

## DEPARTMENT OF BIOLOGICAL SCIENCES REQUIREMENTS

HRS. GRADE

### MAJOR - BIOLOGY (32 HOURS)

1	_____	Biol. 2000+ required (first semester freshman class)
5	_____	Biol. 2040 required
5	_____	Biol. 2050 required
4	_____	Biol. 3500* General Genetics required *with or without Biol. 3520 +required beginning Fall '06

18 (+17 when counting BIOL 2000) hours of electives including 10 hours at the 4000-level. At least one course in each of the following three groups:

#### GROUP I. BIOLOGY OF ORGANISMS

4	_____	Biol. 3130	Microbiology
4	_____	Biol. 3310	Human Anat. & Phys. I
4	_____	Biol. 3320	Human Anat. & Phys. II
4	_____	Biol. 3430	General Botany
3	_____	Biol. 3740	Marine Biology
4	_____	Biol. 4050	General Parasitology
3	_____	Biol. 4060	Medical Entomology
4	_____	Biol. 4140	Plant Taxonomy & Evolution
4	_____	Biol. 4240	Algology
3	_____	Biol. 4260	Pathogenic Microbiology
4	_____	Biol. 4270	Invertebrate Biology
4	_____	Biol. 4350	Entomology
3	_____	Biol. 4720	Ichthyology
4	_____	Biol. 4730	Mammalogy
3	_____	Biol. 4760	Herpetology
3	_____	Biol. 4770	Ornithology

A biology major must take 32 credit hours of biology courses. You must complete Biology 2000, 2040, 2050, and 3500. Biology 2040 and 2050 may be taken in any order. Biology 2000 must be taken first semester freshman year. Note the special instructions concerning the remaining 18 (+17 when counting BIOL 2000) credit hours of biology.

*GROUP I.* You must complete at least one course from this group. In order to complete 18 (+17 when counting BIOL 2000) credit hours of biology, in addition to Biology 2000, 2040, 2050, and 3500, you will be taking more than a single course from each of the three Biology groups. Obviously, as a biology major, you should take as many biology courses as possible. The selection of courses is yours to make. Typically, a sophomore will enroll in 3000-level biology courses, but certain 4000-level courses may also be taken as a sophomore. Check the catalog for course descriptions and prerequisites.

#### GROUP II. ECOLOGY, EVOLUTION AND BEHAVIOR

3	_____	Biol. 3540	Pop. & Comm. Ecology
3	_____	Biol. 4090	Conservation Biology
3	_____	Biol. 4100	Conservation Biology in Practice
3	_____	Biol. 4160	Landscape Ecology
4	_____	Biol. 4200	Animal Behavior
4	_____	Biol. 4220	Plant Ecology
3	_____	Biol. 4250	Limnology
3	_____	Biol. 4280	Neuroethology (old BIOL 419)
3	_____	Biol. 4410	Chemical Ecology
3	_____	Biol. 4450	Environmental Microbiology
3	_____	Biol. 4490	Epidemiology
3	_____	Biol. 4510	Evolution
3	_____	Biol. 4620	Principles of Biometry
3	_____	Biol. 4710	Sensory Ecology

*GROUP II.* You must complete a minimum of one course from this group.

#### GROUP III. CELL., MOLEC. AND REGULATORY BIOLOGY

4	_____	Biol. 4070	Cell Biology
3	_____	Biol. 4080	Molecular Biology
4	_____	Biol. 4110	Animal Physiology
4	_____	Biol. 4170	Plant Physiology
3	_____	Biol. 4180	Neurophysiology
3	_____	Biol. 4210	Molecular Biotechnology
3	_____	Biol. 4310	Developmental Biology
4	_____	Biol. 4380	Endocrinology
3	_____	Biol. 4390	Immunobiology
3	_____	Biol. 4400	Molecular Neurobiology
3	_____	Biol. 4420	Plasmid Biology
3	_____	Biol. 4430	Microbial Physiology
4	_____	Biol. 4460	Scanning Electr. Micro.
3	_____	Biol. 4470	Microbial Genetics

*GROUP III.* You must complete a minimum of one course from this group. It is best to complete one year of introductory Chemistry prior to enrolling in courses in this group. Some courses will also require organic chemistry as a prerequisite or co-requisite.

