

Program Map: Mathematics
Mathematics Department, College of Science and Technology

Name: _____ **SID:** _____ **Advisor:** _____
Start Date: _____ **Catalog Date:** _____ **Expected Graduation Date:** _____

Freshman	Fall Courses			Spring Courses			Notes
	Course	Name	Hours	Course	Name	Hours	
	ENGL 1101* Core Area A	Composition I Pre-requisite:	3	ENGL 1102* Core Area A	Composition II Pre-requisite: ENGL 1101	3	
MATH 1113* Core Area A	Pre-Calculus Pre-requisite: MATH 1111	3	MATH 2101* Area F	Calculus I Pre-requisite: MATH 1113	4		
CSCI 1130*	Computer Applications	3	HIST 2111/HIST 2112 Core Area E	U.S. History	3		
AFRS 1501 Core Area B	African-American History	2	MATH 1401* Area F	Elem Statistics Pre-requisite: MATH 1111	3		
POLS 1101 Core Area E	American Government	3	HUMN 1201 Core Area B	Critical Thinking & Communication Pre-requisite: ENGL 1102 OR ENGL 109	3		
COST 1103 Area D (non-lab)	COST First Year Experience	2					
	Fall Milestones	Total		Spring Milestones	Total		
		16			16		

Sophomore	Fall Courses			Spring Courses			Notes
	Course	Name	Hours	Course	Name	Hours	
	MATH 2111* Area F	Calculus II Pre-requisite: MATH 2101	4	MATH 2121* Area F	Calculus III Pre-requisite: MATH 2111	4	
MATH 2301* Major	Intro to Discrete Math Pre-requisite: MATH 1113	3	CSCI 1301* Area F	Computer Science I	3		
Area E Social Sci. Option	Social Science	3	Core Area C Option	Humanities/Fine Arts & Ethics	3		
Core Area D Lab*	Natural Sciences, Math & Technology	4	Core Area D Lab*	Complete the Science Sequence Selected: BIOL 1103/1104, CHEM 121/1212L, PHYS 1112K/PHSC 1012K	4		
Core Area C Option	Humanities/Fine Arts & Ethics	3	MATH 3211* Major	Foundations of Higher Math Pre-requisite: MATH 2111	3		
	Fall Milestones	Total		Spring Milestones	Total		
	Student should know their career track.	17		Student should have completed a job shadowing experience relevant to their career track	17		

Junior	Fall Courses			Spring Courses			Notes
	Course	Name	Hours	Course	Name	Hours	
	MATH 3101* Major	Linear Algebra Pre-requisite: MATH 2111	3	MATH 3201* Major	Probability & Statistics Pre-requisite: MATH 2111	3	
MATH 3301* Major	Differential Equations Pre-requisite: MATH 2111	4	MATH 4201* Major	Analysis I Pre-requisite: MATH 3211	3		
MATH 4101* Major	Abstract Algebra I Pre-requisite: MATH 3211	3	ELEC	Free Elective 2000-4000 Level	3		
AREA E	Social Science	3	MATH ELEC* Major	Choose One Math Elective	3		
MATH ELEC* Major	Choose One Math Elective	3	MATH ELEC* Major	Choose One Math Elective	3		
	Fall Milestones	Total		Spring Milestones	Total		
	Student should have completed an internship or research experience relevant to their career track.	16		Students should have completed any required admissions testing for their career track (GRE, MCAT, PCAT, DAT)	15		

Senior	Fall Courses			Spring Courses			Notes
	Course	Name	Hours	Course	Name	Hours	
	MATH 4401* Major	Number Theory Pre-requisite: MATH 3211	3	MATH 3401* Major	Modern Geometry Pre-requisite: MATH 2111	3	
MATH 3501* Major	Numerical Analysis Pre-requisite: MATH 2111 & CSCI 1302	3	MATH 4221* Major	Complex Analysis Pre-requisite: MATH 2121	3		
MATH 4901* Major	Senior Seminar	1	MATH ELEC* Major	Choose One Math Elective	3	**Some professional educational programs may need to be completed by the summer before the senior year.	
MATH ELEC* Major	Choose one Math Elective	3	ELEC	Free Elective 2000-4000 Level	3		
MATH ELEC* Major	Choose one Math Elective	3					
	Fall Milestones	Total		Spring Milestones	Total		
	Application completed for further professional educational programs relative to your career track**	13			12	Does this Degree Program Require a Minor? <u>No</u> Total Hours Required for this Degree Program: <u>122</u>	

Program Map: Mathematics
Mathematics Department, College of Science and Technology

Core Curriculum (Programmed Preferred Options in Bold)

Area B – Institutional Options 5 hrs

- i. AFRS 1501 Survey of African-American Experience 2 hrs
- ii. HUMN 1201 Critical Thinking & Communication 3 hrs

