UNIVERSITY OF South Carolina

Major Map: Neuroscience
Bachelor of Science (B.S.)
College of Arts and Sciences
Bulletin Year: 2025-2026

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[1]	Major GPA[2]	Code	Prerequisites	Notes
Semester One (17-18 Credit Hours)							
!	ENGL 101 Critical Reading and Composition	3	C		CC-CMW		
	MATH 122 Calc. for Bus. Admin. & Soc. Sci. *or* MATH 141 Calculus 1[3]	3-4			CC-ARP	C or better in MATH 111/111I/115 *(MATH 122)*; C or better in MATH 112/115/116 *(MATH 141)*; *or* placement through the MAP	
	BIOL 101 & Lab – Biological Principles 101	4	C		CC-SCI		
	CHEM 111 & Lab – General Chemistry I[4]	4	C		PR	C or better in MATH 111 and 115 *or* placement through the MAP	
	Foreign language[5] *or* other Carolina Core Req.[6]	3			CC-GFL		
Semester Two (17-18 Credit Hours)							
!	ENGL 102 Rhetoric and Composition	3	C		CC-CMW CC-INF	C or better in ENGL 101	
	MATH 142 Calculus II *or* MATH 170 Finite Mathematics *or* MATH 172 Math. Modeling for the Life Sci. or MATH 174 Discrete Math. for Computer Science	3-4			CC-ARP	C or better in MATH 141 *(MATH 142 only)*; C or better in MATH 111/111I *or* placement through the MAP*(MATH 170 only)*; C or better in MATH 122 *or* 141 *(MATH 172 only);* C or better in MATH 112 or above, or placement through the MAP *(MATH 174)*	
	BIOL 102 & Lab – Biological Principles II	4	C		CC-SCI	BIOL 101 & Lab	
	CHEM 112 & Lab – General Chemistry II[4]	4	C		PR	C or better in CHEM 111 *or* 141 *and* MATH 111, 115, 122, 141 or higher math; Coreq: CHEM 112L	
	Foreign language[5] *or* other Carolina Core Req.[6]	3			CC-GFL		
Semester Three (16 Credit Hours)							
	PSYC 101 Intro. to Psychology	3	C		CC-GSS		
	NSCI 300 Introduction to Neuroscience	3	C		MR	C or better in PSYC 101	
	CHEM 333 & 331 Lab – Organic Chemistry I[4]	4	C		PR	C or better in CHEM 112 *or* CHEM 142	
	Foreign language[5] *or* Carolina Core Req.[6]	3			CR/CC		
	Carolina Core VSR Requirement[6] *(PHIL 321 Medical Ethics recommended for Pre-Med)*	3			CC-VSR		
Semester Four (16 Credit Hours)							
	BIOL 302 & Lab – Cell & Molecular Biology[4]	4	C		PR	C or better in BIOL 101, & BIOL 102 *or* MSCI 311 & in CHEM 112 *or* 142	
	PSYC 405 Cognitive Psychology[4]	3	C		PR		
	Social Science *(SOCY 101 Introductory Sociology recommended for Pre-Med)*	3			CR		
	STAT 205 Elem. Stat. for the Biol. & Life Sci. *or* STAT 509 Statistics for Engineers *or* STAT 515 Statistical Methods I[7]	3			CR	See Bulletin Listing	
	History[8]	3			CR		
Semester Five (15-16 Credit Hours)							
	BIOL 405 Cellular and Molecular Neurobiology	3	C		MR	BIOL 302	
	PSYC 507 Cognitive Neuroscience	3	C		MR	C or better in PSYC 405	
	CSCE 102 General Applications Programming or higher	3			CR		
	Concentration Course[9]	3-4	C		MR		
	Carolina Core Req.[6] *or* Elective[10]	3			CC/PR		
Semester Six (12-14 Credit Hours)							
	Neuroscience Research[11]	3	C		MR		
	Concentration Course[9]	3-4	C		MR		
	Neuroscience Major Elective[12]	3-4	C		MR		
	Humanities or Fine Arts *(CLAS 230 Medical & Sci. Terminology recommended for Pre-Med)*	3			CR		
Semester Seven (12-14 Credit Hours)							
	Concentration Course[9]	3-4	C		MR		
	Neuroscience Major Elective[12]	3-4	C		MR		
	Carolina Core Req.[6] *or* Elective[10]	3			CC/PR		
	Carolina Core Req.[6] *or* Elective[10] *(CHEM 334 & 332L recommended for Pre-Med)*	3			CC/PR		
Semester Eight (12-17 Credit Hours)							
	Concentration Course[9] *(only if needed)*	0-3	C		MR		
	Neuroscience Major Elective[12]	3-4	C		MR		
	Neuroscience Major Elective[12]	3-4	C		MR		
	Elective[10] *(PHYS 201 & Lab recommended for Pre-Med)*	3			PR		
	Elective[10] *(PHYS 202 & Lab recommended for Pre-Med)*	3			PR		

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Graduation Requirements Summary

Minimum Total Hours	Minimum Major Requirements Hours	College & Program Requirements Hours	Carolina Core Hours	Minimum Institutional GPA
120	36	40-52	32-44	2.000

