

## Major Map: Biological Sciences Bachelor of Science (B.S.)

College of Arts and Sciences
Department of Biological Sciences
Bulletin Year: 2022-2023

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		Credit Hours		Major GPA <sup>2</sup>	Code	Prerequisites	Notes
	er One (17-18 Credit Hours)			T			
	ENGL 101 Critical Reading and Composition	3	С		CC-CMW		
	MATH 122 Calculus for Bus. Admin. & Soc. Sci. or MATH 141 Calculus 1 <sup>3</sup>	3-4			CC-ARP	C or better in MATH 111/111/115 (MATH 122); C or better in MATH 115/116	
						(MATH 141); or Math placement test	
!	BIOL 101 & Lab – Biological Principles I or BIOL 102 & Lab – Biological Principles II	4	С		CC-SCI		
	CHEM 111 & Lab – General Chemistry I	4			PR	C or better in MATH 111, 115 or higher math <i>or</i> Math placement test	
	Foreign language <sup>4</sup> <i>or</i> other Carolina Core Requirement <sup>5</sup>	3			CC-GFL		
emeste	er Two (17-18 Credit Hours)						
	ENGL 102 Rhetoric and Composition	3			CC-CMW	C or better in ENGL 101	
					CC-INF		
	MATH 142 Calculus II	3-4				C or better in MATH 141 (MATH 142); C	
	or MATH 170 Finite Mathematics					or better in MATH 111/111/122 or Math	
	or MATH 172 Math. Modeling for the Life Sciences <sup>3</sup>					placement test (MATH 170); C or better	
						in MATH 122 <i>or</i> 141 <i>(MATH 172)</i>	
!	BIOL 101 & Lab – Biological Principles I	4	С		CC-SCI		
	or BIOL 102 & Lab – Biological Principles II					0 1 11 1 01514444 (11471)	
	CHEM 112 & Lab – General Chemistry II	4				C or better in CHEM 111 and MATH 111, 115 or higher math	
	Foreign language <sup>4</sup> <i>or</i> other Carolina Core Requirement <sup>5</sup>	3			CC-GFL		
	er Three (16-17 Credit Hours)						
	STAT 205 Elem. Stat. for the Biol. & Life Sciences	3			CR	MATH 111 or higher	
	BIOL 301 (& optional Lab) – Ecology & Evolution	3-4	С			C or better in BIOL 101 and 102 or MSCI	
	or BIOL 302 (& optional Lab) - Cell & Molecular Bio.				INT	311; Prereq.: CHEM 112 (BIOL 302 only)	
	or BIOL 303 (& optional Lab) – Fundamental						
	Genetics						
	CHEM 333 & 331 Lab – Organic Chemistry I	4			PR	C or better in CHEM 112 or CHEM 142	
	Foreign language <sup>4</sup> or Carolina Core Requirement <sup>5</sup>	3			CR/CC		
	Carolina Core Requirement⁵	3			CC		
	er Four (15-16 Credit Hours)	2			CD		
	CSCE 102 General Applications Programming BIOL 301 (& optional Lab) – Ecology & Evolution	3 3-4	С		CR	C or better in BIOL 101 and 102 or MSCI	
		3-4	C				
	or BIOL 302 (& optional Lab)— Cell & Molecular Bio.				INT	311; Prereq.: CHEM 112 (BIOL 302 only)	
	or BIOL 303 (& optional Lab) – Fundamental Genetics						
	Social Science	3			CR		
	Carolina Core Requirement <sup>5</sup>	3			CC		
	Approved Elective <sup>6</sup>	3			PR		
	er Five (15-16 Credit Hours)	J			110		
	BIOL 301 (& optional Lab) – Ecology & Evolution	3-4	С		MR/CC-	C or better in BIOL 101 and 102 or MSCI	
	or BIOL 302 (& optional Lab)— Cell & Molecular Bio.		Ŭ		INT	311; Prereq.: CHEM 112 (BIOL 302 only)	
	or BIOL 303 (& optional Lab) – Fundamental						
	Genetics						
	Physiology or Plant Biology course <sup>7</sup>	3	С		MR		
	History <sup>8</sup>	3			CR		
	Humanities or Fine Arts	3			CR		
	Approved Elective <sup>6</sup>	3			PR		
meste	er Six (15-16 Credit Hours)						
	Physiology or Plant Biology course <sup>7</sup>	3	С		MR		
	Biological Sciences Elective <sup>9</sup>	3-4	С		MR	See Bulletin listing	
	Carolina Core Requirement <sup>5</sup> or Approved Elective <sup>6</sup>	3			CC/PR		
	Approved Elective <sup>6</sup>	3			PR		
	Approved Elective <sup>6</sup>	3			PR		
	er Seven (12-14 Credit Hours)						
	Biological Sciences Elective9	3-4	С		MR	See Bulletin listing	
	Biological Sciences Elective9	3-4	С		MR	See Bulletin listing	
	Carolina Core Requirement <sup>5</sup> or Approved Elective <sup>6</sup>	3			CC/PR		
	Approved Elective <sup>6</sup>	U			PR		

