

Program Map: Biology (Pre-Med-Health Science Track)
Biology Department, College of Science and Technology

Name: _____ **SID:** _____ **Advisor:** _____
Start Date: _____ **Catalog Date:** _____ **Expected Graduation Date:** _____

Freshman	Fall Courses			Spring Courses			Notes
	Course	Name	Hours	Course	Name	Hours	
	ENGL 1101	Composition I Pre-requisite:	3	ENGL 1102	Composition II Pre-requisite: ENGL 1101	3	
MATH 1113*	Pre-Calculus Pre-requisite: MATH 1111	3	MATH 1401	Elementary Statistics Pre-requisite: MATH 1113	3		
CHEM 1211	Principles of Chemistry I Pre-requisite: None	3	CHEM 1212	Principles of Chemistry II Pre-requisite: CHEM 1211	3		
CHEM 1211L	Principles of Chemistry I Lab Pre-requisite: None	1	CHEM 1212L	Principles of Chemistry II Lab Pre-requisite: CHEM 1211	1		
BIOL 1107	Principles of Biology I Pre-requisite: None	3	BIOL 1108	Principles of Biology II Pre-requisite: BIOL 1107 & 1107L	3		
BIOL 1107L	Principles of Biology I Lab Pre-requisite: None	1	BIOL 1108L	Principles of Biology II Lab Pre-requisite: BIOL 1107 & 1107L	1		
COST 1103	COST First Year Experience Pre-requisite:	2	Area B,C, E, or F Elective*	Pre-requisite: Varies	3		
Fall Milestones			Total	Spring Milestones			Total
			16				17

Sophomore	Fall Courses			Spring Courses			Notes
	Course	Name	Hours	Course	Name	Hours	
	CISM/CSCI 1130**	Computer Applications Pre-	3	BIOL 3401	Ecology & Evolution Biology Pre-requisite: BIOL	3	
BIOL 3201	Cell Biology Pre-requisite: CHEM 1212 & BIOL 1108	3	BIOL 3401L	Ecology & Evolution Biology Lab Pre-requisite: BIOL 1108	1		
BIOL 3201L	Cell Biology Lab Pre-requisite: CHEM 1212 & BIOL 1108	1	CHEM 2511	Organic Chemistry II Pre-requisite: CHEM 2501	3		
CHEM 2501	Organic Chemistry I Pre-requisite: CHEM 1212	3	CHEM 2511L	Organic Chemistry II Lab Pre-requisite: CHEM 2501L	1		
CHEM 2501L	Organic Chemistry I Lab Pre-requisite: CHEM 1212L	1	BIOL 3321	Microbiology Pre-requisite: BIOL 1108	3		
BIOL 2515K (Area F Elective)	Human A&P I* Pre-requisite: CHEM 1211	4	BIOL 3321L	Microbiology Lab Pre-requisite: BIOL 1108	1		
			Area B, C, E, or F Elective*	Pre-requisite: Varies	3		
Fall Milestones			Total	Spring Milestones			Total
Students should identify required courses for their career track and get consultation to create a competitive portfolio.			15	Students should seek for or start internships, shadowing and research experiences relevant to their career track.			15

Junior	Fall Courses			Spring Courses			Notes
	Course	Name	Hours	Course	Name	Hours	
	BIOL 3101	Botany Pre-requisite: BIOL 1108	3	BIOL 3301	Genetics Pre-requisite: BIOL 1108	3	
BIOL 3101L	Botany Lab Pre-requisite: BIOL 1108	1	BIOL 3301L	Genetics Lab Pre-requisite: BIOL 1108	1		
BIOL 3801	Animal Physiology Pre-requisite: BIOL 3201	3	PHYS 1112K	Introductory Physics II Pre-requisite: PHYS 1111K	4		
BIOL 3801L	Animal Physiology Lab Pre-requisite: BIOL 3201	1	Area B, C, E, or F Elective	Pre-requisite: Varies	3		
PHYS 1111K	Introductory Physics I Pre-requisite: MATH 1113	4	Area B, C, E, or F Elective	Pre-requisite: Varies	3		
CHEM 3801 (Major Elective)	Biochemistry** Pre-requisite CHEM2511	3					
Fall Milestones			Total	Spring Milestones			Total
Students should have continued or completed internships and research experience relevant to their career track.**			15	Students should have completed any required admissions testing for their career track (e.g., MCAT, GRE)			14

Senior	Fall Courses			Spring Courses			Notes
	Course	Name	Hours	Course	Name	Hours	
	BIOL 4921	Senior Seminar Research Pre-requisite: All 3000 Level	2	BIOL 4930	Senior Synthesis Pre-requisite:	3	
Major	Major Elective Pre-requisite: Varies	3	Major	Major Elective Pre-requisite: Varies	3		
Major	Major Elective Pre-requisite: Varies	3	Major	Major Elective Pre-requisite: Varies	3		
Major	Major Elective Pre-requisite: Varies	3	Area B, C, E, or F Elective	Pre-requisite: Varies	3		
Area B, C, E, or F Elective	Pre-requisite: Varies	3	Area B,C, E, or F Elective	Pre-requisite: Varies	3		
Fall Milestones			Total	Spring Milestones			Total
Application completed for further professional educational programs relative to your career track***			14	Application completed for further professional educational programs relative to your career track***			15

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Biology Department, College of Science and Technology

Core Curriculum (Programmed Preferred Options in Bold)

Area B – Institutional Options 5 hrs

- i. AFRS 1501 Survey of African-American Experience 2 hrs
- ii. HUMN 1201 Critical Thinking & Communication 3 hrs

