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



Environmental Geosciences Concentration College of Arts and Sciences School of Earth, Ocean & Environment Catalog Year: 2016-2017

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.

| Critical | otes section for details regarding "critical courses" for this part  Course Subject and Title  | Credit     |       | Major | Code     | Prerequisites   | Notes |
|----------|--|------------|-------|-------|----------|---|-------|
|          | er One (13-14 Credit Hours)  | 110018     | Grade | GI A- | Couc     | Trerequisites   | Notes |
|          | ENGL 101 Critical Reading and Composition  | 3          | С     |       | CC-CMW   |   |       |
| •        | MATH 122 Calculus for Bus. Admin. & Soc. Sciences  | 3-4        | C     |       | CC-ARP   | <b>MATH 122:</b> MATH 111/1111;   |       |
|          | or MATH 141 Calculus I <sup>3</sup>  | <i>J</i> 1 |       |       | CC IIII  | <b>MATH 141:</b> MATH 115 <i>or</i> Math  |       |
|          | or initial transmission of the control of the contr |            |       |       |          | placement test score  |       |
|          | GEOL 101 Introduction to the Earth   | 4          |       |       | PR       | placement test score  |       |
|          | or GEOL 103 Environment of the Earth   | '          |       |       | 110      |   |       |
|          | 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>  | 3          |       |       | 110,00   |   |       |
| emest    | er Two (16-17 Credit Hours)  |            |       |       |          |   |       |
|          | ENGL 102 Rhetoric and Composition  | 3          | С     |       | CC-CMW   |   |       |
| •        | ENVOL 102 Idictoric and Composition  | 3          |       |       | CC-INF   |   |       |
|          | MATH 170 Finite Mathematics  | 3-4        | С     |       |          | <b>MATH 170:</b> MATH 111/1111 <i>or</i> 112 or   |       |
|          | or MATH 142 Calculus II  | <i>J</i> 1 |       |       | CC IIII  | Math placement test score;  |       |
|          | 77 14111111 1 12 Galectius 11  |            |       |       |          | <b>MATH 142:</b> MATH 141   |       |
|          | CHEM 111 & 111L – General Chemistry I  | 4          |       |       | CC-SCI   | MATH 115 or Math placement test score   |       |
|          | History <sup>5</sup>   | 3          |       |       | CR       | Will 1119 of Water placement test score   |       |
|          | Foreign language <sup>6</sup> or other Carolina Core Requirement <sup>4</sup>  | 3          |       |       | CC-GFL   |   |       |
| mest     | er Three (14 Credit Hours)   | 5          |       |       | CC OIL   |   |       |
| incst    | GEOL 302 Rocks and Minerals (fall only)  | 4          | С     |       | MR       | GEOL 101, 103, or 201 (CHEM 111   |       |
|          | OLOL 502 ROCKS and Milicials (jau omy)   | 7          |       |       | IVIIC    | recommended)  |       |
|          | PHYS 201 & 201L – General Physics I  | 4          |       |       | CC-SCI   | PHYS 201: MATH 115 or 122;  |       |
|          | or PHYS 211 & 211L – Essentials of Physics I   | 7          |       |       | CC-5C1   | PHYS 211: MATH 141  |       |
|          | Carolina Core Requirement <sup>4</sup>   | 3          |       |       | CC       | 11113 211, WIXTIT 141   |       |
|          | Foreign language <sup>6</sup> or other Carolina Core Requirement <sup>4</sup>  | 3          |       |       | CC-GFL   |   |       |
| mest     | er Four (14 Credit Hours)  | 3          |       |       | CC-OIL   |   |       |
| riicst   | GEOL 335 Processes of Global Envr. Change (cross-  | 4          | С     |       | MR       |   |       |
|          | listed: MSCI 335)  | '          |       |       | IVLIC    |   |       |
|          | PHYS 202 & 202L – General Physics II   | 4          |       |       | PR       | PHYS 202: PHYS 201  |       |
|          | or PHYS 212 & 212L – Essentials of Physics II  | '          |       |       | 110      | <b>PHYS 212:</b> PHYS 211 & MATH 142  |       |
|          | or CHEM 112 & 112L – General Chemistry II  |            |       |       |          | <b>CHEM 112:</b> CHEM 111 <i>or</i> 141 <i>and</i>                                      |       |
|          | or BIOL 101 & 101L – Biological Principles I   |            |       |       |          | MATH 111 or 115 or higher math  |       |
|          | Cognate Course <sup>7</sup>  | 3          |       |       | PR       | WEXTILL OF TIS OF HIGHER HIACH  |       |
|          | Humanities or Fine Arts  | 3          |       |       | CR       |   |       |
|          | Foreign language <sup>6</sup> or Carolina Core Requirement <sup>4</sup>  | 3          |       |       | CR/CC    |   |       |
|          | er Five (14 Credit Hours)  | 9          |       |       | CR/CC    |   |       |
| mest     | GEOL 325 Stratigraphy & Sed. Basins (fall only)  | 4          | С     |       | MR       | GEOL 302  |       |
|          | PHYS 202 & 202L – General Physics II   | 4          | C     |       | PR       | PHYS 202: PHYS 201; PHYS 212:   |       |
|          | or PHYS 212 & 212L – General Physics II  | 4          |       |       | PK       | PHYS 211 & MATH 142; <b>CHEM 112</b> :  |       |
|          | or CHEM 112 & 112L – Essentials of Frysics II  |            |       |       |          | CHEM 111 or 141 and MATH 111 or 115   |       |
|          | or BIOL 102 & 102L – Biological Principles I   |            |       |       |          | or higher math; <b>BIOL 102:</b> BIOL 101   |       |
|          | Cognate Course <sup>7</sup>  | 3          |       |       | PR       | W Higher Hatti, <b>BIOL 102.</b> BIOL 101   |       |
|          | Carolina Core Requirement <sup>4</sup>   | 3          |       |       | CC       |   |       |
| moot     | er Six (13 Credit Hours)   | 3          |       |       | CC       |   |       |
| incst    | GEOL 315 Surface & Near Surface Proc. (spring only)  | 4          | С     |       | MR       | PHYS 201 or 211   |       |
|          | Cognate Course <sup>7</sup>  | 3          | C     |       | PR       | F1113 201 W 211   |       |
|          |  |            |       |       |          | <b>STAT 201:</b> MATH 111, 115 <i>or</i> STAT   |       |
|          | STAT 201 Elementary Statistics   | 3          |       |       | CR       |   |       |
|          | or STAT 509 Statistics for Engineers<br>or STAT 515 Statistical Methods I  |            |       |       |          | 110; <b>STAT 509:</b> MATH 142; <b>STAT 515:</b> MATH 141 <i>or</i> 115 & a stat. class |       |
|          | Carolina Core Requirement <sup>4</sup> or Approved Elective <sup>8</sup>   | 3          |       |       | CC/PR    | IVIATE 141 OF 113 & a Stat. Class   |       |
| mani     | er Seven (13 Credit Hours)   | 3          |       |       | CC/PK    |   |       |
| mest     | GEOL 355 Struct. Geol. & Tectonics (fall only)   | Л          | C     |       | MD       | CEOL 202 & DIIVS 201 a. 211   |       |
|          |  | 3          | С     |       | MR<br>PR | GEOL 302 & PHYS 201 or 211  |       |
|          |  |            |       |       | 1 PK     |   |       |
|          | Cognate Course <sup>7</sup> CSCE 102 General Applications Programming  | 3          |       |       | CR       |   |       |

