BIOLOGY MAJOR
BIOTECHNOLOGY CONCENTRATION

DOMAIN GENERAL EDUCATION (10 courses Required):

Domain II B is satisfied through completion of the Biology major, leaving ten courses to be completed to satisfy the remaining general education subdomains through courses taken outside the major department. Only courses designated (Gen. Ed. Domain) after the course title will meet general education requirements.

Common Core:	A. ENWR 110 Composition 2	_____
	B. MATH XXX	_____
Domain I:	A. Creative Arts	_____
	B. Humanities	_____
	C. Language	_____
Domain II:	A. Analysis, Modeling, Problem-Solving	_____
	B. Sciences (two; one must be a lab science)	X
		_____
Domain III:	A. Perspectives on the Past	_____
	B. Perspectives on Contemp. World	_____
	C. Global Comp., Eth. Reas., Human Div.	

BIOLOGY MAJOR AND RELATED COURSES:

Required Major Related Core Courses (12):

BIOL 125	The Biology Experience	_____
BIOL 135/135L	Foundations of Biological Science with Lab	_____
BIOL 208/208L	Genetics with Lab	_____
BIOL 230	Professional Communication in Biology	_____
BIOL 262/262L	Molecular Biology with Lab	_____
BIOL 402	Processes of Organic Evolution	_____
CHEM 107/107L	Principles of Chemistry with Lab	_____
CHEM 108/108L	Principles of Chemistry and Quantitative Analysis with Lab	_____
CHEM 207/207L	Organic Chemistry I with Lab	_____
MATH 180	Precalculus (CCM)*	_____
MATH 208	Biostatistics **OR**	
ENVS 202	Data Analysis for Scientists	_____

**Student proficient at the precalculus level should enroll in MATH219 Calculus 1 to satisfy the Gen. Ed. Domain Common Core Math Requirement.*

Biology Major Capstone:

BIOL460	Research Experience in Biology**	_____

***An original research project is required of all Biology Majors. Prior to enrollment in BIOL469 Research Experience in Biology, the student should meet with their academic advisor and with other Biology faculty to tailor the research project to the student's interests and career goals.*

Additional Biology electives, Biotechnology Concentration:

Students may elect a curriculum that emphasizes cellular and molecular biology. Courses covering microbiology, immunology, genetics, recombinant DNA technology, and cell culture are appropriate for those interested in research positions in the biotechnology industry, medical centers, and government agencies. Graduates of the program are also prepared for careers in diverse areas of the pharmaceutical industry such as product development, sales and marketing, quality control, and technical training.

Students must take an additional six (6) or seven (7) electives:.

BIOL 260/260L Cell Biology with Lab _____

CHEM 301/301L Biochemistry I with Lab **OR** _____

CHEM 300/300L Principles of Biochemistry with Lab~ 248 ~

PHYS 201/201L Physics for Earth and Life Scientists **OR *both*** _____

PHYS 211/211L Principles of Physics I **AND**

PHYS 212/212L Principles of Physics II

One (1) Course from Group A _____

Group A: Cellular and Molecular Biology Electives

BIOL 228/228L Microbiology with Lab _____

BIOL 260/260L Cellular Biology with Lab _____

BIOL 356 Biology of Cancer _____

BIOL 381 Theories of Infectious Diseases _____

BIOL 400 Trends in Biotechnology _____

BIOL 426 Human Immunity _____

BIOL 432 Vertebrate Development _____

CHEM 300/300L Principles of Biochemistry with Lab **or**

CHEM 301/301L Biochemistry I with Lab

Choose Two (2) additional courses from: _____

Biology Courses 200-level or above _____

CHEM 208/208L Organic Chemistry II with Lab

CHEM 332/332L Biochemistry II with Lab

MATH 219 Calculus I

Note: A students who selects CHEM 208/208L Organic Chemistry II with Lab, CHEM 301/301L Biochemistry I with Lab and CHEM 332/332L Biochemistry II with Lab may complete a Biochemistry minor in addition to the Biotechnology Concentration.

Note: If the student is enrolled in the PSM 4+1 program up to two (2) of the science graduate courses may be used toward this concentration in place of the additional courses

FREE ELECTIVES (3 or 4) for Biotechnology Concentration):

_____ _____ _____

_____ _____ _____

_____ _____ _____

_____ _____ _____

***For students who plan to pursue an advanced degree in Biology, the following courses are strongly recommended:**

CHEM 300/300L	Principles of Biochemistry with Lab	_____
MATH219	Calculus I	_____
PHYS 201/201L	Physics for Earth and Life Scientists with Lab ***or both***	
PHYS211/211L	Physics I with Lab **AND**	_____
PHYS 212/212L	Physics II with lab	_____

2022-2023

Group A: Cellular and Molecular Biology Electives

BIOL 228/228L Microbiology with Lab
BIOL 260/260L Cellular Biology with Lab
BIOL 356 Biology of Cancer
BIOL 381 Theories of Infectious Diseases
BIOL 400 Trends in Biotechnology
BIOL 426 Human Immunity
BIOL 432 Vertebrate Development
CHEM 300/300L Principles of Biochemistry with Lab **or**
CHEM 301/301L Biochemistry I with Lab

Group B: Organismal Diversity Electives

BIOL 203 Plants and Society*
BIOL 212/212L Wildlife Specimen Preparation Techniques
BIOL 232/232L Invertebrate Zoology with Lab
BIOL 251/251L Vascular Plant Taxonomy with Lab
BIOL 320/320L Animal Behavior with Lab
BIOL 323 Biology and Conservation of Crocodiles
BIOL 236/236L Ornithology with Lab
** This course may not be used as a required plant course.*

Group C: Physiology Electives

BIOL 344/344L Animal Physiological Ecology* with Lab
BIOL 235/235L Principles of Human Physiology* with Lab
BIOL 241/241L Human Anatomy and Physiology I* with Lab
BIOL 242/242L Human Anatomy and Physiology II with Lab
BIOL 255/255L Plant Physiology with Lab
BIOL 269 Sex, Brains, and Hormones
HLTH 302 Exercise Physiology
NEUR 225 Biopsychology
NEUR 380 Neuropharmacology
** Only one of these courses may be taken in order to receive biology credit.*

Group D: Ecological and Evolutionary Biology Electives

BIOL 233/233L Comparative Vertebrate Anatomy with Lab
BIOL 248/248L Principles of Ecology with Lab
BIOL 291 Principles of Tropical Ecology and Conservation: Field Study
BIOL 321/321L Limnology with Lab
BIOL 335/335L Principles of Wildlife Biology with Lab
BIOL 341/341L Marine Biology with Lab
BIOL 393 Wildlife Management and Conservation Topics

Group E: Advanced Biology Electives

BIOL 490 Independent Study in Biology
BIOL 495 Internship in Biology