



COURSE INFO

Course Subject, Number and Title

Botany/Envir St/Zoology 260: Introductory Ecology

Credits

3 credits

Canvas Course URL

<https://canvas.wisc.edu/courses/89202>

Course Designations and Attributes

Breadth - Biological Science. Counts toward the Natural Science requirement

Level - Elementary

L&S Credit - Counts as Liberal Arts and Science credit in L&S

Meeting Time and Location

MWF 2:25-3:15, Noland Hall 132

Instructional Mode

Face-to-face.

Credit Hour Definition

Traditional Carnegie Definition – Three 50-minute sessions of classroom or direct faculty/instructor instruction and a minimum of two hours of out of class student work each week over approximately 15 weeks.

INSTRUCTORS AND TEACHING ASSISTANTS

Instructor Title and Name

Dr. Cooper Rosin

Instructor Availability

MW (appointment preferred)

Noland Hall 507

Instructor Email

crosin@wisc.edu

Course Syllabus: Introductory Ecology, Spring 2018

Teaching Assistant

Tyler Hoecker

TA Office Hours

Monday 8:45-9:45am and Tuesday 3:00-4:00pm

Appointments can be made by email for other times if necessary, and are encouraged for posted hours.

Birge Hall 431

TA Email

hoecker@wisc.edu

Optional Discussion Section

Tyler will lead the optional discussions on Tuesdays from 4:35pm-5:25pm in Noland Hall 168.

Registration is not necessary, but please do register if you plan to attend, so we have an estimate of numbers. The discussions have two purposes: 1) to provide a venue for you to ask questions about the material covered in lectures and in the readings, and 2) to allow you to let us know what you do and do not understand, and how we can explain things better. During the discussions, you can make suggestions and provide input into the course.

OFFICIAL COURSE DESCRIPTION

Course Description

For non-biology students: the relationships of organisms and the environment. Population dynamics and community organization, human-environment relationships, action programs.

Requisites

Open to Freshmen. Does not count toward Botany or Zoology major.

LEARNING OUTCOMES

Course Learning Outcomes

This course will introduce you to a broad range of ecological and evolutionary ideas. The choice of topics is based on three criteria: (1) Is the topic so basic to ecology that any course in ecology must include it? (2) Is the topic important for understanding current environmental issues? and (3) Is the topic particularly interesting?

By the end of the course, you should have a better appreciation for the complexity of ecosystems and the role that evolution has played in producing the biological diversity around us. Humans are causing many changes throughout the world, which present many challenges for society. Almost every decision you make throughout your life, whether it be the foods you choose to buy or where you choose to live, has an ecological consequence. One aim in this course is not to convince you that there are any simple solutions to environmental problems, or even that we can agree on what the problems are. Instead, the course will help you build the tools to judge the science of ecology, and give you basic information for making future decisions.

ASSESSMENTS AND GRADING

There will be 3 in-class exams (one at the end of each of the first three units), and one cumulative final exam (covering all material). Each of the three in-class exams will focus primarily (but not exclusively) on material since the previous in-class exam. The exams are not equally weighted, partly because the amount of material covered differs, and partly because the first exam is always the hardest to prepare for given uncertain expectations. The value of each exam is as follows:

Exam 1: 20%
Exam 2: 25%
Exam 3: 25%
Final Exam: 30%

Final grades will be determined by either an absolute scale or a curve. The absolute scale is: A = 93%-100%, AB = 88%-92%, B = 83%-87%, BC = 78%-82%, C = 70%-77%, D = 60%-69%, and F < 60%. Percentages will be rounded to the nearest whole percent. If this absolute scale is too severe, we reserve the right to curve the grades up (i.e., give higher grades) so the average is about a B.

REQUIRED TEXTS

The course doesn't have a textbook. Instead, we've assigned three smaller books for required reading (all three are inexpensive, and can easily be found used online). The readings will discuss some of the topics covered in class, but from different perspectives. Much of the information in lectures will not be in the readings, and lots of information in the readings will not appear directly in lecture. For exams, we will assume that you have read the texts moderately carefully (and some questions will come directly from the content they present).

Wilson, E. O. 1992. The Diversity of Life. Belknap Press (hardback), W. W. Norton (paperback). [Pages 1-211 required, pages 215-351 optional]

Quammen, David. 1998. The Flight of the Iguana. Touchstone: Simon & Schuster.

Stolzenburg, William. 2008. Where the Wild Things Were: Life, Death, and Ecological Wreckage in a Land of Vanishing Predators. Bloomsbury.

In addition to the above required readings, we will often provide individual chapters or sections from relevant textbooks (uploaded to the Canvas course site) to expand on topics covered in lecture. These readings will be optional (and no exam questions will be taken from them if not also covered in lecture), but will provide additional background on important topics.

Course Syllabus: Introductory Ecology, Spring 2018

IMPORTANT DATES

Friday, February 16: Exam 1
Friday, March 16: Exam 2
Week of March 26: Spring Break (no class)
Friday, April 20: Exam 3
Sunday, May 6: Cumulative Final Exam (5:05pm)

COURSE SCHEDULE

Books assigned to each unit should be read at your own pace, with completion by the end of the unit for which they are assigned.

Unit 1: Topic: Evolution, biodiversity, and life on Earth

Book: The Diversity of Life [pages 1-211 only]

Week 1 (beginning Wed. 1/24): Course introduction: Why study ecology?

Week 2 (1/29): Evolution by natural selection, speciation, and adaptation

Week 3 (2/5): Biodiversity (from gene to species to ecosystem)

Week 4 (2/12): Biomes and biogeography

Exam 1: Friday, 2/16 (in class)

Unit 2: Topic: Populations, communities, and ecosystems

Book: Flight of the Iguana

Week 5 (2/19): Population growth, predation, and food webs

Week 6 (2/26): Competition (inter- and intraspecific) and symbiosis (mutualism, commensalism, and parasitism)

Week 7 (3/5): Plant-animal interactions (pollination, seed dispersal, seed predation, and herbivory)

Week 8 (3/12): Ecological succession, ecological integrity, and ecosystem ecology

Exam 2: Friday, 3/16 (in class)

Unit 3: Topic: The era of the Anthropocene

Book: Where the Wild Things Were

[Optional reading: pages 215-351 in The Diversity of Life]

Week 9 (3/19): Human population growth and increasing ecological influence

Week 10 (3/26): Spring Break (no class)

Week 11 (4/2): Global climate change

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Week 12 (4/9): Habitat fragmentation and landscape change, invasive species

Week 13 (4/16): Overexploitation and trophic downgrading

Exam 3: Friday 4/20 (in class)

Unit 4: Topic: Ecosystem management

(No required readings)

Week 14 (4/23): Ecosystem management, ecological restoration, and rewilding

Week 15 (4/30): Other strategies for conserving biodiversity and ecological integrity

Cumulative Final Exam: Sunday 5/6 at 5:05pm