**DEPARTMENT OF BIOLOGICAL SCIENCES REQUIREMENTS (continued)**

HRS. GRADE

**BIOLOGY ELECTIVES** (These courses do not meet any group requirement.)

<u>3</u>	_____	Biol. 3010	Field Biology of Vertebrates
<u>3</u>	_____	Biol. 3100	Biology of Aging
<u>1</u>	_____	Biol. 3520	Genetics Lab
<u>3</u>	_____	Biol. 3700	Intro. to Inland Marine Res.
<u>1-4</u>	_____	Biol. 4010	Research
<u>1-5</u>	_____	Biol. 4030	Biological Experience at Stone Lab (Summer only)
<u>2</u>	_____	Biol. 4310L	Developmental Biol. Lab
<u>2</u>	_____	Biol. 4440	Microbial Physiology Lab
<u>3</u>	_____	Biol. 4500	Teaching Evolution and the Nature of Science
<u>1-3</u>	_____	Biol. 4520	Aquarium Husbandry
<u>1-3</u>	_____	Biol. 4530	Amphibian and Reptile Husbandry
<u>1</u>	_____	Biol. 4540	Biology Learning Environment Tours
<u>1</u>	_____	Biol. 4700	Readings
<u>1</u>	_____	Biol. 4750	Marine Biology Field Trip
<u>1-3</u>	_____	Biol. 4890	Internship
<u>1</u>	_____	Biol. 4900	Seminar
_____	_____	Biol. _____	_____
_____	_____	Biol. _____	_____

Classes taken from this group will count as credits toward graduation and credits toward the biological sciences major. However, they *will not* fulfill biology group requirements. A maximum of five credit hours from the following courses may be included in the required 10 credit hours of 4000-level Biology required for the major: BIOL 4010, 4520, 4530, 4540, 4700, 4890.

**OTHER SCIENCE CORE REQUIREMENTS**

**CHEMISTRY**

<u>5</u>	_____	Chem. 1250 or 1350	General Chem.
<u>4</u>	_____	Chem. 1270 or 1370	General Chem.
<u>1</u>	_____	Chem. 1280 or 1380	General Chem. Lab
<u>4</u>	_____	Chem. 3060	Organic Chemistry
		<b><u>OR</u></b>	
<u>5</u>	_____	Chem. 3410	Organic Chemistry
		<b><u>AND</u></b>	
<u>3</u>	_____	Chem. 3440	Organic Chemistry
<u>1 or 2</u>	_____	Chem. 3450 or 3460	Organic Chemistry Lab
<u>3</u>	_____	Chem. 3080	Biochem. (optional)
<u>1</u>	_____	Chem. 3090	Biochem. Lab (optional)
<u>3</u>	_____	Chem. 2010	Quant. Chem. Anal. (optional)
_____	_____	Chem. _____	_____
_____	_____	Chem. _____	_____

*Chemistry.* You must complete one year of General Chemistry. Most biology majors take Chem. 1250, 1270, and 1280. Chem. 1350, 1370, and 1380 are Honors Chemistry. The first sequence is perfectly adequate for biology majors.

You must also complete one or two semester(s) of organic chemistry (Chem. 3060 or Chem. 3410 and 3440/3450 or 3440/3460). Pre-health professional students must complete the two-semester sequence (Chem. 3410 and 3440/3450 or 3440/3460). Straight-line biology majors need complete only Chem. 3060. If you are interested in a career in cellular or molecular biology or biotechnology, you should complete the two-semester sequence (Chem. 3410 and 3440/3450 or 3440/3460).

**PHYSICS**

<u>5</u>	_____	Phys. 2010	College Physics I
<u>5</u>	_____	Phys. 2020	College Physics II (optional)
_____	_____	Phys. _____	_____
_____	_____	Phys. _____	_____

*Physics.* Biology majors must complete Physics 2010. Pre-health professional students must complete Physics 2010 and 2020.