

## Major Map: Geological Sciences Bachelor of Science (B.S.)

Intensive Geology 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

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Critical	Course Subject and Title				Code	Prerequisites	Notes
	ter One (13-14 Credit Hours)					1 10100 4.10100	
!	ENGL 101 Critical Reading and Composition	3	С		CC-CMW		
	MATH 122 Calculus for Bus. Admin. & Soc. Sci.	3-4			CC-ARP		
	or MATH 141 Calculus I <sup>3</sup>					122); C or better in MATH 112/115/116 (MATH	
						141); or placement through the MAP	
	GEOL 101 Introduction to the Earth	4			PR		
	or GEOL 103 Environment of the Earth						
	or GEOL 201 Observing the Earth (fall only)						
	UNIV 101 The Student in the University	3			PR/CC		
	or Carolina Core Requirement <sup>4</sup>						
Semes	ter Two (17-18 Credit Hours)						
!	ENGL 102 Rhetoric and Composition	3	С		CC-CMW	C or better in ENGL 101	
					CC-INF		
	MATH 170 Finite Mathematics	3-4			CC-ARP	See Bulletin Listing	
	or MATH 142 Calculus II						
	or MATH 172 Math. Modeling for the Life Sciences						
	or MATH 174 Discrete Math. for Computer Science	4			00.001	0 1 " : NATH 444/45/400/444	
	CHEM 111 & 111L General Chemistry I	4			CC-SCI	C or better in MATH 111/115/122/141 or	
	OFOL OOF Fastly Overhance there will Time (and as and a)	4	_		40	higher math <i>or</i> placement through the MAP	
	GEOL 305 Earth Systems through Time (spring only)	4	С		MR		
0	Foreign Language <sup>5</sup> or other Carolina Core Req. <sup>4</sup>	3			CC-GFL		
Semes	ter Three (14 Credit Hours)	4			MD		
	GEOL 325 Stratigraphy & Sed. Basins (fall only) PHYS 201 & 201L General Physics I	4	С		MR CC-SCI	C or better in MATH 111/111i/112/115/116/	
	or PHYS 211 & 211L Essentials of Physics I	4			CC-SCI	122/141 or by placement into MATH 12, 141	
	OFFITS 211 & 211L Essentials of Filysics I					, ,	
						or higher (PHYS 201); C or better in MATH 141(PHYS 211)	
	Carolina Core Requirement <sup>4</sup>	3			CC	141(11113 211)	
	,	3					
	Foreign Language <sup>5</sup> or other Carolina Core Req. <sup>4</sup>	3			CC-GFL		
Semes	ter Four (14 Credit Hours)						
	GEOL 355 Structural Geol. & Tectonics (spring only)	4	С		MR	C or better in GEOL 302; D or better in PHYS	
						201 or 211	
	PHYS 202 & 202L Gen. Phys. II (or PHYS 212/212L)	4			PR	See Bulletin listing	
	or CHEM 112 & 112L General Chemistry II						
	or BIOL 101 & 101L Biological Principles I						
	or BIOL 102 & 102L Biological Principles II	_					
	Carolina Core Requirement <sup>4</sup>	3			CC		
0	Foreign Language⁵ <i>or</i> Carolina Core Requirement⁴	3			CR/CC		
Summ	er (4-6 Credit Hours)	4.0		1	MD/CC	C an hattan in OFOL 205 9 255	
	GEOL 500 Field Geology <sup>6</sup> (summer only)	4-6	С		MR/CC- INT	C or better in GEOL 325 & 355	
Semes	ter Five (15 Credit Hours)				11111		
Comes	GEOL 315 Surface & Near Surface Proc. (fall only)	4	С		MR	D or better in PHYS 201 or 211	
	GEOL 302 Rocks and Minerals (fall only)	4	C		MR	C or better in GEOL 101, 103, <i>or</i> 201	
	PHYS 202 & 202L Gen. Phys. II (or PHYS 212/212L)	4	<b>⊢</b>		PR	See Bulletin listing	
	or CHEM 112 & 112L General Chemistry II	-			1 11	Coo Ballotti iistirig	
	or BIOL 101 & 101L Biological Principles I						
	or BIOL 102 & 102L Biological Principles II						
	History <sup>7</sup>	3			CR		
Semes	ter Six (14 Credit Hours)						
	GEOL 335 Processes of Global Environmental	4	С		MR		
	Change (cross-listed: MSCI 335) (spring only)						
	GEOL 345 Igneous & Metamorphic Proc. (spring	4	С		MR	C or better in GEOL 302; D or better in MATH	
	only)	<u> </u>				122 or 141	
	STAT 515 Statistical Methods I	3			CR	C or better in MATH 112/115/122 or 141; or	· · · · · · · · · · · · · · · · · · ·
						both C or better in STAT 110 or higher and in	
						MATH 111; or placement through the MAP	
	Social Science	3			CR		

