SOUTHERN VIRGINIA UNIVERSITY

MATHEMATICS

Name: _____ Advisor: _____

Core Requirements (51 credit hours)

	Semester	Requirement	Course Options	Credits
FR Year		Career Exploration & Soc. Intell.	SKL 103	1
		Becoming a Knight	SVU 101	2
		Fresh. Writing	WRI 120	3
Complete by Sophomore Year		Philosophy	LIB 110	3
		Am. Republic	LIB 120	3
		Literature	LIB 130	3
		Civilization I	ART 210, HIS 210, HUM 210, MUS 210 or POL 210	3
		Civilization II	ART 215, HIS 215, HUM 215, POL 215 or THE 215	3
		Mathematics	MAT 114, 115, 206, 221, 241, 242, CSC 213, or PHI 223	3-4
		Life Science	BIO 114, 126, 201, 212 or 228	3-4
		Physical Science	CHE 114, 201, PHY 114, 117, 126, or 201	3-4
	One of the above life or physical science courses must have a **LAB** component. BIO 126, PHY 117, and PHY 126 are non-lab courses.			
		Culture & Language 1	HUM 235 or Foreign Language Course (or approved F.L. equivalency exam)	3
Complete Any Year		Culture & Language 2	HUM 235 or Foreign Language Course (or approved F.L. equivalency exam)	3
		Fine Arts	ART113, 120, 130, 223, MUS 108, 129R, 139, 151, 167, THE 106, or 110	3
		Social Sciences	ECN 210, 215, EDU 200, 250, FHD 210, 250, POL 203, 223, 233, PSY 105, or PSY 230	3
		Health & Wellness	PER 143	2
		Phys. Activity 1	A Phys. Activity course from PER 100-199 or, 231, 232, or 259R. • Athletes may only count their sport twice. • Only classes with course numbers that end in 'R' may be repeated for credit. • ***PER 203 does not count as an activity course***	0.5-1
		Phys. Activity 2		0.5-1
		Phys. Activity 3		0.5-1
JR Year		Adv.Writing	WRI 320 **must be completed by the end of your Junior year.*	3

Major Requirements (38 credit hours)

Major Core (32)

Semester	Course	Credits
	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)

One course from MAT 446 Complex Analysis or 460 Abstract Algebra II

Major Electives II (3)

One course from MAT 321, 322, 355, 356, 365, 444, 446, or 460

Other Courses Towards Graduation

(Required: 120 total hours)

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)