Semester Eight (13 Credit Hours)						
Biological Sciences Elective and lab <sup>9</sup>	4	С		MR	See Bulletin listing	
Approved Elective <sup>6</sup>	3			PR		
Approved Elective <sup>6</sup>	3			PR		
Carolina Core Requirement <sup>5</sup> or Approved Elective <sup>6</sup>	3			CC/PR		
(only if needed to meet Carolina Core or hours to						
graduate)						

**Graduation Requirements Summary** 

Minimum Total Hours	Minimum Major Requirements Hours	College & Program Requirements Hours	Carolina Core Hours	Minimum Institutional GPA
120	28	49-61	32-44	2.000

- 1. Regardless of individual course grades, students must maintain a minimum 2.000 cumulative GPA.
- 2. 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 do not place into MATH 122 or 141 will be required to successfully complete the corresponding prerequisites before taking MATH 122 or 141. It is recommended that students take MATH 141 and 142. However, successful completion of MATH 122 and MATH 170 or 172 may be substituted.
- 4. 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.
- 5. The Carolina Core provides the common core of knowledge, skill and academic experience for all Carolina undergraduate students.
- 6. 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. A student may choose an optional 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.

7. Physiology courses (3 credit hours)

Choose from the following:				
BIOL 425* – Plant Form & Function (3) –optional lab available	BIOL 549* – Plant Physiology (4)			
BIOL 460 – Advanced Human Physiology (3) –optional lab available	BIOL 635 Neurophysiology (4)			
BIOL 465 – Domestic Animal Nutrition (3)	BIOL 643 – Advanced Microbiology (3)			
BIOL 543 – Comparative Physiology (3) –optional lab available				

Plant courses (3 credit hours)

Choose from the following:					
BIOL 420 – Survey of the Plant Kingdom (3) –optional lab available	BIOL 526 <sup>^</sup> – The Fall Flora (4)				
BIOL 423 – Medical Botany (3)	BIOL 527 <sup>^</sup> – The Spring Flora (4)				
BIOL 425* – Plant Form & Function (3) –optional lab available	BIOL 528^ – The Summer Flora (4)				
BIOL 523 – Plant Development (3) –optional lab available	BIOL 549* – Plant Physiology (4)				
BIOL 524 – Mycology (4)	BIOL 670 – Plant Ecology (4) –optional lab available				
BIOL 525 – Marine Plants (4)	BIOL 671 – Plant Responses to the Environment (3)				

<sup>\*</sup>BIOL 425 and 549 may ONLY be used for either the Physiology or Plant credit, NOT both.

- 8. 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.
- 9. In addition to the required 15 hours of major coursework, Biological Science majors must select 13 hours of Biological Sciences courses 300-level or higher for a total of 28 major hours. At least three courses applied toward the major must have an associated laboratory. No more than three credits of 398/399 may be applied toward the major. Two of 301, 302, or 303 must be completed to advance to 400-600 level courses. At least twelve credits of major courses must be at the 400-699 level.

## **Program Notes:**

- ENGL 101 and ENGL 102 must be completed in the student's first 60 semester hours of work in order for these courses to be credited toward graduation. All biological sciences majors must earn at least a C in BIOL 101 and BIOL 102 to progress in the major.
- Biological Sciences majors may enroll in a biological sciences major course a maximum of twice to earn the required grade of C or higher. For the purposes of this standard of progression, withdrawal with a **W** does not constitute enrollment.
- It is recommended that students who are pursuing a pre-professional track should also complete PHYS 201 and Lab and PHYS 202 and Lab, which may be applied toward the cognate.
- 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.
- 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 <u>Carolina Core</u> 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.

<sup>^</sup>Only ONE of BIOL 526-528 may apply for major credit.