

Program Map: Marine Sciences
Department of Marine and Environmental Sciences, College of Sciences 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	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* Major	Calculus I Pre-requisite: MATH 1113	4		
CHEM 1211* Area D Lab	Principles of Chemistry I**	3	BIOL 1107* Area D (non-lab)	Principles of Biology I	3		
CHEM 1211L* Area D Lab	Principles of Chemistry I Lab**	1	BIOL 1107L* Major	Principles of Biology I Lab	1		
COST 1103 Area F	COST First Year Experience	2	MSCI 2010K* Area F	Intro. to Oceanography ** (or MSCI 1810K)	4		
MSCI 1810K* Area F	Marine Biology** (or MSCI 2010K)	4					
Fall Milestones			Total	Spring Milestones			Total
			16				15

Sophomore	Fall Courses			Spring Courses			Notes
	Course	Name	Hours	Course	Name	Hours	
	HUMN 1201 Core Area B	Critical Thinking & Communication	3	CHEM 2501 Area F	Organic Chemistry I Pre-requisite: CHEM 1212	3	
MATH 1401* Major	Elementary Statistics Pre-requisite:	3	CHEM 2501L Area F	Organic Chemistry I Lab Pre-requisite: CHEM 1212L	1		
CHEM 1212* Area D Lab	Principles of Chemistry II Pre-requisite: CHEM 1211/L	3	POLS 1101 Core Area E	American Government	3		
CHEM 1212L* Area D Lab	Principles of Chemistry II Lab Pre-requisite: CHEM 1211L	1	PHYS 1111K* Area F	Intro to Physics I	4		
MSCI TOOLS/SCI ELEC* Major	SEE GUIDELINES*** Pre-requisite: MSCI 1810K/2010K	4	MSCI TOOLS/ SCIENCE ELEC* Major	SEE GUIDELINES*** Pre-requisite: Varies	3		
Fall Milestones			Total	Spring Milestones			Total
Student should know career track options and discuss with mentors.			14	Student should have completed a job shadowing, work, or volunteer experience relevant to their career track			14

Junior	Fall Courses			Spring Courses			Notes
	Course	Name	Hours	Course	Name	Hours	
	MSCI 3301K* Major	Marine Chemistry & Analysis Pre-requisite: CHEM 1212, MSCI 2010K	4	MSCI 3901* Major	Technical Writing and Seminar Pre-requisite: ENGL 1102, Previous Science Courses	3	
HIST 2111/2112 Core Area E	U.S. History	3	AFRS 1501 Core Area B	Survey of the African-American Experience	2		
Area E Social Sci. Option	SEE GUIDELINES	3	MATH/SCI ELEC Major	SEE GUIDELINES*** Pre-requisite: Varies	3		
MSCI ELEC* Major	SEE GUIDELINES*** Pre-requisite: Varies	3	Core Area C Option	SEE GUIDELINES	3		
Core Area C Option	SEE GUIDELINES	3	MSCI ELEC* Major	SEE GUIDELINES*** Pre-requisite: Varies	4		
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, LSAT, MCAT, PCAT, DAT).			15

Senior	Fall Courses			Spring Courses			Notes
	Course	Name	Hours	Course	Name	Hours	
	MSCI 4350K* Major	Biological Oceanography Pre-requisite: MSCI 1810K/2010K	4	MSCI 4201K* Major	Marine Ecology Pre-requisite: MSCI 1810, MSCI 3301K	4	
MSCI 4902* Major	Senior Research/Internship Pre-requisite: MSCI 3901, Jr/Sr Standing	3	MSCI 4904* Major	Senior Seminar Pre-requisite: MSCI 4902	1		
MSCI ELEC* Major	SEE GUIDELINES*** Pre-requisite: Varies	4	Area E Social Sci. Option	SEE GUIDELINES	3		
Other ELEC*	SEE GUIDELINES***	4	Other ELEC*	SEE GUIDELINES***	4		
			Other ELEC*	SEE GUIDELINES***	3		
Fall Milestones			Total	Spring Milestones			Total
Application completed for further graduate/professional studies relevant to your career track.			15	Job applications and/or additional grad/professional program applications.			15

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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
1. 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

Program Description

The mission of the SSU Marine Sciences Program is to provide vital research, education, and outreach programming to develop a technically qualified, intellectually thoughtful, and ethnically diverse community of ocean scientists. Students are trained in research and science communication throughout their studies and develop technical skill sets for competitive job placement. The university is adjacent to a salt marsh tidal creek, has two docks, and multiple boats for instruction and research.

Major Guidelines***

Area F – Related to Major (17 hrs)	
COST 1103 First Year Experience	2 hrs
MSCI 1810K Marine Biology	4 hrs
MSCI 2010K Intro to Oceanography	4 hrs
PHYS 1111K Introductory Physics <u>or</u> PHYS 2211K Principles of Physics	4 hrs
MATH 1401 Elementary Statistics <u>or</u> MATH 3000 Intro to Biostatistics	3 hrs
Major Requirements (28 hrs)	
BIOL 1107L Prin of Biology I Lab	3 hrs
MATH 2101 Calculus I	4 hrs
CHEM 2501 Organic Chemistry	3 hrs
CHEM 2501 Organic Chemistry Lab	1 hr
CHEM 3301K Marine Chemistry & Analysis	4 hrs
MSCI 3901 Technical Writing	3 hrs
MSCI 4201K Marine Ecology	4 hrs
MSCI 4350K Biological Oceanography	4 hrs
MSCI 4902 Sr. Research/Internship	3 hrs
MSCI 4904 Sr. Seminar	1 hr
Marine Science Electives (6 hrs selected from options below)***	
MSCI 3401K Marine Invertebrate Zoology	4 hrs
MSCI 3501 Ichthyology	4 hrs
MSCI 4401K Marine Sediments	4 hrs
MSCI 4447 Marine Mammalogy	3 hrs
Marine Science Tools Electives (6 hrs selected from options below)***	
MSCI 2701K Aquarium Systems I	4hrs
MSCI 2702K Aquarium Systems II	4 hrs
MSCI 3560 Big Data Analysis	3hrs
MSCI 3702 Intro to GIS	3 hrs
MSCI 4572 Oceanographic Instrumentation	3 hrs
Math/Science Electives (3 hrs selected from options below)***	
PHYS 1112K/2212K Intro/Principles Physics II	4 hrs
MATH 2111 Calculus II	4 hrs
CHEM 2511/L Organic Chemistry II	4 hrs
CHEM 3801 Biochemistry	3 hrs
Other Electives (17 hrs)	

Additional courses within the College of Science and Technology including 2 MSCI courses. *** Extra hours from the elective categories listed above also count here, for a total of 17 hours. Note that 39 hours of 3000/4000 level courses are required for the degree and that limits use of 1000/2000 level elective options.