

ACADEMIC ROADMAP
 Biology BA Aquatic Concentration
 Spring 2026

Freshman Year (30 credits)

FIRST SEMESTER

Course Title	Catalog Number	Prerequisite(s)
College Writing I	CWP 101	
Foundations of Biology	BIO 111	
Chemistry 1 (CHE111/113) or Math Prerequisite (MAT114)	CHE 111/113 or MAT 114	
GE 23	Recommended CHE 100 or other GE 23 Nat Sci	
GE 23	Recommended COM 100 or a course toward a minor or certificate	

SECOND SEMESTER

Course Title	Catalog Number	Prerequisite(s)
Argumentation and Research	CWP 102	CWP 101
200-level Bio Major's Course	BIO211 or BIO213	BIO 111 ("C" or better)
Chemistry I or Chemistry II	CHE 111/113 or CHE 112/114	MAT 114 ("C" or better) or CHE111/113
Biology Seminar	BIO361 (1 cr)	
GE 23	Recommended EXE 100 or a course toward a minor or certificate	

Notes and recommendations:

Attend at least one faculty office hour, visit Academic Excellence Center (math, writing, and general tutoring), and view degree audit sheet in Degree Works this year.

Adding a Minor or Certificate does not require extra time or coursework beyond the 120 credits required to graduate. Elective credits are focused in an area of interest helping define student strengths, allowing in-depth learning and contributing more credits of upper division coursework. Common minors and certificates for students in the Biology BA include Anthropology, Technical Writing, Chemistry, Geology, Environmental Science & Society, and Psychology. Students also minor in Africana Studies, Astronomy, Design, Philosophy, Spanish and other fields.

Sophomore Year (60 credits)

THIRD SEMESTER

Course Title	Catalog Number	Prerequisite(s)
200-level Bio Major's Course (4 cr)	BIO 211 or BIO 213	BIO 111 ("C" or better)
Chemistry II (4 cr)	CHE 112 / 114	CHE111/113
BIO 361 (1 cr)	Biology Seminar (1 cr)	
GE23 (3 cr)	Recommended PSY 101 or a course toward a minor or certificate	
All College Elective or course in the Minor (3-4 cr)		
All College Elective or course in the Minor (3- 4 cr if needed to reach 15 cr per semester)		

FOURTH SEMESTER

Course Title	Catalog Number	Prerequisite(s)
Statistics (3-4 cr)	BIO 300 or MAT 311	BIO211/213 or MAT114
Upper Division Biology (3-4 cr)	BIO at 300 or 400 level	BIO211 or BIO213
GE 23 (3 cr)	Recommended PHI 111	
All College Elective or course in the minor (3-4 cr)		
Project, Research, Internship (flexible credit options to bring to 15 credits)		

Notes and recommendations:

If students haven't selected a minor or certificate program in Year 1, they should consider doing so in Year 2.

Consult Degree Works or seek advisement to select upper division courses appropriate for Biology majors. Some but not all 300 level courses with BIO prefix count toward the major.

Information about projects, research and internships obtained through advisement, or by visiting the Biology Department Office SAMC166 (716 878 5203)

Junior Year (90 credits)

FIFTH SEMESTER

Course Title	Catalog Number	Prerequisite(s)
Biol Form and Function (4 cr)	BIO 333 (fall)	BIO111 and BIO211 and BIO213
Ecology (4 cr)	BIO 315 (fall)	BIO111 and BIO211 and BIO213
All college elective or course in a minor or certificate (3-4 cr)		
GE 23 (3 cr)		
GE 23 (3 cr)		

SIXTH SEMESTER

Course Title	Catalog Number	Prerequisite(s)
Evolution (3 cr)	BIO405 (Fall)	BIO111, BIO211, BIO213
Aquatic Biology Course (one of four options) (4 cr)	BIO325 Ichthyology or Bio429 Fisheries Biology (spring)	BIO111, BIO211, BIO213
	BIO418 Limnology or BIO430 Stream Ecology (fall)	BIO111, BIO211, BIO213 + CHE111/113 for Limnology + BIO333 for Stream Ecology
GE 23 (3 cr)		
All College Elective or course in a minor or certificate (3-4 cr)		
Project, Research, Internship (flexible credit options to bring to 15 credits)		

Notes and recommendations:

Visit the Career & Professional Education Center (<https://cape.buffalostate.edu/>) to discuss career options.

To meet the requirement for 45 upper division credits, 5 of the courses designated GE 23, all college electives or courses toward a minor, must be upper division (300-400 level).

Information about projects, research and internships obtained through advisement, or by visiting the Biology Department Office SAMC166 (716 878 5203)

Senior Year (120 credits)

SEVENTH SEMESTER

Course Title	Catalog Number	Prerequisite(s)
Aquatic Biology Course (one of four options) (4 cr)	BIO325 Ichthyology or Bio429 Fisheries Biology (spring)	BIO111, BIO211, BIO213
	BIO418 Limnology or BIO430 Stream Ecology (fall)	BIO111, BIO211, BIO213 + CHE111/113 for Limnology + BIO333 for Stream Ecology
GE 23 (3 cr)		
Biology Seminar (1 cr)	BIO361	
Upper division course in the minor or all college elective (3 - 4 cr)		
Project, Research, Internship (flexible credit options to bring to 15 credits)		

EIGHTH SEMESTER

Course Title	Catalog Number	Prerequisite(s)
Aquatic Biology Course (one of four options) (4 cr)	BIO325 Ichthyology or Bio429 Fisheries Biology (spring)	BIO111, BIO211, BIO213
	BIO418 Limnology or BIO430 Stream Ecology (fall)	BIO111, BIO211, BIO213 + CHE111/113 for Limnology + BIO333 for Stream Ecology
Internship in Aquatic Biology (3 cr)	BIO488	Completed at least two aquatic courses, GPA > 2.5
GE 23 (3 cr)		
Upper division course in the minor or all college elective (3-4 cr)		
Project, Research, Internship (flexible credit options to bring to 15 credits)		

Notes and recommendations:

Apply for graduation; apply to graduate school, if applicable; visit the Career & Professional Education Center (<https://cape.buffalostate.edu/>) to have your resume reviewed.

To meet the requirement for 45 upper division credits, 5 of the courses designated GE 23, all college electives or courses toward a minor, must be upper division (300-400 level).

Information about projects, research and internships obtained through advisement, or by visiting the Biology Department Office SAMC166 (716 878 5203)