DEPARTMENT OF BIOLOGY

UNDERGRADUATE PROGRAM CURRICULUM MAP

BS BIOLOGY - GENERAL BIOLOGY SPECIALIZATION

SEPTEMBER 2011

DEFINITIONS OF TERMS

I = Introduce = The level of learning expected of a novice

R = Reinforce = The level of instruction and learning expected with students who have been introduced to concepts or skills previously; not the final goal state

M = Mastery = The intended goal state of learning our program aspires to achieve

X = Not applicable

		Common Prerequisites				Major Courses																																									
						Biology Core					General Biology Specialization						General Biology Subcore																														
											Choose One		Choose One		Choose One		Choose 14 SH with advisor; The same course may not be used to fulfill both the specialization and subcore program requirements; At least 2 upper division botany courses must be included in program																														
	Student Learning Outcomes	ZOO1010/L General Zoology/Lab	BOT2010/L General Botany/Lab	PCB2131 Cell Biology	PCB2131L Cell Biology Lab	BCH3033/L Biochemistry I/Lab	BCH3034 General Biochemistry-Metabolism	MCB3020/L Microbiology/L	PCB3063/L Genetics/Lab	PCB4043/L Ecology/Lab	BOT4503/L Plant Physiology/Lab	PCB4723/L Comparative Animal Physiol I/Lab	BOT4374/L Plant Developmental Biology/Lab	PCB3253/L Developmental Biology/Lab	BOT4734/L Plant Biotechnology/Lab	PCB4524/L Molecular Biology/Lab	BOT3601/L Plant Ecology/Lab	BOT4374/L Plant Developmental Biology/Lab	BOT4404/L Aquatic Botany/Lab	BOT4503/L Plant Physiology/Lab	BOT4712/L Plant Taxonomy & Evolution/Lab	BOT4734/L Plant Biotechnology/Lab	BOT4850 Medicinal Botany	BSC4307 Climate Change Biology	BSC4263/L Biological Oceanography/Lab	BSC4305 Biogeography	BSC4430 Ethical Issues in Biotechnology	BSC4854 Bioterrorism	FAS4000/L Aquaculture/L	MCB4276 Epidemiology of Infectious Diseases	MCB4401 Marine Biotechnology	MCB4603 Microbial Ecology	MCB4653 Applied Microbiology	MCB4733/L Marine Microbiology	PCB3253/L Developmental Biology/Lab	PCB3668 Human Genetics	PCB4048/L Estuarine Ecology/Lab	PCB4233/L Immunology/Lab	PCB4364/L Marine Ecological Physiology/Lab	PCB4374 Tropical Ecology	PCB4442/L Wetlands Ecology/Lab	PCB4482 Quantitative Ecology	PCB4521/L Molecular Genetics/Lab	PCB4522 Genetic Engineering	PCB4524/L Molecular Biology/Lab	PCB4603 Virology	PCB4673 Principles of Evolution
Content	Identify and use the concepts, principles, and theories that constitute the core subdisciplines of the biological sciences	I	I	I	I	I	I	R	I	I	M	M	M	M	M	R	I	M	R	M	R	M	M		I	R	R	R	M	M	I	I	R		M	R	I	I	I		I		R	R	R	R	M
	Employ techniques central to analysis of biological materials	I	I	I	I	I	I	M	I	R	R	R	M	M	M	R	R	M	M	R	R	M	R		I	R	R	X	I	M	I	I	R		M	R	I	R	I		R		M	M	R	R	R
	Describe discipline-related career paths for which recipients of the BS in Biology are qualified	I	I	I	I	I	R	R	I	M	M	M	I	M	I	R	M	I	I	M	X	I	I		I	M	R	X	X	M	I	I	R		M	R	I	M	M		X		R	R	R	R	R
Critical Thinking	Apply scientific method to solve problems in the biological sciences	I	I	I	I	R	R	R	I	I	R	X	M	M	M	R	R	M	M	R	R	M	M		R	R	M	R	M	M	R	R	R		M	R	R	M	R		R		M	M	R	M	R
	Select and conduct appropriate statistical analyses	X	I	I	I	X	X	I	I	I	M	R	R	M	R	X	R	R	R	M	R	R	X		R	X	M	M	X	M	X	R	R		M	R	R	M	M		R		R	R	X	M	X
Communication	Employ biological terminology accurately	I	I	I	I	R	R	R	I	M	R	X	M	M	M	R	I	M	M	R	R	M	M		R	M	M	R	X	R	R	R	R		M	R	R	R	X		R		M	R	R	M	M
	Use language in written form effectively and professionally	I	I	I	I	R	R	R	I	M	M	R	R	M	R	R	R	R	R	M	R	R	M		R	R	M	X	R	R	R	R	R		M	R	R	M	R		R		M	R	R	M	R
	Communicate biological information in oral form employing appropriate technology	I	I	I	I	X	X	R	I	M	X	X	R	M	R	X	M	R	R	X	X	R	X		R	R	M	X	X	R	X	R	R		M	R	R	X	X		X		M	R	X	M	R
Integrity/ Values	Describe ethical challenges involved in conducting scientific research with humans and animals	I	X	I	I	R	R	I	R	I	X	X	X	M	X	R	R	X	R	X	R	X	R		R	R	M	R	R	R	R	R	R		M	R	R	M	I		R		R	R	R	M	R
	Adhere to appropriate ethical practices in research and teaching	I	I	I	I	R	R	M	R	I	M	I	R	M	R	R	R	R	M	M	R	R	R		R	R	M	X	R	R	R	R	M		M	R	R	M	I		R		R	R	R	M	R
Project Management	Design and execute a project that incorporates a reasonable time line to address a problem in the biological sciences	I	I	I	I	R	R	M	R	M	X	X	R	M	X	R	I	R	R	X	R	X	X		R	X	R	R	X	R	R	R	R		M	R	R	M	X		R		M	R	R	M	X
	Draw and defend conclusions related to the results of the study	I	I	I	I	R	R	M	R	M	R	X	R	M	R	R	I	R	E	R	R	R	X		R	X	R	X	I	R	R	R	I		M	R	R	M	M		R		M	R	R	M	X
	Collaborate effectively with others on team projects	I	I	I	I	R	R	M	R	M	M	M	M	M	M	R	X	M	M	M	X	M	X		R	X	R	X	X	R	R	R	I		M	R	R	M	X		X		M	R	R	M	X

