

Major Map: Marine Science Bachelor of Science (B.S.)

Chemical Oceanography Concentration
College of Arts and Sciences
School of Earth, Ocean and Environment

Bulletin Year: 2025-2026

This course plan is a recommended sequence for this major. Courses designated as critical (!) may have a deadline for completion and/or affect time to graduation. Please see the Program Notes section for details regarding "critical courses" for this particular Program of Study.

the Progran	n Notes section for details regarding "critical courses" for this						
Critical		Credit Hours	Min. Grade <sup>1</sup>	Major GPA <sup>2</sup>	Code	Prerequisites	Notes
	er One (15 Credit Hours)			1			
	MSCI 101 The Ocean Environment	4	C		CC-SCI		
!	MATH 141 Calculus 1 <sup>3</sup>	4	С		CC-ARP	C or better in Math 115 or placement through the MAP	
!	CHEM 111 & 111L – General Chemistry I	4	С		PR	C or better in Math 115 <i>or</i> placement through the MAP	
	UNIV 101 The Student in the University or Carolina Core Requirement <sup>4</sup>	3			PR/CC		
	er Two (18 Credit Hours)						
!	ENGL 101 Critical Reading and Composition	3	С		CC-CMW		
!	MSCI 102 The Living Ocean	4	С		CC-SCI		
!	MATH 142 Calculus II	4			CC-ARP	C or better in MATH 141	
!	CHEM 112 & 112L – General Chemistry II	4	С		PR	C or better in CHEM 111 or 141 and MATH 111, 115 or higher math; Prereq or Coreq: MATH 122, 141 or higher math	
	Foreign language⁵ <i>or</i> other Carolina Core Requirement⁴	3			CC-GFL		
Take du	ring Semester Three or Four (0-2 Hours)						
	Preapproved Field Experience or MSCI 460 <sup>6</sup>	0-2			MR	C or better in MSCI 101 and 102 or C or better in BIOL 101 and 102	
	er Three (17 Credit Hours)				00.01	0 1 11 5 500 101	
!	ENGL 102 Rhetoric and Composition	3	С		CC-CMW CC-INF	C or better in ENGL 101	
	MSCI 311 Biology of Marine Organisms (fall only)	4	С		MR/CC-INT	MSCI 102 or BIOL 101	
!	PHYS 201 & 201L – General Physics I	4	C		PR	C or better in MATH 111/111/112/	
	or PHYS 211 & 211L – Essentials of Physics I	7				115/116/122/141 or higher (PHYS 201); MATH 141 (PHYS 211)	
	Humanities or Fine Arts	3			CR		
	Foreign language <sup>5</sup> <i>or</i> other Carolina Core Requirement <sup>4</sup>	3			CC-GFL		
	er Four (17 Credit Hours)						
	MSCI 313 The Chemistry of the Sea (spring only)	4	С		MR/CC-INT	C or better in MSCI 101, CHEM 111, CHEM 112, & MATH 141	
!	PHYS 202 & 202L – General Physics II or PHYS 212 & 212L – Essentials of Physics II	4	С		PR	PHYS 201 (PHYS 202); PHYS 211 and MATH 142 (PHYS 212)	
	STAT 515 Statistical Methods I	3	С		CR	C or higher in MATH 112, MATH 115, MATH 122 or MATH 141; or both C or better in STAT 110 or higher and C or better in MATH 111; or placement through the MAP	
	Carolina Core Requirement <sup>4</sup>	3			CC		
0	Foreign language <sup>5</sup> or Carolina Core Requirement <sup>4</sup>	3			CR/CC		
Semest	er Five (16-18 Credit Hours)	2			MD	C or better in CHEM 112 or CHEM 142	
	CHEM 333 Organic Chemistry I MSCI 314 Physical Oceanography (fall only)	4	C		MR MR/CC-INT	C or better in CHEM 112 or CHEM 142 MSCI 101, MATH 141, & PHYS 201 or 211	
	MSCI Elective (300-level and above) <sup>7</sup>	3-4	С		MR	See Bulletin listing	
	MSCI Elective (300-level and above) <sup>7</sup>	3-4	С		MR	See Bulletin listing	
	CSCE 102 General Applications Programming or higher-level CSCE course or MSCI 305 Ocean Data Analysis or MSCI 509 MATLAB-Based Data Analysis in Ocean Sciences	3	С		CR	See Bulletin listing	
Semest	er Six (15-16Credit Hours)						
	CHEM 334 Organic Chemistry II	3	С		MR	C or better in CHEM 333	
	MSCI Elective (300-level and above) <sup>7</sup>	3-4	Č		MR	See Bulletin listing	
	History <sup>8</sup>	3			CR		
	Social Science	3			CR		
	Carolina Core Requirement <sup>4</sup>	3			CC		

Semester Seven (16 Credit Hours)					
Chem-Oceanography Elective (400-level and above)	3	С		MR	See Bulletin listing
CHEM 321 & Lab – Quantitative Analysis	4	С		MR	CHEM 112 & 112L
Carolina Core Requirement <sup>4</sup> or Elective <sup>9</sup>	3			CC/PR	
Carolina Core Requirement <sup>4</sup> or Elective <sup>9</sup>	3			CC/PR	
Elective <sup>9</sup>	3			PR	
Semester Eight (13-16 Credit Hours)					
MSCI 505 Senior Seminar	1	С		MR	
MSCI Elective (300-level and above) <sup>7</sup> –only if	3	С		MR	See Bulletin listing
needed to meet MSCI major requirements <sup>6</sup>					
Elective <sup>9</sup>	12			PR	

