

**I) Required Introductory courses** Completion of below courses with a grade point of 2.0 or better\*

\_\_\_\_\_ BIOL 1240/1245 (3,1) \_\_\_\_\_ BIOL 1260/1265 (3,1) \_\_\_\_\_ CHEM 1110/1115 (3,1) \_\_\_\_\_ CHEM 1120/1125 (3,1)

\*or equivalent course credit (i.e., AP or IB), and must be completed before taking any upper-division biology course.

**II) Required B.S. related courses**

\_\_\_\_\_ MATH 1510 (4) \_\_\_\_\_ Statistics course (MATH 1300 or BIOL 4790) (3-4)

Select 4 of the following (16 credit hours):

\_\_\_\_\_ CHEM 2410/2415 (3,1) \_\_\_\_\_ PHYS 1310/1320 (3,1) \_\_\_\_\_ EAS 1010/1020 (3,1)

\_\_\_\_\_ CHEM 2420/2425 (3,1) \_\_\_\_\_ PHYS 1330/1340 (3,1) \_\_\_\_\_ EAS 1030/1040 (3,1)

**NOTE:** Students interested in post-graduate studies (i.e. Medical, Graduate school etc...) are advised to take CHEM & PHYS

**III) Required Upper Division Biology courses (35 credit hours)**

**A. Biology Core Courses (9 credit hours)**

\_\_\_\_\_ BIOL 3010: Evolution (3) \_\_\_\_\_ BIOL 3020: Biochem & MB (3)

\_\_\_\_\_ BIOL 3030: Genetics (3)

**B. General Requirements for all BS tracks**

1. At least **3 Structured Labs**; including 1 from the **CMDB group** and 1 from the **EEOB group** (*see reverse side*). Depending on the specific degree concentration, a third lab can be from either CMDB or EEOB and may also include Biol4790:Biometry

2. At least **one Plant Course** (*see reverse side for list of plant courses*)

3. **One** of the following **Senior Inquiry options**: BIOL 4800: Int. in Conservation, BIOL 4810: Integrated Bioinformatics Int., BIOL 4820: Int. in Plant Science, BIOL 4970: Library Project (1-3), BIOL 4980: Adv Ind. Research (0-3), BIOL 4890: Comp Exam (0), or a 5000- or 6000-level BIOL course. **Note:** *The Lab courses, Plant courses and Senior Inquiry credit hours all count toward the 35 upper division hours. Also, a total of 4 hrs of Indept Research (BIOL 4960), Library Project (BIOL 4970), and Adv Indept Research (4980) can be counted toward the 35 upper division credits required for the BS degree, but these courses do NOT count as structured lab courses.*

4. Participation in Departmental Mentoring and Assessment (*see reverse*)

Check Off

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**C. Concentration-specific Requirements**

**Biological Science**

**Cell Biology & Physiology**

**Ecology, Evolution & Conservation**

**Biological Chemistry & Molecular Biology**

**Plant Science**

\_\_\_\_\_ 3040 Cell S&F (3)

\_\_\_\_\_ 3040 Cell S&F (3)

\_\_\_\_\_ 4750 Ecology (4)

\_\_\_\_\_ 3040 Cell S&F (3)

\_\_\_\_\_ 3040 Cell S&F (3)

\_\_\_\_\_ CMBD elective(s)  
(min 4 hrs)

\_\_\_\_\_ EEOB elective(s) (min 4 hrs)

\_\_\_\_\_ Ecology Elective<sup>1</sup> (3+)

\_\_\_\_\_ EEOB elective(s)  
(min 4 hrs)

\_\_\_\_\_ CMBD lab (1+)

\_\_\_\_\_ EEOB elective(s)  
(min 4 hrs)

\_\_\_\_\_ 4540 Human Cell Physio (3)

\_\_\_\_\_ Evolution Elective<sup>2</sup> (3+)

2 Courses from:

\_\_\_\_\_ 3260 Plants & Fungi (4)

1 Cell-related Lab:3060 Cell Lab (1)

\_\_\_\_\_ Organismal Elective<sup>3</sup> (3+)

4030 Genomics (3)

\_\_\_\_\_ 3490 Plant Physio (3)

4050 Mol Tech (2)

\_\_\_\_\_ Tools Elective<sup>4</sup> (2)

4070 Adv Biochem (3)

\_\_\_\_\_ 4090 Plant Ecology (3)

4650 Micro (2)

\_\_\_\_\_ CMBD elective(s)

4700 Mol Bio (3)

Electives up to 35, including Core & General Reqs.

(min 4 hrs)

2 Labs from:

Electives up to 35, including Core & General Reqs

1 Physio-relateLab:342 Comp Anat (5)

(*see reverse side for elective choices*)

3060 Cell Lab (1)

Recommended: \_\_\_\_\_ 4912

347 Physio lab (2)

Electives up to 35, including Core & General Reqs

3100 Gen Lab (1)

Plant Internship (1)

444 Histology (4)

2 Courses from:

3420 Comp Anat (5), 3480 Exer Phys (3), 3490 PI Phys, 4080 Adv Cell (3), 4150 Nrv Cell Mech (3), 4410 Comp An Phys (3), [1 of 4500 Endcrn/4510 Bev Endcrn (3)], 4600 Devl (3), 4630 Immuno (3), 4640 Micro (3), 4720 Cancer Bio (3)

