

B.S in Biology: Biotechnology Emphasis (BBTE) 2025-2026

Freshman Year						
Fall				Spring		
Course Number	Course Title	Credits		Course Number	Course Title	Credits
UNV 1000	Freshman Seminar	1		ENG 1060	Composition II	3
ENG 1050	Composition I	3		CHM 1300	General Chemistry	3
BIO 1000*	Principles of Biology	3		CHM 1100	General Chemistry Laboratory I	1
BIOL 1000	Laboratory Investigations and Experiences in General Biology	1		MAT 1070 or MAT 1090	College Algebra or Precalculus	3 or 4
General Education (ICC) ¹	Social Science	3		General Education	Elective	3
University Wide Elective ⁵		3		University Wide Elective ⁵		3
General Education	Physical Education	1				
Total Credits		15		Total Credits		16-17

Sophomore Year						
Fall				Spring		
Course Number	Course Title	Credits		Course Number	Course Title	Credits
BIO 1010 or BIO 1020	General Botany or General Zoology	4		MAT 2100	Introduction to Statistics	3
CHM 1310	General Chemistry II	3		BIO 1010 or BIO 1020	General Botany or General Zoology	4
CHM 1110	General Chemistry Laboratory II	1		Biotech Emphasis Elective ⁴		3-4
Biotech Emphasis Elective ⁴		3-4		General Education	Social Science	3
General Education (WE) ²	Literature	3		University Wide Elective ⁵		3
Total Credits		14-15		Total Credits		16-17

Junior Year						
Fall				Spring		
Course Number	Course Title	Credits		Course Number	Course Title	Credits
MAT 2150 or MAT 2210	Calculus with applications or Calculus I	4		BIO 2180	Principles of Genetics	4
BIO 3040	Principles of Ecology	4		MAT 2220	Calculus II	4
BTEC 3220 ³	Biotechnology I	4		BIO 3150	Microbiology	4
General Education (ICC) ¹	Fine Arts	3		Biotech Core Course ³ BTEC 3510 or 4300 or BIO 4130 (<i>summer only</i>)		3-4
General Education	Physical Education	1				
Total Credits		16		Total Credits		15-16

Senior Year							
Fall				Spring			
	Course Number	Course Title	Credits		Course Number	Course Title	Credits
	BIO 3710 (WE) ²	Cell Biology	4		BTEC 4900 ³ <i>Taken in last summer</i>	Internship	3
	BIO 4700 (WD) ²	Reading and Writing in the Natural Sciences	3		Biotech Emphasis Elective ⁴		3-4
	Biotech Emphasis Elective ⁴		3-4		University Wide Elective ⁵		3
	General Education	Philosophy and Religion	3		General Education	History	3
	University Wide Elective ⁵		3		General Education	Social Science	3
Total Credits			16-17	Total Credits			15-16

¹ **Indigenous Cultures and Communities (ICC):** Students entering the university in Fall 2023 or later shall complete the ICC requirement for graduation. Students may satisfy this requirement by completing two 3-credit hour ICC-designated courses. Students who transfer over 60 or more hours shall complete one 3-credit hour ICC course. Designated ICC courses can satisfy other graduation requirements such as major electives and gen. eds.

² **Writing Intensive Program:** Students must complete a combined total of 9 credit hours of Writing Enriched (WE) and Writing in the Discipline (WD) coursework. One course must be a WD course (BIO 4700). This degree also includes 1 required course that counts as WE: BIO 3710. The remaining WE coursework can come from any discipline. Double majors need only fulfill the Writing Intensive Program requirement once. It is recommended that you “double dip” by taking a General Education Requirement or major elective that is also designated as WE. NOTE: Successful completion (grade of “C” or better) of ENG 1050 is a prerequisite for all WE or WD courses.

³ **Biotechnology Core Course:** Students must take 10-11 semester hours by completing courses as follows. Course that are not selected from the 3rd bullet point as Core courses can be used as Biotechnology Emphasis Electives (below).

- BTEC 3220. Biotechnology I (4 credits) (Odd Falls)
- BTEC 4900. Internship/Co-op (3 credits)- Completed during final summer
- BTEC 3510. Bioprocessing (3 credits) (Every Spring) *or* BIO 4130. Molecular Biology (4 credits) (Summer II) *or* BTEC 4300. Principles of Medical Biotechnology (3 credits) (Every spring)

⁴ **Biotechnology Emphasis Electives:** Students must take 12-16 semester hours by selecting 4 courses below. If they must be separate from the BTEC core (see above). Many courses are only offered every other year and in spring OR fall. All students should review the Biology Course Catalog to see availability.

- BIO 3200, 3750, 3810, 4130³
- BTEC 4300³, BTES 4xxx
- CHM 2270, 2500, 2520, 3110, 3120
- PHY 1500, 1560, 1510, 1570

⁵ **University wide Electives:** University wide electives can be any course in any department at the university. *Optional:* We recommend that students consolidate their University Electives for a Minor in Bus. Adm. (18 hrs) ACC 1020, BLAW 2150, MGT 3060, MKT 3120, FIN 2400, ECN 1000 or 2020 or 2030

Additional Notes

- **ALL GENERAL EDUCATION COURSES CAN BE INTERCHANGED**
- ***Note:** C or higher is required in BIO 1000 to matriculate to other BIO Courses in the major
- Twelve hours of natural sciences and mathematics within this degree count toward gen. ed. requirements. Students should only take those natural sciences and mathematics courses required by the degree program.
- QPA Requirements for Baccalaureate Graduation: “Have a minimum overall cumulative quality point average of 2.0 and have a minimum cumulative quality point average of 2.0 in all work attempted at the University of North Carolina at Pembroke; Have a minimum overall cumulative quality point average of 2.0 in the major field of study”