| Semester Eight (13-16 Credit Hours)                                   |     |   |  |        |  |  |
|---|-----|---|--|--------|--|--|
| GEOL 305 Earth Systems through Time (fall only)                       | 3-4 | С |  | MR     | <b>GEOL 371:</b> GEOL 101, 103, or 201;        |  |
| or GEOL 371 A view of the River                                       |     |   |  |        | <b>GEOL 548:</b> MATH 141 & PHYS 201 <i>or</i> |  |
| or GEOL 548 Environmental Geophysics                                  |     |   |  |        | 211  |  |
| Social Science  | 3   |   |  | CR     |  |  |
| Approved Elective <sup>8</sup>  | 3   |   |  | PR     |  |  |
| Approved Elective <sup>8</sup>  | 3   |   |  | PR     |  |  |
| Approved Elective <sup>8</sup> (varies depending upon number of hours | 1-3 |   |  | PR     |  |  |
| needed to meet hours to graduate)                                     |     |   |  |        |  |  |
| Summer (6 Credit Hours)   |     |   |  |        |  |  |
| GEOL 500 Field Geology <sup>9</sup> (summer only)                     | 6   | С |  | MR     | GEOL 325 & 355                                 |  |
|   |     |   |  | CC-INT |  |  |

**Graduation Requirements Summary** 

| Minimum Total<br>Hours | Major Requirements Hours | College & Program Requirements Hours | Carolina Core Hours | Minimum<br>Overall GPA |
|------------------------|--------------------------|--------------------------------------|---------------------|------------------------|
| 120                    | 29                       | 47-59                                | 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 302                               |
| GEOL 101, 103 or 201                         | MATH 122 or 141                              | MATH 170 or 142                        |
| MATH 111 or 115                              | CHEM 111 & 111L                              | PHYS 201 & 201L or 211 & 211L          |
| UNIV 101 or Carolina Core Requirement        | History                                      | Carolina Core Requirement              |
| Foreign language or other Carolina Core Req. | Foreign Language or other Carolina Core Req. | Foreign language or Carolina Core Req. |

- 4. The Carolina Core provides the common core of knowledge, skill and academic experience for all Carolina undergraduate students.
- 5. 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.
- 6. 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.
- 7. The cognate is intended to support the course work in the major. The cognate must consist of twelve hours of courses at the advanced level, outside of, but related to the major. A second major eliminates the minor/cognate 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.
- 9. GEOL 500 is a summer course, which takes place in Colorado. Students must indicate to the SEOE undergraduate office their plans to attend field camp in January, which is prior to registering GEOL 500.

## **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.
- 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 Department of Geological Sciences; and 4) three courses in addition to the general 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. However, please note that GEOL 500, while considered "in residence," occurs in Colorado.

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