4050 Mol Tech (2)

Electives up to 35, including Core & General Reqs

4160 Micro Eco (4)

Recommended: \_\_\_\_\_ 4911 Bioinfo Internship (1)

4650 Micro (2)

Electives up to 35, including Core & General Reqs

## Cellular, Molecular, and Developmental Biology (CMDB)

(Structured Labs are in italics)

3040 Mol Cell Biol II (3); *3060 Cell Biology laboratory (1)*; *3100 Experiments in Genetics (1)*; *3420 Comparative Anatomy (5)*; *3470 General Physiology Lab (2)*; 3480 Exercise Physiology (3); 3490 Plant Physiology (3); 4030 Genomics (3); *4050 Molecular Techniques Lab (2)*; 4070 Advanced Biochem (3); 4080 Advanced Cell (3); 4150 Nerve Cell Mechanisms (3); *4160 Microbial Ecology (4)*; 4410 Comparative Animal Physiology (3); *4440 Vertebrate Histology (4)*; 4500 Endocrinology (3); 4510 Behavioral Endocrinology (3); 454 Human Cellular Physiology I (3); 460 Developmental Biology (3); *4610 Developmental Biology Lab (2)*; 4630 Immunobiology (3); 4640 General Microbiology (3); *4650 General Microbiology Lab (2)*; 4700 Molecular Biology (3); 4911 Integrative Bioinformatics Internship (0-3).

**Coming soon:** Neurobiology of Disease (3)

### Plant Courses: (Structured Labs are in italics)

*BIOL3260 Plants & Fungi (4)*; 3280 Ethnobotany (3); 3490 Plant Physiology (3); 3450 Economic Botany (3); 4040 Pollination Biology (3); 4090 Plant Ecology (3); *4120 Field Botany (5)*; 4210 Biology of Orchids (3); *4330 Spring Flora of the Ozarks (4)*

### Departmental Mentoring and Assessment

Participation in BIOL 1950 and BIOL 2950, and meeting with your mentor when in residence is expected. Students who are not able to take 1950 and 2950 (i.e. transfer students, students not in residence) may take BIOL 3950 to fulfill this requirement. All students are also expected to participate in senior exit surveys.

## Ecology, Evolutionary and Organismal Biology (EEOB)

(Structured Labs are in italics)

*3260 Biol of Plants and Fungi (4)*; 3280 Ethnobotany (3); 3450 Economic Botany (3); 4040 Pollination Biol (3); 4090 Plant Ecology (3); *4100 Natural History of the Vertebrates*; *4120 Field Botany (5)*; *4130 Field Mammalogy (5)*; *4140 Field Ornithology (5)*; *4160 Microbial Ecology (4)*; 4170 Intro to GIS; 4180 Intermediate GIS; 4190 GIS in Biology; *4200 Aquatic Ecology (4)*; 4210 Biology and Classification of Orchids (3); *4260 Biol of Amphibians and Reptiles (4)*; *4280 Biol of Fishes (4)*; *4310 Biol of Birds (4)*; *4320 Cave Biology (4)*; *4330 Spring Flora of the Ozarks (4)*; 4340 Systematic Biology (3); 4360 Animal Behavior (3); *4370 Animal Behavior Lab (1)*; *4380 Biol of Mammals (4)*; 4400 Applied Ecology (3); 4480 Conservation Biology (3); 4580 Applied Population Genetics (3); 4750 General Ecology (4); 4910 Internship in Conservation (3); 4912 Internship in Plant Science (3).

### EEOB Concentration Electives

<sup>1</sup>Ecology Electives: 4090 Plant Ecology (3); *4140 Field Ornithology (5)*; *4200 Aquatic Ecology (4)*; 4360 Animal Behavior (3); 4400 Applied Ecology (3); 4450 Ecological Risk Assessment (3); 4480 Conservation Biology (3); 4670 Population Biology (3); 4680 Landscape Ecology (3)

<sup>2</sup>Evolution Electives: *3420 Comp Anat Vertebrates (5)*; 4010 Sex, Evolution, Behavior (3); 4040 Pollination Biol (3); *412 Field Botany (5)*; 4340 Systematic Biology (3); 4410 Comparative Animal Physiology (3); 4580 Applied Population Genetics (3); 4770 Coevolution (3)

<sup>3</sup>Organismal Elective: 3220 Biol of Invertebrates (3); *3260 Biol of Plants and Fungi (4)*; 3280 Ethnobotany (3); 3450 Economic Botany (3); *4100 Natural History of the Vertebrates (4)*; *4130 Field Mammalogy (5)*; *4140 Field Ornithology (5)*; 4210 Biology and Classification of Orchids (3); *4260 Biol of Amphibians and Reptiles (4)*; *4280 Biol of Fishes (4)*; *4310 Biol of Birds (4)*; *4330 Spring Flora of the Ozarks (4)*; *4350 Biol of Parasitic Organisms (4)*; *4380 Biol of Mammals (4)*; 4410 Comparative Animal Physiology (3); 4640 General Microbiology (3)

<sup>4</sup>Tools courses: *4050 Molecular Techniques (2)*; *4780 Molecular Phylogenetic Analysis (4)*; *4160 Microbial Ecology (4)*; 4170 Intro to GIS (3); 4180 Intermediate GIS (3); 4190 GIS in Biology (3)

*In accordance with Arts and Sciences graduation requirements, a student must earn an overall 2.00 grade point average in all major and minor or related courses that are approved for completion of their degree program*