**Graduation Requirements Summary** 

Minimum Total	Minimum Major	College & Program	Carolina Core Hours	Minimum
Hours	Requirements Hours	Requirements Hours		Institutional GPA
128	36	46-58	34-46	2.000

- 1. Regardless of individual course grades, students must maintain a minimum 2.000 cumulative GPA.
- 2. Some colleges require a minimum GPA for major courses. Courses indicated in this column are included in the major GPA for this program of study.
- 3. Students who place into MATH 115 will be required to successfully complete it before taking MATH 141. MATH 115 can be used as an approved elective. Students who start with MATH 115 should use the following sequence for the first three semesters:

Semester One	Semester Two	Semester Three
ENGL 101	ENGL 102	MSCI 311
MSCI 101	MSCI 102	MATH 142
MATH 115	MATH 141	CHEM 112 & 112L
UNIV 101 or other Carolina Core Requirement	CHEM 111 & 111L	PHYS 201 & 201L or PHYS 211 & 211L
	Foreign Language or other Carolina Core Req.	Foreign language <i>or</i> other Carolina Core Req.

- 4. The Carolina Core provides the common core of knowledge, skill and academic experience for all Carolina undergraduate students.
- 5. Students in the College of Arts and Sciences are required to demonstrate proficiency in one foreign language equivalent to the 122 course through course credit or the corresponding foreign language placement score.
- 6. All MSCI majors are required to complete a minimum of 60 hours of marine science field effort. Possibilities include taking the MSCI 460 class, semester or summer internship, REU, semester at sea, or faculty-sponsored field research or cruise or field data collection/analysis. Students who opt for an experience other than the MSCI 460 class must submit a petition for an alternative field experience to the Undergraduate Director. If the alternative is approved, the student must submit a short (2-3 page minimum) report at the completion of the experience to the Undergraduate Director for approval. Upon approval, the Undergraduate Director will notify the Dean's office of the substitution, and the student's record will be updated to reflect zero credit hours in MSCI 460 for meeting the field effort requirement. If the student takes the MSCI 460 class (2-credit hours), those credits will be counted towards their 23 major elective credit hours.
- 7. In addition to the required 13 hours of major coursework, Marine Science majors must select 23 hours of Marine Science electives (which include the required Chemical Oceanography Concentration courses) in consultation with a faculty advisor for a total of 36 major hours. The elective courses listed in the Undergraduate Studies Bulletin for Marine Science are commonly selected, but any course which is eligible for cognate credit in the College of Arts and Sciences can potentially be a major course in Marine Science. The determination of major courses in this interdisciplinary program is the result of consultation between the student and an advisor.
- 8. The College of Arts and Sciences requires one U.S. History and one non-U.S. History course, both of which must be chosen from the approved Carolina Core GHS courses. Whichever is not fulfilled through the Carolina Core GHS requirement must be fulfilled through this college requirement.
- No courses of a remedial, developmental, skill-acquiring, or vocational nature may apply as credit toward degrees in the College of Arts and Sciences.
   The College of Arts and Sciences allows the use of the Pass-Fail option on elective courses. Further clarification on inapplicable courses can be obtained from the College of Arts and Sciences.

## **Program Notes:**

- ENGL 101 and ENGL 102 must be completed in the student's first 60 semester hours of work in order for these courses to be credited toward graduation. MSCI 101 and MSCI 102 must be completed in the first year in order to stay on track with subsequent Marine Science courses and ensure a timely graduation. Other courses identified as "critical" must be completed before the beginning of the student's 5th major semester.
- Marine Science majors may enroll in the following courses a maximum of two times to earn the required grade of C or higher: MATH through MATH 142, CHEM 111/111L, CHEM 112/112L, PHYS 201/201L or PHYS 211/211L, PHYS 202/202L or PHYS 212/212L. For the purposes of this standard of progression, withdrawal with a W does not constitute enrollment. These courses, in addition to MSCI 101 and MSCI 102, must be completed before the beginning of the student's their academic year (fifth major semester) as a marine science major.
- A maximum of 10 semester hours of a combination of independent study, seminar, and undergraduate research courses may count in the 36 hours of major credit required for the Marine Science major.
- All undergraduate students must take a 3-credit course or its equivalent with a passing grade that covers the founding documents. This course may
  fulfill any requirement in the program of study. Courses that meet this requirement are listed in the academic bulletin.
- The last 30 credit hours toward your degree must be earned in residence at the University of South Carolina-Columbia.

University Requirements: Bachelor's degree-seeking students must meet Carolina Core (general education) requirements. For more information regarding these requirements, please visit the Carolina Core page on the University website

blease visit the <u>Carolina Core</u> page on the Oniversity website.						
Codes:						
CC Carolina Core	CC-INF Carolina Core – Information Literacy					
CC-AIU Carolina Core-Aesthetic and Interpretive Understanding	CC-INT Carolina Core – Integrative Course					
CC-ARP Carolina Core-Analytical Reasoning and Problem-Solving	CC-SCI Carolina Core – Scientific Literacy					
CC-CMS Carolina Core-Effective, Engaged, and Persuasive Communication: Spoken Component	CC-VSR Carolina Core – Values, Ethics, and Social Responsibility					
CC-CMW Effective, Engaged, and Persuasive Communication: Written Component	CR College Requirement					
CC-GFL Carolina Core-Global Citizenship and Multicultural Understanding: Foreign Language	MR Major Requirement					
CC-GHS Carolina Core – Historical Thinking	PR Program Requirement					
CC-GSS Carolina Core – Social Sciences						

Disclaimer: Major maps are only a suggested or recommended sequence of courses required in a program of study. Please contact your academic advisor for assistance in the application of specific coursework to a program of study and course selection and planning for upcoming semesters.