

**RECORD of CONCENTRATION in  
ECOLOGY and EVOLUTIONARY BIOLOGY**

[Eff. 9/2007 – updated 8/09]

Name \_\_\_\_\_ Uniqname \_\_\_\_\_

UMID \_\_\_\_\_ Exp. Date of Graduation \_\_\_\_\_

For detailed information about the Program in Biology concentrations, refer to the Program in Biology web site, the LS&A Bulletin, or a concentration advisor. Come to the Biology Office in Rm. 1111 Nat. Sci. to schedule an advising appointment.

**PREREQUISITES**

**INTRODUCTORY BIOLOGY** – *To complete the introductory series, students must take BIO 171, 172, and 173 (Track #1); or AP BIO 195 and BIO 173 (Track #2); or already have taken BIO 162 (no longer offered) (Track #3).*

	CR	TERM AND YEAR	COMPLETED
<u>Track #1</u>			
Biology 171	4	_____	_____
Biology 172	4	_____	_____
Biology 173 ( <i>lab</i> )	2	_____	_____
<u>Track #2</u>			
Biology 195 (AP)	5	_____	_____
Biology 173 ( <i>lab</i> )	2	_____	_____
<u>Track #3</u>			
Biology 162 (or AP credit for BIO 162)	5	_____	_____

**INTRODUCTORY PHYSICS** (*10 hours incl. 2 labs*)

Physics 125 or 135 or 140 or 160, <b>and</b>	4	_____	_____
Physics Lab 127 (w/125) or 141 (w/135/140/160)	1	_____	_____
Physics 126 or 235 or 240 or 260, <b>and</b>	4	_____	_____
Physics Lab 128 (w/126) or 241 (w/235/240/260)	1	_____	_____

**MATHEMATICS\*** (*8 hours*)

Math 115 or 120 or 185	4	_____	_____
Math 116 or 121 or 186	4	_____	_____

\* *Students with AP credit for Math 120 should enroll in Math 116.  
Students with AP credit for Math 120 and 121 will have fulfilled the mathematics prerequisite requirement.*

**CHEMISTRY** (*10 hours including 2 labs*)

Chemistry 210	4	_____	_____
Chemistry 211 ( <i>lab</i> )	1	_____	_____
Chemistry 215	3	_____	_____
Chemistry 216 ( <i>lab</i> )	2	_____	_____

### **REQUIRED COURSES in the EEB CONCENTRATION**

Concentrators must take a minimum of 30 or 32 credit hours, depending on whether they have credit for BIO 162 (32 hours), or BIO 171, 172, and 173 (30 hours), or BIO 195 and 173 (30 hours).

### **REQUIRED COURSES in ECOLOGY, GENETICS, and EVOLUTION**

**NOTE:** Ecology and Evolution are also offered at the U-M Biological Station (UMBS). A course taken at the BioStation counts as a laboratory course.

COURSE NAME & NUMBER	CR	TERM AND YEAR	LAB	COMPLETED
___ Biology 281, Ecology, <i>and</i>	_____	_____	_____	_____
Biology 282, Ecology Lab, <i>or</i>	_____	_____	_____	_____
___ Biology 381* (BioStation)	_____	_____	_____	_____
Biology 305, Genetics	_____	_____	_____	_____
Biology/EEB 390, Evolution (Ann Arbor or BioStation)	_____	_____	_____	_____

### **STATISTICS or BIOCHEMISTRY**

Concentrators should consult with an EEB advisor prior to choosing which course to take. • The course not used to fulfill the requirement may be taken as an elective (i.e., if you take the statistics, you may take biochemistry as an elective).

___ Statistics 350, <i>or</i>				
___ Biology/MCDB 310 or 311, <i>or</i> Biolchem. 415 (Medical School)	_____	_____	_____	_____

### **RESIDENTIAL FIELD COURSE or RESEARCH REQUIREMENT**

- Most courses taken at the UMBS will satisfy the residential field course requirement. **NOTE:** A course taken at the UMBS may satisfy multiple requirements; for example, EEB 381, General Ecology, satisfies both the Residential Field Course requirement and a Required Course (above) requirement.
- A residential field course must have a minimum duration of three weeks. A field course at a non-UM institution requires approval in advance by an EEB advisor.
- A maximum of three hours of independent research (EEB or MCDB 300 or 400) may be used to fulfill this requirement. The three credits must be earned in one term. • Library “research,” introductory biology laboratories, and UROP experience do not fulfill the requirement. • Independent research policies are available on the Biology web site or in the Program in Biology Office.
- Three additional hours of EEB 300/400 may be applied under Additional Concentration Courses for a maximum of six independent research credits.

