BIOLOGY B.S. COURSE PLAN/CHECKLIST (CATALOG YEAR 2024-2025)

(For students who declared the Biology BA as a major on or after August 1, 2024), revised 03/21/2025

This degree track is designed for students seeking a concentrated study in biology and other natural sciences, in preparation for a career in biological research or graduate studies in the biological sciences or related disciplines.

Name:

Current Advisor:

MAJOR DECLARATION REQUIREMENTS (qualifying courses):

To declare a BS in Biology, students must first complete BIOL 3000, 3010 and 3020, and have a minimum cumulative 2.700 GPA in these three courses. This is an overall GPA requirement for these three courses, not an individual course grade requirement.

MAJOR GPA and OVERALL CREDITS (13 courses, 35 credits)

The coursework presented for the BS degree must have an average GPA of at least 2.000.

FOUNDATIONAL SCIENCE COURSES (11 courses + labs/workshops)

May be completed with AP, transfer, dual enrollment or IB credit.

1. INTRODUCTORY BIOLOGY (2 courses)

BIOL 2100 & 2200 (or AP, transfer, or dual enrollment credit) are required.

	GRADE / PLANNED TERM
☐ BIOL 2100	
☐ BIOL 2200	

2. CHEMISTRY (4 courses + labs)

The chemistry requirement must be satisfied by completing CHEM 1410, 1411(LAB), 1420, and 1421(LAB) (or CHEM 1810, 1811, 1420) and two semesters of organic chemistry (CHEM 2410, 2420) with labs (CHEM 2311+2321 -or- 2411+2421). Students with AP chemistry credit must still complete the laboratory courses. Completion of the accelerated chemistry course series CHEM 1810, 1811, 1820, 1821, 2810, and 2820 (or 1420) satisfies all introductory and organic chemistry lecture and laboratory requirements.

Chemistry I	GRADE / PLANNED TERM
☐ CHEM 1410	
☐ CHEM 1411 LAB	
Chemistry II	
☐ CHEM 1420	
☐ CHEM 1421 LAB	
Organic Chemistry I	
☐ CHEM 2410	
☐ CHEM 2311 OR 2411 LAB	
Organic Chemistry II	
☐ CHEM 2420	
☐ CHEM 2321 OR 2421 LAB	

3. MATH and STATISTICS (3 courses)

Students are required to complete biostatistics (STAT 2020) or intro to statistics (STAT 2120), a course in calculus (MATH 1190, 1210, or 1310), and a second semester of calculus or statistics from the following list: (MATH 1220 or 1320 or STAT 1601 or 1602 or 3220).

	GRADE / PLANNED TERM
☐ STAT 2020 or STAT 2120	
☐ MATH 1190 or 1210 or 1310	
☐ MATH 1220 or 1320 or STAT 1601 or 1602 or 3220	

4. INTRODUCTORY PHYSICS (2 Course + Workshops)

This requirement may be satisfied with any of the following three combinations of two semesters of intro physics and their two associated 'workshops' (labs): (PHYS 2010, 2020, 2030, 2040) or (PHYS 1420, 1429, 2410, 2419) or (PHYS 1425, 1429, 2415, 2419).

Physics I	GRADE / PLANNED TERM
☐ PHYS 2010	
☐ PHYS 2030 Lab	
Physics II	
☐ PHYS 2030	
☐ PHYS 2040 Lab	

UPPER-LEVEL BIOLOGY MAJOR COURSES (13 courses, 35 credits)

Use the courses offered page to find courses (https://bio.as.virginia.edu/courses-offered) (no more than 6 credits from outside the Biology Department may contribute toward a Biology major.

5. BIOLOGY CORE COURSES (5 courses, 15 credits)

4 core courses + one additional core course from the list below.

	GRADE / PLANNED TERM
☐ BIOL 3000 Cell Biology	
☐ BIOL 3010 Genetics	
☐ BIOL 3020 Evolution and Ecology	
☐ BIOL 3030 Biochemistry	
Plus, ONE of the following core courses:	
☐ BIOL 3040 Developmental Biology -or-	
☐ BIOL 3050 Neurobiology -or-	
☐ EVSC 3200 Ecology	

6. ELECTIVE COURSES (4 courses, 12 credits)

Four additional upper-level courses in biology that are a minimum of 3 credits each. Three of these courses must be at the 4000-level or higher. Completion of an additional core course, specifically BIOL 3040, BIOL 3050, or EVSC 3200, may be used as one of the four courses required.

List the course number, title and term for the courses you plan to take (list the grade received if you already completed the course):

- ☐ BIOL 3000+
- ☐ BIOL 4000+
- ☐ BIOL 4000+
- ☐ BIOL 4000+

7. BIOLOGY LABORATORY COURSE (1 course, 3-4 credits)

One upper-level laboratory course of at least 3 credit hours. The required laboratory course may be satisfied by completing a three-or four-credit Biology Department laboratory course or completing any 3000 level or higher course taught at Mountain Lake Biological Station.

List the course number, title and term for the courses you plan to take (list the grade received if you already completed the course):

- ☐ BIOL 3000+

8. CAPSTONE (3 courses, 5 credits)

Two semesters of Capstone Independent Research (BIOL 4910 or BIOL 4920 and BIOL 4940) 2 credit hours per semester. Capstone Seminar for the BS in Biology (BIOL 4840), 1 credit hour.

Capstone Independent Research	GRADE / PLANNED TERM
☐ BIOL 4910 or 4920 (2 credits)	Final year Fall:
☐ BIOL 4940 (2 credits)	Final year Spring:
Capstone Seminar	
☐ BIOL 4840 (1 credit)	Final year Fall: