BS in Biological Science
Research Professions Concentration
(Effective Fall 2023)

Freshman Fall Semester				Freshman Spring Semester			
Course	Course Name	Cr	Grade	Course	Course Name	Cr	Grade
BIOL-101	General Biology I	4		BIOL-102	General Biology II	4	
CHEM-101	General Chemistry I	4		CHEM-102	General Chemistry II	4	
ENGL-121	**Rhetoric and Composition I**	2		**ENGL-123**	**Rhetoric and Speech**	3	
ENGL-122	**Rhetoric and Composition II**	2		**ENGL-124**	**Rhetoric, Research, & Comp III**	2	
UNIV-191	**University Seminar I**	1		**MTSC-122**	**Trigonometry**	3	
	Total Credits	13			Total Credits	16	
Sophomore Fall Semester				**Sophomore Spring Semester**			
Course	Course Name	Cr	Grade	Course	Course Name	Cr	Grade
BIOL-215	Cell Biology	4		BIOL-210	Genetics*	4	
CHEM-210	Organic Chemistry I	4		CHEM-211	Organic Chemistry II	4	
MTSC-261	Calculus for Life Sciences	4			**Literature**#	3	
UNIV-291	**Braven**	3			**History**#	3	
				BIOL-399	Professional Scientific Writing	1	
	Total Credits	15			Total Credits	15	
Junior Fall Semester				**Junior Spring Semester**			
Course	Course Name	Cr	Grade	Course	Course Name	Cr	Grade
BIOL-310	Molecular Biology*	4		CHEM-403	Biochemistry **OR**	--	
BIOL-xxx	Biology Elective	4		BIOL-422	Biochemical Mechanisms	4	
BIOL-321	Biostatistics	3		**GLOB-395**	**Global Societies**	3	
PHYS-211	Fundamentals of Physics I	4		PHYS-212	Fundamentals of Physics II	4	
				BIOL 301	Capstone I (research)**	2	
	Total Credits	15			Total Credits	13	
	Summer Research Internship						
Senior Fall Semester				**Senior Spring Semester**			
Course	Course Name	Cr	Grade	Course	Course Name	Cr	Grade
	Arts and Humanities#	3		**PHIL-xxx**	**Philosophy course (Humanities)**	3	
BIOL-xxx	Biology Elective	4		BIOL-xxx	Biology Research Elective	4	
BIOL-xxx	Biology Research Elective	4		BIOL-xxx	Biology Elective	4	
BIOL-470	Biotechnological Processes	4			Open Elective	4	
	Social Science	3		BIOL-499	Senior Seminar (**Capstone** II)$	1	
	Total Credits	18			Total Credits	16	

Total Credits: 121

* Writing Intensive Course(s)

** Pre-requisite (not co-requisite) for BIOL 499. Research Professions concentration requires a true hypothesis-driven, laboratory based research experience in BIOL 301 (i.e. non research-based internships will not be considered). If waived (i.e. independent research internship completed), student should register for another open elective to maintain sufficient credits for progress towards the degree.

One of these courses must be used to meet the African American Experience requirement and at least one of the others must meet the Multicultural Experience requirement

$ Registration for BIOL 499 requires approval of Chair of the Undergraduate Academics Committee, Department Chair, and Instructor. All Biology majors are required to successfully complete Senior Seminar (Capstone II, BIOL-499), no waivers or substitutions.

A grade of C or better must be earned in all courses

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BIOLOGY ELECTIVES: Students must take no less than 18 credits of Biology/Biology Research Professions courses from the elective course list below. These are the only ones that can satisfy the requirement for this concentration. Substitutions can be requested, under special circumstances, but require written approval of advisor and Chair in advance.

REQUIREMENTS: Students must take each of the five biology core courses (101, 102, 215, 210 and 310) in order and earn a "C" or higher in each before being able to progress to the next in the sequence or to take any 300 or 400 level Biology Department course. These grade requirements take precedence over and supersede any lesser specific prerequisites of all 300 or 400 level Biology electives.

SPECIAL NOTES: For all programs and concentrations in the Department of Biological Sciences, a grade of "C" or better is required for all courses.

All Biology majors on the Research Professions Concentration must complete an independent research project. Those who have completed a research project with a faculty member prior to the beginning of their senior year should register for BIOL 301 Senior Capstone I course with advisor/Chair approval. If the project was an internship at another institution, students must present their data to their advisor. BIOL 451 is not acceptable for students on the Research Professions Concentration. All Biology majors are required to successfully complete Senior Seminar (Capstone II, BIOL-499), no waivers or substitutions. Registration for BIOL 499 requires completion of BIOL 301(cannot co-register).

General Note: The minimum University requirement for graduation is 120 hours; in Biology you will usually complete between 121-125 hours depending on selections.

Research Professions

Recommended Biology Electives^:

BIOL-307 Principles of Physiology
BIOL-311 Neuroscience
BIOL-317 Principles of Virology
BIOL-322 Microbiology
BIOL-370 Human Anatomy
BIOL-411 Pharmacology
BIOL-420 Immunology
BIOL-442 Biology of Aging
BIOL-464 Toxicology

Recommended Biology Research Professions Electives^:

AGRI-205 Plant Physiology
AGRI-325 Introduction to Entomology
ENGR-409 Biosensors and Bioinstrumentation (requires PHYS 318)
ENGR-410 Molecular Engineering Systems (requires PHYS 318)
PHYS 316 Introduction to Optics
PHYS 318 Foundations of Bioengineering
PHYS 323 Nanotechnology

^ Electives not on the list require advisor / Chair written approval in advance. Non-majors biology courses are not suitable electives for Biology Majors, and will not be approved.