interpreting solutions, and modeling techniques central to applications of mathematics.
4. Demonstrate the ability to effectively communicate mathematics and other quantitative ideas in written and oral forms.

Program coordinator: Dr. Gertrud Kraut

Major Core (32 credit hours):

- MAT 221 Statistics (3)
- MAT 241 Calculus I (4)
- MAT 242 Calculus II (3)
- MAT 332 Discrete Mathematics (3)
- MAT 341 Calculus III, Multidimensional Calculus (3)
- MAT 343 Linear Algebra (3)
- MAT 344 Differential Equations (3)
- MAT 360 Abstract Algebra I (3)
- MAT 410 Introduction to Numerical Analysis (3)
- MAT 441 Real Analysis (3)
- MAT 497 Mathematics Capstone I (1)
- MAT 498 Mathematics Capstone II (1)

Major Electives I (3 credit hours): One course from the following:

- MAT 446 Complex Analysis for Applications (3)
- MAT 460 Abstract Algebra II (3)

Major Electives II (3 credit hours): One course from the following:

- MAT 321 Mathematical Statistics I (3)
- MAT 322 Mathematical Statistics II (3)
- MAT 355 History of Mathematics (3)
- MAT 356 Number Theory (3)
- MAT 365 Geometry (3)
- MAT 444 Introduction to Partial Differential Equations (3)
- MAT 446 Complex Analysis for Applications (3)
- MAT 460 Abstract Algebra II (3)