UNIVERSITY OF 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: 2024-2025

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 104, 106, 145, or 205	
	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 General Chemistry I *or* PHYS 211 Essentials of Physics I	3	C		CC-SCI	C or better in MATH 111/115/122/141 *or* higher math *or* Math placement test score; Coreq: CHEM 111L *(CHEM 111 only)*; C or better in MATH 141; Prereq or coreq: PHYS 211L *(PHYS 211 only)*	
	CHEM 111L General Chemistry I Lab *or* PHYS 211L Essentials of Physics I Lab	1	C		CC-SCI	MATH 111 or 115; Prereq or Coreq: CHEM 111 *(CHEM 111L only)*; Prereq or Coreq: C or better in PHYS 211 *(PHYS 211L only)*	
!	CSCE 146 Algorithmic Design II	4	C	*	PR	C or better in CSCE 145 & MATH 111 or higher	
!	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 Adv. 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 & in CSCE 106 *or* 146	
	CHEM 112 General Chemistry II *or* PHYS 212 Essentials of Physics II	3			CC-SCI	C or better in CHEM 111 *or* 141 & MATH 111/115/122/141 or higher math; Coreq: CHEM 112L *(CHEM 112 only)*; C or better PHYS 211 *and* MATH 142; Coreq: PHYS 212L *(PHYS 212 only)*	
	CHEM 112L General Chemistry II Lab *or* PHYS 212L Essentials of Physics II Lab.	1			CC-SCI	C or better in CHEM 111/111L/141 Prereq or Coreq: CHEM 112 *(CHEM 112L only)*; Prereq or Coreq: C or better in PHYS 212 *(PHYS 212L only)*	
	Carolina Core CMS[4]	3			CC-CMS		
Semester Four (16 Credit Hours)							
!	CSCE 212 Intro. to Computer Architecture	3	C	*	PR	D or better in CSCE 211 & either CSCE 106 or 145	
	CSCE 247 Software Engineering	3	C	*	PR	C or better in CSCE 146	
	Laboratory Science Requirement[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 Prog. Lang. Structures *fall only*	3	C	*	MR	CSCE 240; MATH 174 *or* 374 *or* 574	
	CSCE 350 Data Structures & Algorithms	3	C	*	MR	D or better in CSCE 240 & in MATH 174 *or* 374 *or* 574 & in MATH 141 *or* 122	
	CSCE 390 Prof. Issues in Comp. Sci. Engr.	1	C	*	CC-VSR		
	ENGL 462 Technical Writing *or* ENGL 463 Business Writing	3			PR	ENGL 101 & 102	
	Carolina Core GFL[4] *or* Elective[7]	3			CC/PR		
Semester Six (15 Credit Hours)							
	CSCE 416 Intro. to Computer Networks	3	C	*	MR	CSCE 146	
	CSCE Major Elective[6]	3	C	*	MR	See Bulletin listing.	
	STAT 509 Statistics for Engineers	3			PR	MATH 142	
	Elective[7]	3			PR		
	Carolina Core GFL[4] *or* Elective[7]	3			CC/PR		
Semester Seven (13 Credit Hours)							
!	CSCE 490 Capstone Computing Project I *fall only*	3	C	*	MR CC-INT	D or better in CSCE 240; Prereq or Coreq: D or better in CSCE 350	
	CSCE 355 Foundations of Computation	3	C	*	MR	CSCE 211, 212, & 350	
	CSCE Major Elective[6]	3	C	*	MR	See Bulletin listing.	
	MATH 344 Applied Linear Algebra	3			PR	C or better in MATH 142	
	MATH 344L Applied Linear Algebra Lab	1			PR	Prereq or Coreq: C or better or concurrent enrollment in MATH 344 or MATH 544	

H. Valafar

Semester Eight (13 Credit Hours)						
CSCE 492 Capstone Computing Project II *spring only*	3	C	*	MR	D or better in CSCE 240, 350, & 490	
CSCE Major Elective[6]	3	C	*	MR	See Bulletin listing.	
Elective[7]	3			PR/MR		
Elective[7]	1			PR		
Carolina Core GHS[4]	3			CC-GHS		

Graduation Requirements Summary

Minimum Total Hours	Minimum Major Requirements Hours	College & Program Requirements Hours	Carolina Core Hours	Minimum Institutional GPA
120	30	46-55	35-41	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.
5. **Laboratory Science Requirement (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. **Computer Science Major Electives (9 hours):** any CSCE course 500 or higher. Students may choose to complete a concentration in place of the Major Electives.
7. **Electives (4-13 hours):** At least 120 degree applicable credits are required to complete the BSCS in Computer Science. The CS curriculum includes 4-13 hours of electives depending on how students fulfill the Carolina Core requirements and their choice of Concentration. Any course in the university can be used to satisfy the elective requirement, including additional electives in the major.
8. 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.

Program Notes:
- Courses identified as "critical" may affect time to graduation due to prerequisite requirements for subsequent required courses.
- 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 bulletin.
- 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.
- Students may choose to complete a concentration in Artificial Intelligence (12 hours) or Cybersecurity (12 hours) in place of the major electives. More details are available in the Bulletin.
- The last 25% of a student's degree must be completed in residence at the University, and at least half of the hours in the student's major courses and in the student's minor courses (if applicable) must be taken at the University.
- 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.