



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 (16-17 Credit Hours)</b>							
!	ENGL 101 Critical Reading and Composition	3	C		CC-CMW		
	MATH 141 Calculus I <sup>3</sup>	4	C		CC-ARP	MATH 112, 115, 116 or Math placement test score	
	STAT 515 Statistical Methods I <sup>4</sup> or STAT 509 Statistics for Engineers	3	C		PR	MATH 122 or 141; or MATH 111 and any stat. course (STAT 515); MATH 142 or equiv. (STAT 509)	
	Foreign language <sup>5</sup> or other Carolina Core Requirement <sup>6</sup>	3-4			CC-GFL		
	UNIV 101 The Student in the University or Carolina Core Requirement <sup>6</sup>	3			PR/CC		
<b>Semester Two (16 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	MATH 141	
	STAT 516 Stat. Methods II (offered spring & summer only)	3	C		MR	STAT 515, 509, 512 or equivalent	
	Carolina Core Requirement <sup>6</sup>	3			CC		
	Foreign language <sup>5</sup> or other Carolina Core Requirement <sup>6</sup>	3			CC-GFL		
<b>Semester Three (15-16 Credit Hours)</b>							
	MATH 241 Vector Calculus	3	C		CR	C or better in MATH 142	
	STAT 530 Applied Multivariate Stat. & Data Mining or CSCE/STAT 587 Big Data Analytics	3	C		MR	See Bulletin Listing	
	CSCE 106 Scientific Applications Programming	3	C		CR	C or better in MATH 122 or 141	
	Foreign language <sup>5</sup> or Carolina Core Requirement <sup>6</sup>	3			CR/CC		
	Carolina Core Requirement <sup>6</sup>	3-4			CC		
<b>Semester Four (16 Credit Hours)</b>							
	MATH 344 Applied Linear Algebra or MATH 544 Linear Algebra	3	C		PR	C or better in MATH 142 (MATH 344); C or better in MATH 241 & 300 (MATH 544)	
	MATH 344L Applied Linear Algebra Lab	1	C		PR	C or better or concurrent enrollment in MATH 344 or 544	
	CSCE 567 Visualization Tools	3	C		MR	CSCE 145, 206 or 207	
	ITEC 101 Thriving in the Tech Age or PHIL 325 Engineering Ethics	3	C		CC-VSR		
	Cognate or Minor Course <sup>7</sup>	3	C (minor)		PR		
	History <sup>8</sup>	3			CR		
<b>Semester Five (15-16 Credit Hours)</b>							
	MATH 374 Discrete Structures or MATH 574 Discrete Mathematics I	3	C		MR	C or better in both MATH 142 & either CSCE 146 or 106 (MATH 374); C or better in MATH 300 (MATH 574)	
	STAT 542 Computing for Data Science	3	C		MR CC-INT	C or better in STAT 301, 509, or 515, or equiv.	
	Cognate or Minor Course <sup>7</sup>	3	C (minor)		PR		
	Carolina Core Requirement <sup>6</sup>	3-4			CC		
	Social Science	3			CR		
<b>Semester Six (15 Credit Hours)</b>							
	MATH/STAT 511 Probability or MATH 528 Math. Foundation of DS & Machine Learning or MATH 572 Mathematical Foundation of Network Science	3	C		MR	See Bulletin Listing	
	ENGL 363 Introduction to Professional Writing or ENGL 462 Technical Writing or ENGL 463 Business Writing	3	C		CR	C or better in ENGL 101 & 102	
	Cognate or Minor Course <sup>7</sup>	3	C (minor)		PR		
	Carolina Core Requirement <sup>6</sup> or Approved Elective <sup>9</sup>	3			CC/PR		
	Carolina Core Requirement <sup>6</sup> or Approved Elective <sup>9</sup>	3			CC/PR		
<b>Semester Seven (12 Credit Hours)</b>							
	Data Science Major Elective <sup>10</sup>	3	C		MR		
	Cognate or Minor Course <sup>7</sup>	3	C (minor)		PR		
	Minor Course <sup>7</sup> or Approved Elective <sup>9</sup>	3	C (minor)		PR		
	Approved Elective <sup>11</sup>	3			PR		
<b>Semester Eight (13 Credit Hours)</b>							
	Data Science Major Elective <sup>10</sup>	3	C		MR		
	Minor Course <sup>7</sup> or Approved Elective <sup>9</sup>	3	C (minor)		PR		
	Approved Elective <sup>9</sup>	3			PR		
	Approved Elective <sup>9</sup>	3			PR		
	Approved Elective <sup>9</sup>	1			PR		

## Graduation Requirements Summary

Minimum Total Hours	Minimum Major Requirements Hours	College & Program Requirements Hours	Carolina Core Hours	Minimum Institutional GPA
120	24	50-62	34-46	2.000

- Regardless of individual course grades, students must maintain a minimum 2.000 cumulative GPA.
- 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.
- Students who place into MATH 115 will be required to take it before proceeding to MATH 141 and should also register for STAT 201 in the first semester and STAT 515 in the second semester.
- Students who do not bring in credit for MATH 141 or who placed into MATH 141 and have no previous STAT course will take STAT 515 in the second semester.
- 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.
- The [Carolina Core](#) provides the common core of knowledge, skill and academic experience for all Carolina undergraduate students.
- 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. In place of a cognate, a student may choose a minor consisting of at least 18 credit hours of courses concentrated in one area that follow a structured sequence. All minor courses must be passed with a grade of C or higher. For B.S. degrees, grades of D are acceptable for completion of the cognate requirement. A second major eliminates the minor/cognate requirement.
- 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.
- 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.
- Select two courses from the following list or from any of STAT 530, CSCE/STAT 587, MATH/STAT 511, MATH 528, or MATH 572 that were not taken as Major Courses: **BIOL/STAT 588**; **CSCE 556, 569, 580, CSCE/STAT 582, CSCE 585**; **MATH 524, 529**; **STAT 512, 517, 519, 535, 540, 541**.

### 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.
- 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.
- To be retained in the program, a student must obtain a grade of C or higher in at most two attempts in all mathematics, computer science, and statistics courses required for graduation.
- The last 30 credit hours toward your degree 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.