



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	Course Subject and Title	Credit Hours	Min. Grade <sup>1</sup>	Major GPA <sup>2</sup>	Code	Prerequisites	Notes
<b>Semester One (17 Credit Hours)</b>							
	ENGL 101 Critical Reading and Composition	3	C		CC-CMW		
!	MATH 141 Calculus 1 <sup>3</sup>	4	C		CC-ARP	C or better in MATH 112/115/116 <i>or</i> Math placement test score	
	CHEM 111 & CHEM 111L – General Chemistry I	4	C		CC-SCI	C or better in MATH 111/115/122/141 <i>or</i> Math placement test score	
	ECIV 101 Introduction to Civil Engineering	3		*	PR		
	Carolina Core Requirement <sup>4</sup>	3			CC		
<b>Semester Two (18 Credit Hours)</b>							
	ENGL 102 Rhetoric and Composition	3	C		CC-CMW CC-INF	C or better in ENGL 101	
!	MATH 142 Calculus II	4	C		CC-ARP	C or better in MATH 141	
	CHEM 112 & CHEM 112L – General Chemistry II	4			PR	C or better in CHEM 111 <i>or</i> 141 <i>and</i> MATH 111/115 <i>or</i> higher math	
	PHYS 211 & PHYS 211L – Essentials of Physics I	4	C		CC-SCI	C or better in MATH 141	
!	ECIV 200 Statics	3	C	*	PR	C or better in MATH 141	
<b>Semester Three (16 Credit Hours)</b>							
!	ECIV 201 Computational Methods for Civil Engr.	3		*	PR	C or better in MATH 142 & ECIV 200	
!	ECIV 210 Dynamics	3	C	*	PR	C or better in ECIV 200 & MATH 142	
!	MATH 241 Vector Calculus	3			PR	C or better in MATH 142	
	PHYS 212 & PHYS 212L – Essentials of Physics II	4			PR	C or better PHYS 211 <i>and</i> MATH 142	
	Carolina Core Requirement <sup>4</sup>	3			CC		
<b>Semester Four (16 Credit Hours)</b>							
	ECIV 111 Intro. to Engr. Graphics & Visualization	1		*	MR		
!	ECIV 220 Mechanics of Solids	3	C	*	PR	C or better in ECIV 200 & MATH 142	
!	ECIV 360 Fluid Mechanics	3		*	PR	Prereq or Coreq: ECIV 210 & MATH 241	
!	MATH 242 Elem. Differential Equations	3			PR	C or better in MATH 142	
	STAT 509 Statistics for Engineers	3			PR	MATH 142	
	Carolina Core Requirement <sup>4</sup> ( <i>Professional Dev. Req.</i> ) <sup>5</sup>	3			CC		
<b>Semester Five (16 Credit Hours)</b>							
!	ECIV 303 Civil Engineering Materials	3		*	MR	C or better in ECIV 220	
!	ECIV 320 Structural Analysis I	3		*	MR	ECIV 201, MATH 242, & C or better in ECIV 220	
!	ECIV 340 Intro. to Transportation Engineering	3		*	MR	ECIV 201 & C or better in ECIV 210	
!	ECIV 350 Intro. to Environmental Engineering	3		*	MR	CHEM 112 <i>or</i> CHEM 142 & C or better in MATH 142	
	ECIV Laboratory Elective <sup>6</sup>	1		*	PR	See course listing in the <a href="#">Bulletin</a> .	
	Carolina Core Requirement <sup>4</sup>	3			CC		
<b>Semester Six (16 Credit Hours)</b>							
!	ECIV 330 Intro. to Geotechnical Engineering	3		*	MR	C or better in ECIV 220	
!	ECIV 362 Intro. to Water Resources Engineering	3		*	MR	ECIV 360	
	ECIV Distribution Elective <sup>7</sup>	3		*	PR	See course listing in the <a href="#">Bulletin</a> .	
	ECIV Elective <sup>8</sup>	3		*	PR	See course listing in the <a href="#">Bulletin</a> .	
	ECIV Laboratory Elective <sup>6</sup>	1		*	PR	See course listing in the <a href="#">Bulletin</a> .	
	ESM Elective <sup>9</sup>	3			PR	See course listing in the <a href="#">Bulletin</a> .	
<b>Semester Seven (16 Credit Hours)</b>							
!	ECIV 405 Systems Applications in Civil Engr.	3		*	MR	ECIV 201	
!	ECIV 470 Civil Engineering Design	4		*	MR CC-INT	Prereq or Coreq: ECIV 111 & two ECIV Distribution	
	ECIV Distribution Elective <sup>7</sup>	3		*	PR	See course listing in the <a href="#">Bulletin</a> .	
	ECIV Distribution Elective <sup>7</sup>	3		*	PR	See course listing in the <a href="#">Bulletin</a> .	
	ECIV Elective <sup>8</sup>	3		*	PR	See course listing in the <a href="#">Bulletin</a> .	
<b>Semester Eight (15 Credit Hours)</b>							
	ECIV Distribution Elective <sup>7</sup>	3		*	PR	See course listing in the <a href="#">Bulletin</a> .	
	ECIV Elective <sup>8</sup>	3		*	PR	See course listing in the <a href="#">Bulletin</a> .	
	ECIV Elective <sup>8</sup>	3		*	PR	See course listing in the <a href="#">Bulletin</a> .	
	ESM Elective <sup>9</sup>	3			PR	See course listing in the <a href="#">Bulletin</a> .	
	ESM Elective <sup>9</sup>	3			PR	See course listing in the <a href="#">Bulletin</a> .	

