Ecology and Evolutionary Biology Minor Requirements

Why study Biology?
"Pursuing a career in biology can be immensely rewarding and exciting. Studying biology teaches us to ask questions, make observations, evaluate evidence, and solve problems. Biologists learn how living things work, how they interact with one another, and how they evolve. They may study cells under a microscope, insects in a rainforest, viruses that affect human beings, plants in a greenhouse, or lions in the African grasslands. Their work increases our understanding about the natural world in which we live and helps us address issues of personal well-being and worldwide concern, such as environmental depletion, threats to human health, and maintaining viable and abundant food supplies."
[from: http://www.aibs.org/careers]

Who should minor in Ecology and Evolutionary Biology?
The academic minor in Ecology and Evolutionary Biology trains biologists interested in the origins and complex interactions of the Earth’s biodiversity and ecosystems with both fundamental knowledge in these areas and the basic skills of scientific inquiry. The academic minor covers the material of the major to a lesser depth for students who wish to supplement a major in another area with additional biological expertise. The academic minor in Ecology and Evolutionary Biology is not recommended for students interested in graduate work in the biological sciences.

Exclusions: Students who elect an academic minor in Ecology and Evolutionary Biology may not elect the following majors: Biology, General Biology, Plant Biology, Ecology and Evolutionary Biology, Microbiology, or Biochemistry. They also may not elect an academic minor in Biology or Plant Biology.

How do I declare?
Students interested in any major or minor in the biological sciences are encouraged to meet with an advisor to discuss their academic plans as soon as possible! Students should have completed the biology introductory sequence with a 2.0 or better and be in good academic standing. Make an advising appointment online through the Biology website: www.lsa.umich.edu/biology.

What courses should I take first?
The biological science introductory sequence consists of: BIOLOGY 171, BIOLOGY 172 or 174, and BIOLOGY 173. (Students with an appropriate AP score receive credit for BIOLOGY 195, which is the equivalent of BIO 171 & 172/174, but does NOT grant credit for 173.) Students should take 171 or 172/174 first and then follow with the second lecture course and 173.

<table>
<thead>
<tr>
<th>BIOLOGY 171</th>
<th>BIOLOGY 172 or 174</th>
</tr>
</thead>
<tbody>
<tr>
<td>...focuses on ecology, biodiversity, and genetics and evolutionary processes. Students engage with biological hypotheses dealing with prominent current issues such as human evolutionary origins, emerging diseases, conservation biology, and global change.</td>
<td>(prerequisite: prior or concurrent credit for CHEM 130) ...focuses on how cells, organs, and organisms work. (174 covers the same material as 172 but is geared toward students who prefer a more problem-solving approach to understand biology, rather than a more traditional lecture-based course.)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>BIOLOGY 173</th>
</tr>
</thead>
<tbody>
<tr>
<td>(prerequisite = BIOLOGY 171, 172, 174, or 195) ...is the accompanying lab component to the introductory sequence. The course provides an integrated introduction to experimental biology. Topics focus on biochemistry, molecular genetics, evolution, and ecology.</td>
</tr>
</tbody>
</table>

Can I transfer courses from another institution?
The Program in Biology will review classes taken at other institutions to determine equivalency to University of Michigan Biology, EEB, and MCDB courses. If an external class is determined to be equivalent to a U-M course, it can be posted to your transcript as the U-M Biology, EEB, or MCDB course (with a "T") when you successfully complete the course and the transfer steps listed on the Biology website: www.lsa.umich.edu/biology/transfercredit. [Note: You are welcome to request review of a course before you take it. You will need to provide a detailed syllabus, so you must obtain one from the instructor in advance.] At least 10 of the 15 credits required for a minor must be taken in-residence.

EEB Minor Updated: 2/8/16 lcc
See the LSA website for specific policies related to minors:
http://www.lsa.umich.edu/students/academicsrequirements/lsadegreesrequirements/minors.

ECOLOGY & EVOLUTIONARY BIOLOGY ELECTIVES

COURSES CURRENTLY APPROVED to fulfill the BIODIVERSITY REQUIREMENT

BIO 207* Introductory Microbiology                  EEB 443* Biology of Insects at UMBS
BIO 230* Introduction to Plant Biology             EEB 450* Biology of Amphibians and Reptiles
BIO 252* Vertebrate Evolution and Diversity        EEB 451* Biology of Mammals
BIO 255* Plant Diversity                           EEB 453* Field Mammalogy (UMBS)
BIO 256 Animals Functioning in Environments        EEB 457* Algae of Freshwater Ecosystems (UMBS)
BIO 288* Animal Diversity                          EEB 459* Systematic Botany
EEB 330* Biology of Birds (UMBS)                   EEB 463* Neotropical Plant Families
EEB 341* Parasitology                              EEB 468* Biology of Fungi
EEB 420 Plant Evolution                            EEB 470 Microbial Diversity
EEB 431* Biology of Animal Parasites (UMBS)        EEB 486* Biology and Ecology of Fishes (UMBS)
EEB 433* Ornithology                               EEB 556* Field Botany of Northern Michigan (UMBS)
EEB 436* Woody Plants I: Biology and Identification
EEB 440 Biology of Fishes                          *also satisfies lab req.
EEB 442* Biology of Insects

ECOLOGY AND EVOLUTIONARY BIOLOGY MINOR REQUIREMENTS

ECOLOGY AND EVOLUTIONARY BIOLOGY MINOR PREREQUISITES:

Introductory Biology Sequence:                  TERM: COURSE: GRADE:

☐ Choose Sequence A or B:
A: BIO 171, 172 or 174, & 173
B: BIO 195 (AP) & 173

ECOLOGY AND EVOLUTIONARY BIOLOGY MINOR: Courses totaling at least 15 credits, distributed as follows:

Core Courses: Select at least two of the three courses listed.
(Additional courses taken in this category will fulfill the appropriate elective category below.)

☐ Ecology: BIO 281 or EEB 381*
☐ Genetics: BIO 305
☐ Evolution: EEB 390, 391, or 392*

Laboratory Course

☐ Choose one laboratory course in BIOLOGY, EEB, or MCDB at the 200-level or higher. EEB or MCDB 300 or 400 (Independent Study), elected for a minimum of 3 credits in a single term, may be used to fulfill this requirement. (Lab courses are marked with an asterisk (*) above.)

Note that UMBS (U-M Biological Station) courses count as laboratory courses.

Biodiversity Course

☐ Choose one course from the list of currently approved courses (above).

Total Units and GPA Requirement for EEB Minor

☐ Minimum 15 cr. in Minor
Choose additional EEB courses at the 200-level or higher (except BIO 241, 262, EEB 301, EEB 302, EEB 800) and approved by an EEB advisor to reach 15 total credits. A maximum of 3 credits of independent research (EEB 300/400) may be counted toward the minor.

☐ Minimum 2.0 GPA in Minor
(GPA is calculated from all mandatory prerequisites, all courses used for minor requirements, and all courses in MCDB, EEB, and BIOLOGY.)