DEPARTMENT OF BIOLOGY

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SEP 2011

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Major Courses (continued from previous page)

General Biology Subcore (continued from previous page)

Choose 14 SH with advisor; The same course may not be used to fulfill both the specialization and subcore program

Maximum 2 SH Directed Independent Study

Student Learning Outcomes		PCB4703 Human Physiology	PCB4723/L Comparative Animal Physiol I/Lab	PCB4922 Biology Seminar	ZOO3558 Coral Reefs	ZOO4254/L Marine Invertebrate Zoology/Lab	ZOO4304/L Marine Vertebrate Zoology/Lab	ZOO4454 Elasmobranch Biology	ZOO4457 Fish Physiology	ZOO4485 Marine Mammalogy	ZOO4513 Animal Behavior	ZOO4880C Fisheries Biology	BCH3905 Directed Independent Study	BCH4905 Directed Independent Study	BOT3905 Directed Independent Study	BOT4905 Directed Independent Study	BSC3905 Directed Independent Study	BSC4905 Directed Independent Study	MCB3905 Directed Independent Study	MCB4905 Directed Independent Study	PCB3905 Directed Independent Study	PCB4905 Directed Independent Study	ZOO3905 Directed Independent Study	ZOO4905 Directed Independent Study
Content	Identify and use the concepts, principles, and theories that constitute the core subdisciplines of the biological sciences	R	M	I	I	R	M	I	I	I	R	I	R	M	R	M	R	M	R	M	R	M	R	M
	Employ techniques central to analysis of biological materials	R	R	I	I	R	M	I	I	I	R	I	R	M	R	M	R	M	R	M	R	M	R	M
	Describe discipline-related career paths for which recipients of the BS in Biology are qualified	R	M	I	I	M	X	I	I	I	M	X	R	M	R	M	R	M	R	M	R	M	R	M
Critical Thinking	Apply scientific method to solve problems in the biological sciences	M	X	M	I	R	M	R	R	R	M	M	R	M	R	M	R	M	R	M	R	M	R	M
	Select and conduct appropriate statistical analyses	M	R	M	I	X	I	R	R	R	R	M	R	M	R	M	R	M	R	M	R	M	R	M
Communication	Employ biological terminology accurately	R	X	I	R	M	X	X	X	X	M	X	R	M	R	M	R	M	R	M	R	M	R	M
	Use language in written form effectively and Professionally	R	R	I	R	R	X	X	X	X	R	I	R	M	R	M	R	M	R	M	R	M	R	M
	Communicate biological information in oral form employing appropriate technology	R	X	I	R	R	X	X	X	X	R	X	R	M	R	M	R	M	R	M	R	M	R	M
Integrity/ Values	Describe ethical challenges involved in conducting scientific research with humans and animals	R	X	M	I	R	X	I	I	I	M	I	R	M	R	M	R	M	R	M	R	M	R	M
	Adhere to appropriate ethical practices in research and teaching	R	I	M	I	R	X	I	I	I	M	I	R	M	R	M	R	M	R	M	R	M	R	M
Project Management	Design and execute a project that incorporates a reasonable time line to address a problem in the biological sciences	R	X	R	X	X	X	X	X	X	R	X	R	M	R	M	R	M	R	M	R	M	R	M
	Draw and defend conclusions related to the results of the study	R	X	R	X	X	X	X	X	X	R	I	R	M	R	M	R	M	R	M	R	M	R	M
	Collaborate effectively with others on team projects	R	M	R	X	X	X	X	X	X	R	X	R	M	R	M	R	M	R	M	R	M	R	M