

Students must complete a minimum of 42 credits under the BIOL or SUST prefix to earn a degree. Students must complete all core classes (22-27 credits) and **six courses** from at least three of the upper level baskets (3 must be 300 level or higher with a minimum of 18 credits): Students choosing an emphasis shall select 4 courses from one basket and 2 courses from two of the other baskets. See Page 2 for Applied Microbiology and Sustainability and Environmental Stewardship requirements.

GENERAL EDUCATION – 33 credits		BIOLOGY CORE REQUIREMENTS – 22 - 27 credits	
I. Skills/Processes for Literacy (3 courses)		BIOL 117 General Biology I (4) F/S	BIOL 118 General Biology II (4) S/F
A. INTD 101 University Seminar		BIOL 260 General Genetics (4) F/S (@	BIOL 270 Evolution (4) S #
B. ENGL 101 Composition: Theme Writing		SCI 498-Advanced Topics (2) S or BIOL 401 Research 1 (3) F/S @ or SUST 499 (3) F/S for Sustainability conc or BIOL 499 (3) F/S for Applied Microbiology conc.	BIOL 115 – Human Systems (4) F/S OR BIOL 101 and BIOL 102 (8) – Anatomy and Physiology 1 and 2 F/S (101) and S (102)
C. ENGL 104 Composition: The Essay		UPPER LEVEL BASKETS – minimum 18 credits	
II. HUMANITIES (5 courses)		SUSTAINABILITY & ENVIRONMENTAL STEWARDSHIP	MOLECULAR & MICROBIOLOGY
A. Fine Arts (1 course): Art Music, Performance, Aesthetics		SUST 101: Intro to Sustainability (3) F/S	BIOL 316 General Microbiology (4) F/S #
B. Literature/Language (1 course): ENGL or Foreign Language		SUST 201: Environmental Science and Health (3) F/S	BIOL 351 Cell Biology (4) S (*) or >
C. Philosophy (1 course)		SUST 150: Sustainability Exploration Seminar (3) S	BIOL 390 Biotechnology (3) F #
D. Humanities Electives (2 courses)		SUST 350: Sustainability Expedition S	BIOL 391 Molecular Genetics (4) S* \$
1. HUM 101/301 or HIST 131/331		SUST 375: Strategies in Sustainability (3) F	BIOL 416 Microbial Genetics (4) S*&
2. One additional elective from ENGL, The Arts/Aesthetics, Foreign Language, HUM, PHIL, REL			BIOL 440 Applied Microbiology (4) F*&
III. SOCIAL SCIENCE (3 courses)		ECOLOGY	ANATOMY & PHYSIOLOGY
A. American History or Government		BIOL 216 Plants & People (4) S	BIOL 220 Exercise Science (3) @*
B. Social Science Electives (2 courses from ECON, GEOG, HIST, PSCI, PSYC, SOC)		BIOL 231 Conservation Biology (4) F* @	BIOL 350 Intro to Gross Anatomy (4) S* % or > BIOL 303 Comparative Vertebrate Anatomy (4) S* ^
IV. Natural Science/Quantitative Reasoning (met through major)		BIOL 314 Botany (4) S* ^	BIOL 354 Immunology (3) S*&
V. General Education Electives (2 courses): From with-in the College of Arts and Sciences		BIOL 352 General Ecology (4) F* \$ or ^	BIOL 394 Advanced Physiology (3) F @ or >
ADDITIONAL COURSE CHOICES (not required and not part of the baskets)		BIOL 381 Ornithology (4) S* ^	BIOL 395 Pathophysiology (3) S !*
CHEM 353 – Quantitative Analysis (4) F		BIOL 304 Zoology (4) F* #	BIOL 394 Advanced Physiology (3) F @ or >
CHEM 320 Biochemistry (4) F			
CHEM 321 Biochemistry II (3) S*			
BIOL 101 and/or 102 – Anatomy and Physiology		NON-BIOLOGY SCIENCE AND MATH REQUIREMENTS (30 credits min)	
ORGL 472–Understanding Organizational Behavior (3)		MATH 151 Calculus I (4) F (recommended) OR MATH 125 College Algebra & Trigonometry (3) F/S	MATH 141 Elementary Stats (3) F/S OR MATH XXX Applied Statistical Analysis (3) S OR PSYC 341 Understanding Statistical Inference
SCI 250 - Computational Science (3) see catalog for prereqs, S			
TIMING -* denotes that the course is offered every other year			
CHEM 103 General Chemistry I (4) F		CHEM 104 General Chemistry II (4) S	PHYS 153 Calculus-Based Physics I (4) S (recommended) OR PHYS 103 Gen. Physics I (4) F
CHEM 203 Organic Chemistry I (4) F			
CHEM 204 Organic Chemistry II (4) S		PHYS 154 Calculus-Based Physics II (4) S (recommended) OR PHYS 104 Gen. Physics II (4) S	
PREREQUISITES F=Fall S=Spring @=117/118 # =260 > = 101/102 & = 316 \$ = 270 != 394 % = 119		In order to graduate 128 credit hours must be completed. Last 30 credit hours must be completed in residency.	