## Graduation Requirements Summary

Minimum Total Hours	Major Requirements Hours	College & Program Requirements Hours	Minimum Carolina Core Hours	Minimum Overall GPA
130	26	70	34	2.00

- Regardless of individual course grades, students must maintain a minimum 2.00 cumulative GPA.
- Some colleges require a minimum GPA for major courses. Courses indicated in this column are included in the major GPA of 2.00 for this program.
- Students who place into MATH 115 will be required to successfully complete it before taking MATH 141.
- The [Carolina Core](#) provides the common core of knowledge, skill and academic experience for all Carolina undergraduate students. Students in the College of Engineering and Computing are required to demonstrate proficiency in one foreign language equivalent to the 121 course by 1) a score of two or better on the foreign language placement test; or 2) completion of the 109 and 110 courses in FREN, GERM, LATN, or SPAN or completion of the 121 course in another foreign language. Students who do not place out of the GFL requirement may need to take additional hours to meet this requirement. This major map also assumes that students complete two Carolina Core overlay courses. Additional hours may be required to meet all Carolina Core requirements if no overlay courses are taken.
- The Professional Development Requirement is satisfied by completing any Carolina Core courses for CMS, VSR, or by ENGL 462 or 463.
- ECIV Laboratory Electives (2 hours):** ECIV 303L, ECIV 330L, ECIV 340L, ECIV 350L, ECIV 362L.
- ECIV Distribution Electives (12 hours):** One course from 4 of the following 5 areas: Environmental: ECIV 551, 555, 556, 557, 558; Geotechnical: ECIV 530; Structures: ECIV 325 or 327; Water Resources: ECIV 560 or 562 or 563; Transportation: ECIV 540, 541, 542, or 580.
- ECIV Electives (12 hours):** ECIV 300, ECIV 325, ECIV 327, ECIV 426, ECIV 490, ECIV 499, ECIV 503, ECIV 520, ECIV 521, ECIV 524, ECIV 526, ECIV 530, ECIV 533, ECIV 535, ECIV 540, ECIV 541, ECIV 542, ECIV 551, ECIV 555, ECIV 556, ECIV 557, ECIV 558, ECIV 560, ECIV 562, ECIV 563, ECIV 570, ECIV 580, ECIV 588.
- ESM (Engineering, Science, or Mathematics) Electives (9 hours):**  
One ESM elective must come from this Science Group – BIOL 101, 102, 110, 250, 270, and 300 or above; ENVR 221/321, 551; GEOL 201 and 300 or above; MSCI courses 300 and above.  
Two additional ESM electives from the following: additional **ECIV** courses from the Distribution and Elective categories; **ENCP** 290 or above (not 310 or 360); any **ECHE** course above 320; any **ELCT** above 201; any **EMCH** 290 or above (not 310 or 360); any **CSCE** 211 and above; any **PHYS** above 212; **GEOG** 563; any **GEOL** 300 and above; **BIOL** 101, 102, 110, 250, 300 and above; **MSCI** 300 and above; any **CHEM** above 112; **MATH** 521, 544, 550; **STAT** 511; **NAVY** 201, 202, 301; one Project Lead the Way course; **ENVR** 501.

### Program Notes:

- Courses identified as “critical” must be completed in the semester in which they are listed in order to ensure a timely graduation due to prerequisite requirements for subsequent required courses.
- A student cannot repeat courses from the College of Engineering and Computing in which they earned a grade of C or better. In addition, a student cannot repeat any course from the College a second time. No more than four courses from the College of Engineering and Computing may be repeated in order to satisfy the requirements for any degree from the College, regardless of satisfactory work. For this purpose, withdrawal from a course with a grade of **W** is not regarded as enrollment in that course. A student that does not satisfactorily complete a degree-required College course within two attempts must change major or transfer out of the College of Engineering and Computing.
- The last 30 credit hours toward your degree and at least half of the major 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.

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

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.