EEB 300 or 400, or any upper level UMBS course

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### **CAPSTONE SEMINAR—EEB 410**

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## **COURSES CURRENTLY APPROVED to fulfill the BIODIVERSITY REQUIREMENT**

An asterisk (\*) indicates a course that also fulfills a laboratory requirement; many of these are UMBS courses. Note that UMBS courses also fulfill the field course requirement.

BIO 207*	(4) Introductory Microbiology (F/W)
BIO 230*	(4) Introduction to Plant Biology
BIO 252*	(4) Chordate Anatomy and Phylogeny (F)
BIO 255*	(5) Plant Diversity (Sp)
BIO 288*	(4) Animal Diversity (W)
EEB 330*	(5) <i>Biology of Birds (Su-BIOSTATION)</i>
EEB 341*	(4) Parasitology (W)
EEB 420	(3) Plant Evolution
EEB 431*	(5) <i>Biology of Animal Parasites (Su-BIOSTATION)</i>
EEB 433*	(4) Ornithology (F)
EEB 436	(4) Woody Plants I: Biology and Identification (F)
EEB 440	(3) Biology of Fishes (F)
EEB 441*	(1) Biology of Fishes Laboratory
EEB 442*	(4) <i>Biology of Insects (F-AA / Sp-UMBS)</i>
EEB 450*	(5) Biology of Amphibians and Reptiles (W)
EEB 451*	(4) Biology of Mammals (W)
EEB 453*	(5) <i>Field Mammalogy (Su-BIOSTATION)</i>
EEB 457*	(5) <i>Algae of Freshwater Ecosystems (Su-BIOSTATION)</i>
EEB 459*	(4) Systematic Botany (F)
EEB 463*	(3) Neotropical Plant Families
EEB 468*	(4) Biology of Fungi
EEB 470	(3) Microbial Diversity
EEB 486*	(5) <i>Biology and Ecology of Fishes (Su-BIOSTATION)</i>
EEB 532*	(3) Birds of the World (W)
EEB 556*	(5) <i>Field Botany of Northern Michigan (Su-BIOSTATION)</i>

## **ADDITIONAL COURSES from other units that are currently approved for the EEB concentration.**

### **Biological Anthropology**

ANTHRBIO 365	Human Evolution
ANTHRBIO 368	Primate Social Behavior I

**Chemistry**            Any course numbered 230 or above

### **Complex Systems**

CMPLXSYS 501	Introduction of Complex Systems
CMPLXSYS 530	Computer Modeling of Complex Systems

### **Engineering**

BIOMEDE 231	Introduction of Biomechanics
ENSCEN 304	The Atmospheric and Oceanic Environment
AOSS 320	Earth System Evolution

### **Geological Sciences**

GEOSCI 418	Paleontology
GEOSCI 436	Field Studies in Stratigraphy, Paleontology, and Sedimentology
GEOSCI 437	Evolution of Vertebrates
GEOSCI 438	Evolution of the Primates

**Human Genetics**

HUMGEN 541 Gene Structure and Regulation

**Mathematics**

Courses numbered 200 or above

**Molecular Cell and Developmental Biology** All MCDB courses

**Program in the Environment**

ENVIRON 310 Toxicology: The Study of Environmental Chemicals and Disease

ENVIRON 311 Lakes, Rivers and Wetlands (also taught at UMBS)

ENVIRON 317 Conservation of Biological Diversity

ENVIRON 341 Environmental Science in the Rockies

ENVIRON 353 Tropical Conservation and Resource Management

ENVIRON 411 Fluvial Ecosystems

ENVIRON 416 Field Skills in Wildlife Behavior

ENVIRON 418 Biology and Management of Insects

ENVIRON 419 Agricultural/Forest Pest Management

ENVIRON 441 Remote Sensing of the Environment

ENVIRON 457 Plant Physiological Ecology

**Physics**

A course approved in advance by a concentration advisor

**Psychology**

PSYCH 435 Biological Rhythms and Behavior

PSYCH 438 Hormones and Behavior

PSYCH 530 Advanced Topics in Evolutionary Comparative Psychology

**School of Public Health**

EHS 311 Naturally Occurring Biological Toxins

EPID 543 Virus Diseases

EPID 560 Mechanisms of Bacterial Pathogenesis

**Statistics**

STATS 350 Introduction to Statistics and Data Analysis

STATS 400 Applied Statistical Methods