Major Map: Civil Engineering
Bachelor of Science in Engineering (B.S.E.)
College of Engineering and Computing
Department of Civil & Environmental Engineering
Bulletin Year: 2020-2021

U of SC South Carolina

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.

!	Course Subject and Title	Credit Hours	Min. Grade[1]	Program GPA[2]	Code	Prerequisites	Notes
Semester One (17 Credit Hours)							
	ENGL 101 Critical Reading and Composition	3	C		CC-CMW		
!	MATH 141 Calculus 1[3]	4	C		CC-ARP	C or better in MATH 112/115/116 *or* Math placement test score	
	CHEM 111 & CHEM 111L – General Chemistry I	4			CC-SCI	C or better in MATH 111/115/122/141 *or* higher math *or* Math placement test score	
	ECIV 101 Introduction to Civil Engineering	3		*	PR		
	Carolina Core AIU[4]	3			CC-AIU		
Semester Two (17 Credit Hours)							
	ENGL 102 Rhetoric and Composition	3			CC-CMW CC-INF	C or better in ENGL 101	
!	MATH 142 Calculus II	4	C		CC-ARP	C or better in MATH 141	
	PHYS 211 & PHYS 211L – Essentials of Physics I	4			CC-SCI	C or better in MATH 141	
!	ECIV 200 Statics	3	C	*	PR	C or better in MATH 141	
	Carolina Core GHS[4]	3			CC-GHS		
Semester Three (15-16 Credit Hours)							
!	ECIV 201 Computational Methods for Civil Engr.	3		*	PR	C or better in MATH 142 & ECIV 200	
	MATH 241 Vector Calculus *or* MATH 300 Transition to Advanced Mathematics *or* MATH 344 Applied Linear Algebra	3		*	PR	C or better in MATH 142	
!	ECIV 220 Mechanics of Solids	3	C	*	PR	C or better in ECIV 200 & MATH 142	
	Basic Science Elective[5]	3-4			PR	See Bulletin listing.	
	Carolina Core GSS[4]	3			CC-GSS		
Semester Four (15-16 Credit Hours)							
	ECIV 111 Intro. to Engr. Graphics & Visualization	3		*	PR		
!	ECIV 360 Fluid Mechanics	3	C	*	PR	Prereq or Coreq: ECIV 210 & MATH 241 *(not enforced for 2020-2021)*	
!	MATH 242 Elem. Differential Equations	3			PR	C or better in MATH 142	
!	STAT 509 Statistics for Engineers *or* STAT 511 Probability	3			PR	MATH 142 *(STAT 509)*; C or better in MATH 241 *(STAT 511)*	
	Foundational Math/Science Elective[6]	3-4			PR		
Semester Five (16 Credit Hours)							
!	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	D or better in ECIV 201 *or* ENCP 201 *and* STAT 509 *or* STAT 511	
!	ECIV 350 Intro. to Environmental Engineering	3		*	MR	D or better in CHEM 111 *or* CHEM 141 & C or better in MATH 142	
	ECIV Laboratory Elective[7]	1		*	PR	See Bulletin listing.	
	Carolina Core VSR[4]	3			CC-VSR		
Semester Six (16-17 Credit Hours)							
!	ECIV 330 Intro. to Geotechnical Engineering	3		*	MR	C or better in ECIV 220 *or* ENCP 260	
!	ECIV 362 Intro. to Water Resources Engineering	3		*	MR	C or better in either ECIV 360 *or* ENCP 360	
	ECIV Distribution Elective[8]	3		*	PR	See Bulletin listing.	
	ECIV Distribution Elective[8]	3		*	PR	See Bulletin listing.	
	ECIV Laboratory Elective[7]	1		*	PR	See Bulletin listing.	
	ESM Elective[9]	3-4			PR		
Semester Seven (12-13 Credit Hours)							
!	ECIV 307 Professional Development for Civil Engineers	3		*	MR	D or better in ECIV 320, 330, 340, 350 *or* 362	
	ECIV Distribution Elective[8]	3		*	PR	See Bulletin listing.	
	ESM Elective[9]	3		*	PR	See Bulletin listing.	
	ESM Elective[9]	3-4		*	PR	See Bulletin listing.	
Semester Eight (16-18 Credit Hours)							
!	ECIV 470 Civil Engineering Design	4		*	MR CC-INT	D or better in ECIV 307; Prereq or Coreq: D or better in ECIV 111 *or* ENCP 102 & D or better in two ECIV Distribution	
	ECIV Distribution Elective[8]	3		*	PR	See Bulletin listing.	
	ESM Elective[9]	3		*	PR	See Bulletin listing.	
	Other Elective[10]	3-4			PR	See Bulletin listing.	
	Other Elective[10]	3-4			PR	See Bulletin listing.	
Take during any semester (0-9 Credit Hours)							
	Carolina Core CMS[4]	0-3			CC-CMS		
	Carolina Core GFL[4]	0-6			CC-GFL		

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Graduation Requirements Summary

Minimum Total Hours	Minimum Major Requirements Hours	College & Program Requirements Hours	Minimum Carolina Core Hours	Minimum Institutional GPA
124	25	65-71	34	2.00

1. Regardless of individual course grades, students must maintain a minimum 2.00 cumulative GPA.
2. Some colleges require a minimum GPA for major courses. Courses indicated in this column are included in the Civil Engineering program GPA of 2.00.
3. Students who place into MATH 115 will be required to successfully complete it before taking MATH 141.
4. 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.
5. **Basic Science Elective (3 hours): BIOL** 110, 270; **ENVR** 101, 321; **GEOL** 101, 103; **MSCI** 210, 215.
6. **Foundational Math/Science Elective (3-4 hours): CHEM** 112 & 112 Lab, **PHYS** 212 & 212 Lab, **MATH** 241, 300, 344.
7. **ECIV Laboratory Electives (2 hours):** ECIV 303L, ECIV 330L, ECIV 340L, ECIV 350L, ECIV 362L.
8. **ECIV Distribution Electives (12 hours):** One course from 4 of the following 5 areas: Environmental: ECIV 551, 555, 556, 557, 558; Geotechnical: ECIV 530, 531; Structural: ECIV 325, 327; Water Resources: ECIV 560, 562, 563; Transportation: ECIV 540,541, 542, or 580.
9. **ESM (Engineering, Science, or Mathematics) Electives (12-14 hours): BIOL** 101, 102, 110, 250, 211 and above; **BMEN** 211 or above; **CHEM** 112 or above; **CSCE** 145, 146, 201, 206, or 211; **ECHE** 310 or above; additional **ECIV** courses 300-level and above; **ELCT** 221 or above; **EMCH** 290 or above (not 360); **ENCP** 290 or above (not 360); **ENVR** 501; **GEOG** 563; **GEOL** 302 or above; **ITEC** 233 or above; **MATH** 241, 300, 344, 520, 521, 544, 550; **MSCI** 305 and above; **NAVY** 201, 202, 301; **PHYS** 212 or above; **STAT** 511, 512, 513, 516, 520, 587.
10. **Other Electives (6-8 hours):** additional courses from the ESM Elective category, ACCT 222, ECON 224, FINA 333, MGMT 371, MGSC 290, MKTG 350.

Program Notes:

- Courses identified as "critical" must be completed by 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.
- Disclaimer: Prerequisites on courses are subject to change. Please refer to Bulletin.

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:			
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.