Concentrations of the Biology Major	Biology Major: Pre-Health Professions Career Tracks Required and/or Recommended Course Material		
Biomedical Science	Medical School & Physician Assistant School	Physical Therapy School	Veterinary Medicine School
Core plus four courses from the Anatomy and Physiology Basket and two courses from the Molecular Biology and Microbiology Basket AND CHEM 320 and BIOL 354.	BIOL 101/102, BIOL 351, CHEM 320, SOC 101, PSYC 101, some programs require two semesters of calculus. Some programs like to see microbiology, immunology, and pathophysiology.	BIOL 101/102, 300-level (to include either cell, immuno, micro, molecular genetics) BIOL 394, ISYS 100, HEPR 108, PSYC 101, PSYC 254 Some programs require an additional human anatomy course. Additional Requirements: Min recommended GPA 3.5 GRE, PT Volunteer Experience	One Ecology course, BIOL 101/102, BIOL 303, CHEM 320, BIOL 316, BIOL 351, BIOL 394 & Mammalian Physiology Lab. ECON 202, PSYC 101, SCI 131, BIOL 304 – Zoology
Applied Microbiology Core plus five courses from the Molecular and Microbiology Basket to include BIOL 316, Microbiology 2, BIOL 351, BIOL 390, Applied Microbiology AND CHEM 320 and CHEM 353, PSYC 472, and ORGL 472, Math XXX Applied Statistical Analysis.			
SUSTAINABILITY & ENVIRONMENTAL STEWARDSHIP	Dental School		Pharmacy School
Core plus SUST 101, SUST 150, SUST 201, SUST 350 or SUST 375, and two courses from the Ecology basket, plus one from one of the other baskets. HUM 211 is required. LGL 460, ADAH/SCI 377, HIST 325, and HIST 475 are recommended. A Chemistry minor is strongly recommended but not required.	BIOL 101/102, BIOL 316, BIOL 394, CHEM 320, SOC 101, PSYC 101, ECON 202, a second semester of Calculus is required for some schools.		BIOL with labs 8-12 hours CHEM (Gen and Org) 8 hours, Physics 8 hours, English 6-12 hours
Biotechnology	Podiatry School		Optometry School
Core plus four courses from the Molecular Biology and Microbiology Basket and two courses from one or more baskets. CHEM 320 and one other CHEM course 300 or higher.	BIOL with labs 8-12 hours CHEM (Gen and Org) 8 hours, Physics 8 hours, English 6-12 hours		BIOL 101/102, CHEM 320 and BIOL 316, ECON 202, PSYC 101. Calculus and Calculus-based Physics required
Popular Minors			
Chemistry Minor			
Psychology Minor			
Coaching Minor			
Education Minor			
Business Administration Minor			
Information Systems Minor			
Computational Science Minor			