Area C – Humanities/Fine Arts, and Ethics 6 hrs,

1. Select one of the following:
 - i. ENGL 2111 World Literature I 3 hrs
 - ii. ENGL 2112 World Literature II 3 hrs
 - iii. ENGL 2121 British Literature I 3 hrs
 - iv. ENGL 2122 British Literature II 3 hrs
 - v. ENGL 2131 American Literature I 3 hrs
 - vi. ENGL 2132 American Literature II 3 hrs
 - vii. ENGL 2222 African American Literature 3 hrs
 - viii. PHIL 2010 Introduction to Philosophy 3 hrs
 - ix. PHIL 2030 Introduction to Ethics 3 hrs
2. Select one of the following:
 - i. ARTS 1101 Introduction to Visual Art 3 hrs
 - ii. DNCE 2010 Dance Appreciation 3 hrs
 - iii. ENGL 2521 Introduction to Film 3 hrs
 - iv. HUMN 2011 Humanities 3 hrs
 - v. MUSC 1101 Introduction to Music 3 hrs
 - vi. THEA 2101 Introduction to Theatre 3 hrs

Area D – Natural Sciences, Math & Technology 10 hrs

1. Select one of the following:
 - i. BIOL 1107 Principles of Biology I 3 hrs
 - ii. BIOL 1108 Principles of Biology II 3 hrs
 - iii. CHEM 1211 Principles of Chemistry I 3 hrs
 - iv. CHEM 1212 Principles of Chemistry II 3 hrs
 - v. **CISM 1130 Computer Applications 3 hrs**
 - vi. **CSCI 1130 Computer Applications 3 hrs**
 - vii. CSCI 1301 Computer Science I 3 hrs
 - viii. ENVS 1140 Environmental Issues 3 hrs
2. Select two of the following lab sciences in sequence:
 - i. BIOL 1107/1107L Principles of Biology I 4 hrs
 - ii. BIOL 1108/1108L Principles of Biology II 4 hrs
 - iii. **CHEM 1211/1211L Principles of Chemistry 4 hrs**
 - iv. **CHEM 1212/1212L Principles of Chemistry 4 hrs**
 - v. PHYS 1111K Introductory Physics I 4 hrs
 - vi. PHYS 1112K Introductory Physics II 4 hrs
 - vii. PHYS 2211K Principles of Physics I 4 hrs
 - viii. PHYS 2212K Principles of Physics II 4 hrs

Area E – Social Science 12 hrs

- i. POLS 1101 American Government 3 hrs
2. Select one of the following:
 - i. HIST 2111 U.S. History to the Post-Civil War Period 3 hrs
 - ii. HIST 2112 U.S. History from the Post-Civil War to Pre 3 hrs
3. Select two of the following:
 - i. AFRS 2000 Introduction to Africana Studies 3 hrs
 - ii. ANTH 1101 Introduction to Anthropology 3 hrs
 - iii. ECON 2105 Principles of Macro-Economics 3 hrs
 - iv. GEOG 1101 Introduction to Human Geography 3 hrs
 - v. HIST 1111 World Hist to Early Modern Times 3 hrs
 - vi. HIST 1112 World History Early Modern Times to Pres 3 hrs
 - vii. POLS 2401 Global Issues 3 hrs
 - viii. PSYC 1101 Intro to General Psychology 3 hrs
 - ix. PSYC 2103 Human Growth & Development 3 hrs
 - x. SOCI 1101 Introduction to Sociology 3 hrs
 - xi. SOCI 1160 Social Problems 3 hrs

Distinctive Courses in this Major

BIOL 3101 General Botany 3 Credits

An introduction to general principles of plant life with special emphasis given to cellular organization, anatomy, physiology, inheritance, taxonomy, and modern aspects of plant science, such as plant biotechnology and genetic engineering.

BIOL 3201 Molecular and Cell Biology 3 Credits

An overview of eukaryotic cells, with an emphasis on animal cells. Analysis of the anatomy and physiology of cells and subcellular components, including molecular biochemical and evolutionary perspectives.

BIOL 3301 Genetics 3 Credits

The principles of genetic analysis and the nature of genes. Discussion of the chromosomal and the molecular basis of transmission, replication, mutation, and expression of heritable characteristics. Includes modern developments in genetics, such as the physical nature and fine structure of the gene, its relationship to proteins, protein synthesis, growth, and differentiation and regulation of gene function.

BIOL 3321 Microbiology 3 Credits

Introduction to origin, diversity, anatomy, and physiology of microorganisms; principles of immunology; environmental and applied microbiology.

BIOL 3401 Ecology & Evolutionary Biology 3 Credits

Mechanisms of evolution in relation to the genetics of plants, animals, and man; speciation and natural selection; ecological processes in the development, structure, and organization of biomes; biogeography; population ecology; communities, and ecosystems; species interactions; and the evolution of behavior.

BIOL 3801 Animal Physiology 3 Credits

A study of vertebrate systemic physiological processes. Topics covered are bioenergetics, temperature regulation, endocrine control mechanisms; digestive, urinary, cardiac, respiratory, excretory, and reproductive systems; membranes; and neurophysiology.

Biology Area F Electives

1. Select 3 or 4 credits from the following:
 - i. BIOL 1101 Intro to Life Sciences 1 hr
 - ii. BIOL 2515K Human Anatomy & Physiology I 4 hrs
 - iii. BIOL 2516K Human Anatomy & Physiology II 4 hrs
 - iv. CSCI 1301 Intro to Computer Science I 3 hrs
 - v. MSCI 1810K-Marine Biology 4 hrs