



Biology Department 500 level courses



	Understand cellular and molecular biological processes		Understand genetic and evolutionary mechanisms		Understand phylogenetic and ecological relationships		Effectively apply experimental and analytical tools		Understand and articulate scientific findings	
	1. Provide examples of the relation between form and function in biology, as expressed in molecular, cellular, and whole-organism physiology	2. Compare and contrast the major cellular processes in eukaryotes and prokaryotes	3. Explain how genetic information is transmitted, and the relationship between genetics and evolution	4. Compare and contrast the primary mechanisms of evolutionary diversification	5. Categorize the diversity of life in terms of the phylogenetic relationships among major organismal groups	6. Describe how interactions among organisms and their environment influence populations, communities, and ecosystem function	7. Quantitatively answer biological questions using mathematical or statistical tools	8. Design, conduct, and interpret experiments using common biological lab and field techniques	9. Effectively and concisely present scientific ideas and the results of scientific research in written and oral form	10. Critique scientific papers, as demonstrated by written or oral summaries of hypotheses, methodology, and conclusions
ADVANCED EVOLUTION (BIOL-509)	Reinforced	Introduced	Major concept	Major concept	Major concept	Reinforced	Reinforced	Reinforced	Major concept	Reinforced
MOLECULAR EVOLUTION (BIOL-510)	Reinforced	Major concept	Major concept	Major concept	Reinforced	Introduced	Reinforced	Reinforced	Introduced	Introduced
BIOLOGY OF THE ALGAE (BIOL-514)	Major concept	Reinforced	Not addressed	Major concept	Major concept	Major concept	Not addressed	Reinforced	Reinforced	Not addressed
MARINE INVERTEBRATE BIOLOGY (BIOL-515)	Major concept	Not addressed	Introduced	Major concept	Major concept	Major concept	Introduced	Major concept	Reinforced	Reinforced
MAR. LARVAL ECOL. RESEARCH 1 (BIOL-516A)	Major concept	Not addressed	Introduced	Reinforced	Reinforced	Major concept	Major concept	Major concept	Major concept	Major concept
MAR. LARVAL ECOL. RESEARCH 2 (BIOL-516B)	Reinforced	Not addressed	Not addressed	Reinforced	Not addressed	Major concept	Major concept	Major concept	Major concept	Major concept
MARINE ECOLOGY (BIOL-517)	Introduced	Not addressed	Introduced	Introduced	Reinforced	Major concept	Major concept	Major concept	Major concept	Reinforced
HERPETOLOGY (BIOL-523)	Major concept	Not addressed	Reinforced	Reinforced	Major concept	Major concept	Major concept	Major concept	Major concept	Major concept
ORNITHOLOGY (BIOL-524)	Major concept	Not addressed	Reinforced	Major concept	Major concept	Major concept	Major concept	Major concept	Major concept	Major concept
MAMMALOLOGY (BIOL-525)	Major concept	Not addressed	Reinforced	Major concept	Major concept	Reinforced	Not addressed	Reinforced	Reinforced	Reinforced
TERR. ARTHROPOD BIOLOGY (BIOL-526)	Reinforced	Not addressed	Reinforced	Major concept	Major concept	Major concept	Introduced	Reinforced	Major concept	Reinforced
ANIMAL BEHAVIOR (BIOL-527)	Reinforced	Not addressed	Reinforced	Reinforced	Reinforced	Major concept	Introduced	Introduced	Major concept	Major concept
ANIMAL BEHAVIOR LAB (BIOL-527L)	Introduced	Not addressed	Not addressed	Introduced	Introduced	Major concept	Reinforced	Reinforced	Major concept	Reinforced
MICROBIAL ECOLOGY (BIOL-528)	Major concept	Major concept	Reinforced	Introduced	Major concept	Major concept	Not addressed	Major concept	Major concept	Reinforced
PLANT ECOLOGY (BIOL-535)	Reinforced	Reinforced	Introduced	Introduced	Reinforced	Major concept	Introduced	Introduced	Reinforced	Reinforced
CONSERVATION ECOLOGY (BIOL-540)	Introduced	Not addressed	Reinforced	Reinforced	Introduced	Reinforced	Reinforced	Introduced	Major concept	Major concept
ECOLOGICAL SIGNALING (BIOL-542)	Introduced	Not addressed	Introduced	Introduced	Introduced	Major concept	Not addressed	Not addressed	Major concept	Major concept
TERR. ECOSYS. & CLIMATE CHNG. (BIOL-544)	Not addressed	Not addressed	Not addressed	Not addressed	Not addressed	Major concept	Not addressed	Reinforced	Reinforced	Introduced