Semester Seven (15 Credit Hours)					
GEOL Major Elective (399 or above)	3	С	MR	See Bulletin listing	
CSCE 102 General Applications Programming	3		CR	MSCI 101 & MATH 141 (MSCI 305); MATH	
or higher-level CSCE course				141 <i>(MSCI 509)</i>	
or MSCI 305 Ocean Data Analysis					
or MSCI 509 MATLAB-Based Data Analysis in					
Ocean Sciences					
Humanities or Fine Arts	3		CR		
Carolina Core Requirement <sup>4</sup> or Elective <sup>8</sup>	3		CC/PR		
Elective <sup>8</sup>	3		PR		
Semester Eight (14 Credit Hours)					
GEOL 399 Independent Study	3	С	MR		
or GEOL 498 Undergraduate Research					
or GEOL 499 Undergraduate Research					
or GEOL 699 Senior Thesis					
GEOL Major Elective (399 or above)	3	С	MR	See Bulletin listing	
Carolina Core Requirement <sup>4</sup> or Elective <sup>8</sup>	3		CC/PR		
Elective <sup>8</sup>	3		PR		
Elective <sup>8</sup>	2		PR		

**Graduation Requirements Summary** 

Minimum Total Hours	Minimum Major Requirements Hours	College & Program Requirements Hours	Carolina Core Hours	Minimum Institutional GPA
120	41	35-47	32-44	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 111 or 115 will be required to complete it successfully before taking MATH 122 or 141. MATH 111/115 may be used as an approved elective. Students who start with MATH 111/115 should use the following sequence for the first three semesters:

Semester One	Semester Two	Semester Three
ENGL 101	ENGL 102	GEOL 325
GEOL 101, 103 or 201	MATH 122 or 141	GEOL 345
MATH 111 <i>or</i> 115	CHEM 111 & 111L	MATH 170 <i>or</i> 142
UNIV 101 or Carolina Core Requirement	GEOL 302	PHYS 201 & 201L or 211 & 211L
	Foreign Language <i>or</i> other Carolina Core Req.	Foreign language <i>or</i> 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. GEOL 500 is a summer course, which takes place in the American West. Students must indicate to the SEOE undergraduate office their plans to attend field camp in January, which is prior to registering for GEOL 500.
- 7. 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.
- 8. 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:**

- Courses identified as "critical" must be completed in the student's first 60 semester hours of work in order for these courses to be credited toward graduation.
- 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 <u>bulletin</u>.
- A Degree with Distinction is available to students majoring in Geological Sciences who wish to participate in significant research activities in their major field under the supervision of a faculty mentor. Requirements include: 1) a minimum GPA of 3.5 in the major and 3.3 overall; 2) written sponsorship agreement from the faculty mentor on file in the SEOE Undergraduate Student Services office; 3) a public presentation of the Senior Thesis research accompanied by a written document approved by the faculty mentor and a second reader that follows the guidelines of the degree program; and 4) three courses in addition to the major requirements, including: GEOL 498 or GEOL 499, GEOL 699, and a minimum of one GEOL 500-level course appropriate to the research.
- 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

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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.