Area C – Humanities/Fine Arts, and Ethics 6 hrs,

1. Select one of the following:
 - i. ENGL 2111 World Literature I 3 hrs
 - ii. ENGL 2112 World Literature II 3 hrs
 - iii. ENGL 2121 British Literature I 3 hrs
 - iv. ENGL 2122 British Literature II 3 hrs
 - v. ENGL 2131 American Literature I 3 hrs
 - vi. ENGL 2132 American Literature II 3 hrs
 - vii. ENGL 2222 African American Literature 3 hrs
 - viii. PHIL 2010 Introduction to Philosophy 3 hrs
 - ix. PHIL 2030 Introduction to Ethics 3 hrs
2. Select one of the following:
 - i. ARTS 1101 Introduction to Visual Art 3 hrs
 - ii. DNCE 2010 Dance Appreciation 3 hrs
 - iii. ENGL 2521 Introduction to Film 3 hrs
 - iv. HUMN 2011 Humanities 3 hrs
 - v. MUSC 1101 Introduction to Music 3 hrs
 - vi. THEA 2101 Introduction to Theatre 3 hrs

Area D – Natural Sciences, Math & Technology 10 hrs

1. Select one of the following:
 - i. BIOL 1107 Principles of Biology I 3 hrs
 - ii. BIOL 1108 Principles of Biology II 3 hrs
 - iii. CHEM 1211 Principles of Chemistry I 3 hrs
 - iv. CHEM 1212 Principles of Chemistry II 3 hrs
 - v. CISM 1130 Computer Applications 3 hrs
 - vi. CSCI 1130 Computer Applications 3 hrs**
 - vii. CSCI 1301 Computer Science I 3 hrs**
 - viii. ENVS 1140 Environmental Issues 3 hrs
2. Select two of the following lab sciences in sequence:
 - i. BIOL 1107/1107L Principles of Biology I 4 hrs
 - ii. BIOL 1108/1108L Principles of Biology II 4 hrs
 - iii. CHEM 1211/1211L Principles of Chemistry 4 hrs
 - iv. CHEM 1212/1212L Principles of Chemistry 4 hrs
 - v. PHYS 1111K Introductory Physics I 4 hrs**
 - vi. PHYS 1112K Introductory Physics II 4 hrs**
 - vii. PHYS 2211K Principles of Physics I 4 hrs**
 - viii. PHYS 2212K Principles of Physics II 4 hrs**

Area E – Social Science 12 hrs

- i. POLS 1101 American Government 3 hrs
2. Select one of the following:
 - i. HIST 2111 U.S. History to the Post-Civil War Period 3 hrs
 - ii. HIST 2112 U.S. History from the Post-Civil War to Pre 3 hrs
3. Select two of the following:
 - i. AFRS 2000 Introduction to Africana Studies 3 hrs
 - ii. ANTH 1101 Introduction to Anthropology 3 hrs
 - iii. ECON 2105 Principles of Macro-Economics 3 hrs
 - iv. GEOG 1101 Introduction to Human Geography 3 hrs
 - v. HIST 1111 World Hist to Early Modern Times 3 hrs
 - vi. HIST 1112 World History Early Modern Times to Pres 3 hrs
 - vii. POLS 2401 Global Issues 3 hrs
 - viii. PSYC 1101 Intro to General Psychology 3 hrs
 - ix. PSYC 2103 Human Growth & Development 3 hrs
 - x. SOCI 1101 Introduction to Sociology 3 hrs
 - xi. SOCI 1160 Social Problems 3 hrs

Math Electives: (6-courses)

MATH 3000 Intro to Bio Stat	3 hrs
MATH 3311 Mathematical Finance & Interest Theory	3 hrs
MATH 3115 Mathematical Data Analysis	3 hrs
MATH 4111 Abstract Algebra II	3 hrs
MATH 4211 Analysis II	3 hrs
MATH 4301 Svy Partial Diff. Eqns.	3 hrs
MATH 4311 Prob & Statistics II	3 hrs
MATH 4411 Stat. Methods	3 hrs
MATH 4421 Regression Analysis	3 hrs
MATH 4501 Intro. To Topology	3 hrs3
MATH 4601 Math Research	3 hrs
MATH 4701 History of Math	3 hrs
MATH 4902 Senior Research/Intern	3 hrs

Free Electives: (6 hours)

Electives (2000-4000 Level)

Distinctive Courses/Descriptions

Mathematics Department Description

The SSU mathematics program offers a wide variety of undergraduate mathematics courses that enables students to gain sound knowledge and skills on:

- Foundational courses:** Calculus, Linear Algebra, Differential Equations, Discrete Mathematics, Foundation of Higher Mathematics.
- **Key areas of mathematics** such as Algebra, Analysis, Geometry, Complex Analysis, Number Theory, and Topology.
- Statistical /Financial courses:** Probability and Statistics, Intro. to Bio Statistics, Mathematical Finance and Interest Theory, Mathematical Data Analytics, Statistical Methods, Regression Analysis.
- Numerical/Computational courses:** Numerical Analysis, Differential Equations, Survey of Partial Differential Equations.
- **Research and Seminar courses:** Mathematical Research, Senior Seminar.