South Carolina

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

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 (15 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	
!	CSCE 145 Algorithmic Design I	4	C	*	PR	Prereq or Coreq: MATH 111 *or* 115	
	CSCE 190 Computing in the Modern World	1	C	*	PR	Prereq or Coreq: CSCE 145, 204, 205, *or* 206	
	Carolina Core AIU[4]	3			CC-AIU		
Semester Two (16 Credit Hours)							
	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 111 & CHEM 111L – General Chem. I *or* PHYS 211 & PHYS 211L – Essentials of Phys. I	4	C		CC-SCI	C or better in MATH 111/115/122/141 *or* or higher math *or* Math placement test score *(CHEM 111 only)*; C or better in MATH 141 *(PHYS 211 only)*	
!	CSCE 146 Algorithmic Design II	4	C	*	PR	C or better in CSCE 145, Prereq or Coreq: MATH 122 *or* 141	
!	CSCE 215 UNIX/Linux Fundamentals	1	C	*	PR	CSCE 145	
Semester Three (16 Credit Hours)							
!	CSCE 211 Digital Logic Design	3	C	*	PR	MATH 141	
!	CSCE 240 Advanced Programming Techniques	3	C	*	PR	D or better in CSCE 215 & C or better in CSCE 146	
!	MATH 374 Discrete Structures	3	C		PR	C or better in MATH 142 & CSCE 146	
	CHEM 112 & CHEM 112L – General Chem. II *or* PHYS 212 & PHYS 212L – Essentials of Phys. II	4			CC-SCI	C or better in CHEM 111 *or* 141 & MATH 111/115/122/141 or higher math *(CHEM 112 only)*; C or better PHYS 211 *and* MATH 142 *(PHYS 212 only)*	
	SPCH 140 Public Communication *or* SPCH 230 Business and Professional Speaking	3			CC-CMS		
Semester Four (16 Credit Hours)							
!	CSCE 212 Intro. to Computer Architecture	3	C	*	PR	CSCE 211 & either CSCE 145 *or* 206	
	CSCE 247 Software Engineering	3	C	*	PR	C or better in CSCE 146	
	Laboratory Science Elective[5]	4			PR	See Bulletin listing.	
	MATH 241 Vector Calculus	3			PR	C or better in MATH 142	
	Carolina Core GSS[4]	3			CC-GSS		
Semester Five (16 Credit Hours)							
	CSCE 311 Operating Systems	3	C	*	MR	CSCE 240 & CSCE 210 *or* 212	
	CSCE 330 Programming Language Structures	3	C	*	MR	CSCE 240; MATH 174 *or* 374 *or* 574	
	CSCE 350 Data Structures & Algorithms	3	C	*	MR	CSCE 240; MATH 174 *or* 374 *or* 574	
	CSCE 390 Prof. Issues in Computer Science Engr.	1	C	*	CC-VSR		
!	ENGL 462 Technical Writing *or* ENGL 463 Business Writing	3			PR	ENGL 101 & 102	
	Application Area Elective[6]	3			PR	See Bulletin listing.	
Semester Six (15 Credit Hours)							
	CSCE 416 Introduction to Computer Networks	3	C	*	MR	CSCE 146	
	CSCE Major Elective[7]	3	C	*	MR	See Bulletin listing.	
	STAT 509 Statistics for Engineers	3			PR	MATH 142	
	Liberal Arts Elective[8]	3			PR	See Bulletin listing.	
	Application Area Elective[6]	3			PR	See Bulletin listing.	
Semester Seven (16 Credit Hours)							
!	CSCE 490 Capstone Computing Project I	3	C	*	MR CC-INT	CSCE 240 & ENGL 462 *or* 463; Prereq or Coreq: CSCE 350	
	CSCE 355 Foundations of Computation	3	C	*	MR	CSCE 211, 212, & 350	
	CSCE Major Elective[7]	3	C	*	MR	See Bulletin listing.	
	MATH 344 & MATH 344L – Applied Linear Alg.	4			PR	C or better in MATH 142 *(MATH 344)*; Prereq or Coreq or concurrent: C or better in MATH 344 *(MATH 344L)*	
	Application Area Elective[6]	3			PR	See Bulletin listing.	
Semester Eight (15 Credit Hours)							
	CSCE 492 Capstone Computing Project II	3	C	*	MR	CSCE 490	
	CSCE Major Elective[7]	3	C	*	MR	See Bulletin listing.	
	Liberal Arts Elective[8]	3			PR	See Bulletin listing.	
	Liberal Arts Elective[8]	3			PR	See Bulletin listing.	
	Carolina Core GHS[4]	3			CC-GHS		
Take during any semester (0-6 Credit Hours)							
	Carolina Core GFL[4]	0-6			CC-GFL		

M. Thatcher

Graduation Requirements Summary

Minimum Total Hours	Minimum Major Requirements Hours	College & Program Requirements Hours	Minimum Carolina Core Hours	Minimum Institutional GPA
125	30	60	35	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 Computer Science 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. **Laboratory Science Elective** (4 hours): **ANTH** 161; **ASTR** 101; **BIOL** 101 & 101L, 110; **CHEM** 111 & 111L, 141; **ENVR** 101 &101L, 200; **GEOG** 201, 202; **GEOL** 101, 103, 201, 215 & 215L, 302; **MSCI** 101, 102, 210 & 210L, 215 & 215L; **PHYS** 211 & 211L
6. **Application Area Electives**: An application area consists of three courses (9 hours) that display a distinct curricular pattern that is different from computer science. Any three non-CSCE courses that are from one department or are a subset of a defined minor, and that are each 3 credit hours or more, may satisfy this requirement. Students may petition the department for approval of other sets of application area courses.
7. **CSCE Major Electives** (9 hours): CSCE 317 or any CSCE course 500 or higher.
8. **Liberal Arts Electives** include: AERO 401, 402; AFAM 201-580; ANTH 101-499; ARMY 401, 402; ARTE 101, 260; ARTH 105-366; ARTS 103-261; CHIN 103-550; CLAS 220-598; CPLT 150-597; CRJU 100-494; DANC 101-381; ECON 123-499; ENGL 270-499; FAMS 180-597; FREN 109-615; GEOG 103-595; GERM 109-615; HIST 101-692; ITAL 101-615; JAPA 121-500; LASP 201-451; LATN 109-615; LING 300-600; MART 110-341; MUSC 110-140; NAVY 401, 402; PHIL 101-109, 112-598; POLI 101-499; PORT 121-615; PSYC 101-499; RELG 101-552; RUSS 121-616; SOCY 101-499; SOST 101-500; SPAN 109-615; THEA 170-565; WGST 112-555.

Program Notes:

- Courses identified as "critical" may affect time to graduation due to prerequisite requirements for subsequent required courses.
- No Carolina Core, Lower Division Computing, Computer Science Major, or Computer Science Elective course may be counted toward a minor or application area. All other degree-required courses and electives may be used for a minor as appropriate.
- 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.

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.