

## *Life Sciences Department*      **Program Maps**

### **Program SLOs for the Biology Major**

*Upon successful completion of this program students will be able to:*

1. Apply the scientific method to investigating and evaluating biological phenomenon and summarize results in written scientific format.
2. Perform laboratory techniques, including microscopy, with a high level of expertise without assistance or instruction.
3. Synthesize evolutionary mechanisms, trends, and history with biodiversity.
4. Integrate the levels of biological organization including cell mechanisms, anatomy, physiology, genetics, ecology, and evolution.
5. Investigate human interactions with all levels of biological processes emphasizing the principles of ecosystem, community, population ecology, and global human impacts.
6. Apply principles of math, chemistry and physics to the study of biology.
7. Independently apply biological knowledge and critical thinking skills to the observation and exploration of natural phenomena.
8. Apply knowledge of biological organisms and principles in advanced courses in order to transfer to four year institutions

### **Outcomes Map for Biology Major**

Major Requirements	Course	Program Outcome # 1 Scientific method	Program Outcome # 2 Lab techniques	Program Outcome # 3 Evolution & biodiversity	Program Outcome # 4 Integrate bio levels organization	Program Outcome # 5 Human interaction	Program Outcome # 6 Apply math, chem, physic to biology	Program Outcome # 7 Apply knowledge, observation	Program Outcome # 8 Apply knowledge, ad courses
Required biology majors group: all required	BIO 55: Bio Forum	X						X	X
	BIO 10: Intro Biology	X	X	X	X	X	X		X
	BIO 2.1: cells	X	X	X	X	X	X	X	
	BIO 2.2: zoo, evol	X	X	X	X	X	X	X	
	BIO 2.3: botany, eco	X	X	X	X	X	X	X	
Bio field course: one required	Bio 85.1, 85.2 Botany 60, 62, 63, 64			X	X	X		X	
Biology electives group	BIO 12, 13, 25, 26, 31	X		X	X	X	X	X	X



## Program SLOs for the Physiology Major

*Upon successful completion of this program students will be able to:*

1. Demonstrate an understanding of the relationship between structure and function by predicting the function of unfamiliar structures based on knowledge of previously studied cells, tissues, and organs.
2. Use skills acquired in the human anatomy course to learn new body structures.
3. Work safely in a lab or clinical setting with microorganisms.
4. Explain pharmaceutical drug actions based on knowledge of physiological mechanisms.
5. Apply knowledge of anatomy, microbiology, physiology to more advanced courses required in allied health majors.
6. Apply knowledge of anatomy, microbiology or physiology in the clinical practice of nursing or dental hygiene.

## Outcomes Map for Physiology Major

Major Requirements Required Courses	Program Outcome #1 Structure & function: cells, tissues, organs	Program Outcome #2 Learn new structures	Program Outcome #3 Work safely with microorganisms	Program Outcome #4 Physiological mechanisms	Program Outcome #5 Apply knowledge to allied health majors	Program Outcome #6 Apply knowledge in clinical setting
BIO 10: Intro Biology	X					
ANAT 1: Human Anatomy	X	X			X	X
PHYSIO 1: Human Physiology	X			X	X	X
MICRO 5: Gen Microbiology MICRO 60: Fund. Microbiology	X		X		X	X
CHEM 60: Chem for Allied Health	X		X	X	X	X
LIR 10: Information Literacy LIR 30: Research Projects					X	