

+1 BS Neuroscience – Cellular & Molecular/PSM Bioinformatics Academic Plan

<p><u>Freshman – Fall</u> (15 cr.)</p> <p>Select one of the following (4 cr.): CHEM 1031 & 1033 General Chemistry I (3+1 cr.) CHEM 1951 & 1953 Honors General Chemical Science I^F (3+1 cr.)</p> <p>Select one of the following (4 cr.): MATH 1041 Calculus I MATH 1941 Honors Calculus I^F</p> <p>Gen Ed/Elective (7 cr.)</p>	<p><u>Freshman – Spring</u> (15 cr.)</p> <p>BIOL 1111 Introduction to Biology I OR BIOL 1911 Honors Introduction to Biology I (4 cr.)</p> <p>Select one of the following: CHEM 1032 & 1034 General Chemistry II (3+1 cr.) CHEM 1952 & 1954 Honors General Chemical Science II^S (3+1 cr.)</p> <p>Select one of the following (4 cr.): MATH 1042 Calculus II MATH 1942 Honors Calculus II MATH 1044 Introduction to Probability and Statistics for the Life Sciences</p> <p>Gen Ed/Elective (3 cr.)</p>
<p><u>Sophomore – Fall</u> (16 cr.)</p> <p>BIOL 2112 Introduction to Biology II OR BIOL 2912 Honors Introduction to Biology II (4 cr.)</p> <p>Select one of the following (4 cr.): CHEM 2201 & 2203 Organic Chemistry I (3+1 cr.) CHEM 2211 & 2213 Organic Chemistry for Majors I^F (3+1 cr.) CHEM 2921 & 2923 Organic Chemistry for Honors I^F (3 + 1 cr.)</p> <p>Gen Ed/Elective (8 cr.)</p>	<p><u>Sophomore – Spring</u> (15 cr.)</p> <p>BIOL 2296 Genetics [WI]^S (4 cr.) BIOL 3352 Systems Neuroscience (3 cr.)</p> <p>Select one of the following (4 cr.): CHEM 2202 & 2204 Organic Chemistry II (3+1 cr.) CHEM 2212 & 2214 Organic Chemistry for Majors II^S (3+1 cr.) CHEM 2922 & 2924 Organic Chemistry for Honors II^S (3 + 1 cr.)</p> <p>Gen Ed/Elective (4 cr.)</p>
<p><u>Junior –Fall</u> (15 cr.)</p> <p>BIOL 3096 Cell Structure and Function [WI]^F (4 cr.) PHYS 2021 General Physics I OR PHYS 2921 Honors General Physics I (4 cr.) Neuroscience Elective¹ (3-4 cr.)</p> <p>Gen Ed/Elective (1-0 cr.) BIOL 5411 Structural Bioinformatics I (3 cr.)</p>	<p><u>Junior – Spring</u> (15 cr.)</p> <p>BIOL 3358 Cellular and Molecular Neuroscience^S (3 cr.) PHYS 2022 General Physics II OR PHYS 2922 Honors General Physics II (4 cr.) Neuroscience Elective¹ (3-4 cr.) Neuroscience Elective¹ (3-4 cr.)</p> <p>Gen Ed/Elective (2-0 cr.)</p>
<p><u>Senior – Fall</u> (16 cr.)</p> <p>BIOL 4591 Research in Neuroscience (or Neuroscience Independent Study)² (3-4 cr.) Neuroscience Elective¹ (3-4 cr.)</p> <p>Gen Ed/Elective (4-2 cr.) BIOL 5403 Genomics (3 cr.) CIS 5015 Scripting for Science and Business (3 cr.)</p>	<p><u>Senior – Spring</u> (16 cr.)</p> <p>BIOL 4591 Research in Neuroscience (or Neuroscience Independent Study)² (3-4 cr.) Neuroscience Elective¹ (3-4 cr.)</p> <p>Gen Ed/Elective (7-5 cr.) BIOL 5509 Computational Genomics (3 cr.)</p>

¹Select from the Neuroscience Electives list under Requirements.

²Neuroscience Research/Independent Study courses should be determined in consultation with the neuroscience faculty advisor. Students are required to have BOTH a B- or above in [BIOL 3352](#) AND a Science GPA of 3.2 to take Neuroscience Research, [BIOL 4591](#). Students are required to have BOTH a B- or above in [BIOL 3352](#) AND a Science GPA of 3.0 to take

Independent Study in Neuroscience. The Science GPA is to consist of all Biology courses, Chemistry through Organic Chemistry, Calculus, and Physics.

Undergraduate Degree:

Credits in the major: 75-82

PSM Graduate courses counting as Neuroscience Elective (2000+) Credits: 0

PSM Graduate Courses counting as Elective credits: 12

Credits in General Education: 25-26

Elective credits: 3-11

Total credits: 123

Graduate Degree:

18 Additional graduate credits for a total of 30 graduate credits

5th Year – Summer (2 cr.)

BIOL 5506 Professional Development Seminar for PSM in Biotechnology (1 cr.)

BIOL 9995 Capstone Project (1 cr.)

5th Year – Fall (9 cr.)

BIOL 5312 Biostatistics (3 cr.)

BIOL 5511 Ethics in Bioinformatics (2 cr.)

PSM Elective (3 cr.)

BIOL 9995 Capstone Project (1 cr.)

5th Year – Spring (7 cr.)

BIOL 9995 Capstone Project (1 cr.)

CHEM 5412 Structural Bioinformatics II (3 cr.)

PSM Elective (3 cr.)