1. Regardless of individual course grades, students must achieve a minimum 2.25 cumulative GPA for Upper Division status. Students must maintain a minimum 2.00 cumulative GPA for graduation.
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.
3. Students not placing into MATH 122 or 141 are required to successfully complete the corresponding prerequisites before taking MATH 122 or 141.
4. Supporting courses are prerequisites for Major Requirements. Eight hours may be used to fulfill requirements for a minor, cognate, or second major.
5. 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.
6. The Carolina Core provides the common core of knowledge, skill and academic experience for all Carolina undergraduate students.
7. Students intending to take any other 500-level STAT courses should take STAT 515. Students who have previously completed PSYC 220 or PSYC 227 and STAT 201 with a grade of C or better **before** declaring the Neuroscience major may use STAT 201 to fulfill this requirement.
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. Students must choose one of the following three concentrations. Concentrations consist of a minimum of 12 hours of core courses in a targeted area of study. Core courses should be selected in conjunction with the neuroscience advisor to target each student's interests and career goals.
    a. **Cellular and Molecular Neuroscience**
        i. Choose 12 hours from the following: **BIOL** 303, 530, 541*, 541L, 553, 612, 614, 620, 634, 635, 665, 667; **BMEN** 321.
    b. **Cognitive and Behavioral Neuroscience (12 hours)** Choose 3 hours from List A and 3 hours from List B, with additional courses selected from either list to meet the minimum of 12 hours.
        i. List A (minimum 3 hours): **BIOL** 460, 534, 543; **COMD** 501; **EXSC** 351.
        ii. List B (minimum 3 hours): **PSYC** 400, 450, 503, 550, 571, 572
    c. **Neurodevelopment and Neurodevelopmental Disorders (12 hours)**
        i. Required: **BIOL** 505; **PSYC** 420
        ii. 6 hours selected from: **BIOL** 614, 634; **PSYC** 510, 520, 521
10. 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.
11. Training in the methods of scientific inquiry and the dissemination of research in neuroscience. Can be fulfilled with independent research undertaken with a faculty mentor or lab-based coursework. Must be approved by the Neuroscience program director.
    a. Individual Research: Independent research can be done under any major independent research codes as long as the research is in the field of neuroscience and is approved by the Neuroscience Program Director. Examples include NSCI 498, BIOL 399, PSYC 498, PSYC 598, PSYC 599, SCHC 399, and BMEN 499.
    b. Lab Courses: NSCI 570 or other lab-based courses may be approved by the Neuroscience Program Director if they have a significant neuroscience component.
12. Major Electives: **BIOL** 303, 460, 461, 505, 530, 534, 541*, 541L, 543, 553, 612, 614, 620, 634, 635, 665, 667; **BMEN** 321; **COMD** 501; **EXSC** 303, 351; **NSCI** 560, 570+; **PHIL** 351; **PSYC** 400, 405, 450, 503, 550, 571, 572, Individual Research^. Depending on the topic, special topics courses/seminars and internships may be applied as core courses towards concentrations or as major electives with permission of the Neuroscience program director: **BIOL** 599; **NSCI** 560; **PSYC** 589; **COLA** 390 or 391.
    *Students intending to take BIOL 541 as part of their major requirements should also take CHEM 334/332L as part of their program requirements, either as an elective or as part of their cognate/minor.
    +Students who complete Individual Research to complete the Required Neuroscience Research may take NSCI 570 as an elective
    ^A maximum of 6 hours of Independent Study / Individual Research can be applied as major credit. Students admitted to the B.S. with Distinction in Neuroscience may apply an additional 3 hours of independent research toward their major requirements, up to a maximum of 9 hours.

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 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 B.S. with Distinction in Neuroscience is available to students majoring in Neuroscience who wish to participate in significant research activities in their major field under the supervision of a faculty mentor.
    - Prerequisite: A minimum GPA of 3.50 in the major, and 3.50 cumulative, is required to apply for a BS with Distinction in Neuroscience.
    - Requirements: 1) Students must submit a written application for the BS with Distinction in Neuroscience at least eight months before completion of the degree. 2) Written sponsorship agreement from a faculty mentor affiliated with the Neuroscience program. 3) An established thesis committee consisting of a tenure-track faculty member affiliated with the Neuroscience Program and at least one other tenure-track or research faculty member at the University of South Carolina. 4) A written thesis demonstrating significant original work and approved by the thesis committee. The student may use their senior thesis to simultaneously fulfill other requirements as well (e.g., Honors College Thesis), at the discretion of the thesis advisor. 5) A public presentation of the Senior Thesis research. 6) Successful fulfillment of all requirements below with a minimum GPA of 3.50 in the major and 3.50 cumulative. 7) Completion of all major requirements, plus 9 additional credit hours including: a minimum of three credit hours of independent research (in addition to any hours taken as part of the major requirements), a minimum of three upper-level credits from the list of approved neuroscience electives (can include additional credits of independent research), and NSCI 499 - Senior Thesis (3 hours) or SCHC 499 (3 hours)

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.