B.S. in Biology: Cell and Molecular Biology Concentration

Name: _____ ID#_____

I. Major Requirements (45-46 h)

Category	Course	Grade	Semester	Hrs Earned	Notes
General Biology I (4 h)	BIOL 150				*Previously BIOL141*
General Biology II (4 h)	BIOL 151				*Previously BIOL140*
Intro. Biology Res. (1 h)	BIOL 180				
Genetics (4 h)	BIOL 240				
Ecology/Evolution (4 h)	BIOL 241				
Biology Seminar (1 h)	BIOL 496				
Mathematics (3-4 h)	MATH 153 or 270				*Pre-req: MATH146*
Gen. Chemistry I (4 h)	CHEM 139				
Gen. Chemistry II (4 h)	CHEM 140				
Org. Chemistry I (4 h)	CHEM 241				
Org. Chemistry II (4 h)	CHEM 242				
Physics I (4 h)	PHYS 130				
Physics II (4 h)	PHYS 131				

II. Molecular Biology Concentration Requirements (26 h)

Required (4 h)	BIOL 333				*CURE Methodology*
Required (3 h)	BIOL 361				
Required (3 h)	BIOL 419				
CURE Application Elective (3-4 h)					*BIOL 413, 421, 473, 480, 494, 499 or Chair approval*
CMPHP/GB Elective I (3-4 h)					
CMPHP/GB Elective II (3-4 h)					
EEOB Elective (3-4 h)					
BIOL Electives (*sufficient to bring concentration total up to at least 26 h, may include up to 2 non-BIOL courses)*					

III. Liberal Studies (33 h)

Category	Course	Grade	Semester	Hrs Earned	Notes
C1 - Writing (3 h)	ENGL 101				
(3 h)	ENGL 202				
C2 - Mathematics (3 h)	Satisfied by major requirements				
C3 - Oral Comm. (3 h)	COMM 201				
C4 - Wellness (3 h)					
C5 –Biol/Phys Sci (6 h)	Satisfied by major requirements				
P1 - Social Sci (3 h)					Discipline 1
(3 h)					Discipline 2
P3 - History (3 h)					NOTE: ONE
P4 - Humanities (3 h)					PERSPECTIVE
P5 – Fine/Perf Arts (3 h)					MUST BE
P6 - World Cultures (3 h)					UPPER LEVEL
1st Year Seminar (3 h)					

IV. General Electives

Category	Course	Grade	Semester	Hrs Earned	Notes

Total Hours required: 120

Liberal Studies	_____	
Major Requirements	_____	
General Electives	_____	
Total	_____	
Thirty hours at the 300/400 level?	yes	no
Liberal Studies Upper Level Perspective?	yes	no
No more than two non-Biology electives in concentration?	yes	no
GPA of 2.0 or better in the major?.....	yes	no

Upper-Level Biology Elective Course Sets (*course prefix is BIOL unless otherwise noted*):

Cell and Molecular, Pre-Health, and Physiology (CMPHP) Electives (3-4 h)

313, Microbiology in Health and Nutrition	(4 h)	418, Adv. Tech. in Microscopy	(4 h)
333, Cell and Molecular Biology	(4 h)	419, Cell Biology	(3 h)
361, Principles of Biochemistry	(3 h)	421, Principles of Biotechnology	(4 h)
391, Human Anatomy & Physiology for Sciences I	(4 h)	422, Forensic Biology	(4 h)
392, Human Anatomy & Physiology for Sciences II	(4 h)	423, Biophysics	(3 h)
412, Cell. and Mol. Immunology	(3 h)	424, Pharmacology	(3 h)
413, Prin. of Gen. Microbiology	(4 h)	461, Molecular Medicine	(3 h)
416, Plant Molecular Biology	(3 h)	474, Virology	(4 h)
417, Biochemistry	(3 h)		

Ecology, Evolution and Organismal Biology (EEOB) Electives (3-4 h)

304, General Ecology	(3 h)	435, Aquatic Ecology	(4 h)
306, Evolutionary Biology	(3 h)	439, Ecological Genetics	(3 h)
321, Plant Biology	(4 h)	441, Conservation Biology	(3 h)
330, Pop. Gen. for Forensic Sciences	(3 h)	453, Principles of Systematics	(3 h)
373, Invertebrate Zoology	(4 h)	455, Vascular Plants	(4 h)
374, Vertebrate Zoology	(4 h)	470, Biology of Arthropods	(4 h)
375, Methods in Ecology and Evolution	(4 h)	471, Animal Behavior	(4 h)
411, Animal Physiology	(3 h)	472, Ornithology	(4 h)
415, Plant Physiology	(3 h)	473, Microbial Ecology	(4 h)
420, Darwin's Origin of Species	(3 h)	476, Contemporary Fisheries	(4 h)
425, Flora of the Southern Appalachians	(4 h)	477, Herpetology	(4 h)
433, Ecological Co-Adaptations	(4 h)	478, Parasitology	(4 h)
434, Terrestrial Landscape Ecology	(4 h)	479, Mammalogy	(4 h)

General Biology (GB) Electives

389, Cooperative Education in Biology	(1 or 3 h)	GEOL305, Soils and Hydrology	(4 h)
464, Brewing Methods and Evaluation	(4 h)	GEOL455, Wetlands	(3 h)
467, Biostatistics	(3 h)	CHEM370, Instrument Analysis I	(3 h)
480, Research in Biology	(1 - 3 h)	CHEM435, Instrument Analysis II	(3 h)
493, Studies in Biology	(1-6 h)	CHEM461, Environmental Chemistry	(3 h)
494, CURE: Course-based Undergraduate Research	(3-4 h)	CHEM462, Molecular Bioinformatics	(3 h)
495, Introduction to Senior Thesis	(1 h)	MATH370, Probability and Statistics I	(3 h)
498, Senior Thesis I	(2 h)	MATH375, Statistical Methods II	(3 h)
499, Senior Thesis II	(1 h)	NRM442, Natural Resources Policy and Admin.	(3 h)
496, Biology Departmental Seminar	(1 h)	NRM344, Applied GIS (GEOG 221 is prerequisite)	(4 h)
		NRM371, Landscape Ecology	(3 h)
		PAR330, Wilderness: Ethics and Aesthetics…	(P4, 3 h)
		PAR332, Biomedical Ethics: Health. & Social…	(P4, 3 h)
		PAR333, Environmental & Animal Ethics	(P4, 3 h)