

Introductory Ecology Fall 2015

Instructor: Dr. Adrian Treves (atreves@wisc.edu)

30A Science Hall, 550 North Park St. • Tel 608-890-1450 • Office Hours: Thursdays 10-11 a.m.,
Preferred contact method: email

TAs: Vera Pfeiffer(vpfeiffer@wisc.edu)

Office hours: Room 88 Science Hall
By appointment (typical office hours: 9:50am-1:30pm Fridays)
Preferred contact method: email

Josh Wolf (jwolf3@wisc.edu)

Office hours: Room 175A Science Hall
Thursdays 11am-12pm, Friday 10-11am and by appointment
Preferred contact method: email

Lectures: TR 850-940 a.m. in Social Science 6210

(view lecture hall at <https://www2.fpm.wisc.edu/support/SocialScience/6210.htm>)

Discussion sections: Sep. 9 – Dec. 4 (times and locations):

- 301 W 8:50 with Josh (175 Science)
- 302 W 9:55 with Josh (175 Science)
- 303 W 11:00 (FIG) with Vera (175 Science)
- 304 F 8:50 with Vera (175 Science)
- 305 F 2:25 with Vera (175 Science)
- 306 R 3:30 with Josh (B231 Van Vleck)
- 307 W 12:05 with Vera (Science 175)
- 308 R 2:25 with Josh (B231 Van Vleck)

If you would like to be considered for a change in discussion section, please be aware: (a) 003 is a FIGs section so no changes are allowed, and (b) it is your responsibility to find someone willing to switch with you who is enrolled in the discussion section you would like.

Grading: The course will be graded over 500 points divided into the following items:

20% = 1st Exam (100)

20% = 2nd Exam (100)

20% = 3rd Exam (100)

20% = 5 study guide assignments (25 points each, discard the lowest)

20% = Discussion attendance & participation (100). More than one failure to attend discussions or notify us of absences at least 24 hours before they occur will result in loss of participation points.

There is no final exam.

QUESTIONS ABOUT COURSE MECHANICS: If the syllabus does not answer your questions, please email your TA NOT the instructor. **QUESTIONS ABOUT COURSE CONTENT:** First consult readings or lectures on Learn@UW, then if questions remain you may email the instructor. In both cases, allow 48 hours for a response.

Required Readings (see Schedule below for due dates):

The Balance of Nature: Ecology's Enduring Myth, J. Kricher (2009) Princeton University Press.

Free online textbook at

<http://www.wisc.eblib.com.ezproxy.library.wisc.edu/patron/FullRecord.aspx?p=457846>

Additional readings provided as PDFs on Learn@UW.

Students whose religious observances conflict with a mandatory assignment are asked to inform their TA as soon as possible and no later than 24 hours prior to the due date of the assignment, including attendance in Discussion.

Course description and expectations: This course will provide students with a foundation in ecology. After completing this course students will be ready for more advanced work in ecology or ready to apply ecological principles to current public policy debates as consumers, voters, and professionals. The course is aimed at first- and second-year students who are considering a natural science major and at older students majoring in other fields who want experience with an interdisciplinary course in the natural sciences.

The primary goal of this course is to place ecological thought in an interdisciplinary framework that encompasses the ecology of humans as another unique species evolving and interacting within Earth's ecosystems. We focus on the biosphere (i.e., only superficial treatment of the ecology of water, energy, chemical cycling, inorganic substrates, etc.), and introduce major branches of ecology from community ecology and ecosystems to population ecology to behavioral ecology. In particular, we will compare and contrast international ecosystems in cross-cultural and biophysical perspectives including food sustainability issues worldwide. We use wolf recovery in Wisconsin as a lens to examine conservation conflicts affecting ecosystems and endangered species worldwide.

To integrate human behavior and ecology fully for an understanding of ecosystem function and environmental change, we will compare Wisconsin and U.S. ecosystems to ecosystems in several other countries using case studies and discussion sessions. This course has the following desired learning outcomes:

- Develop a conceptual framework for understanding ecosystem process and pattern with humans integral to it.
- Enhance student understanding of how human and nonhuman ecosystem elements interact.
- Reveal how ecological science can help resolve modern environmental problems.
- Expose students to new ideas arising from international and interdisciplinary perspectives.
- Increase interest in environmental studies in ecology.

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Expectations: Instructors expect students will arrive on time for class. If you arrive late to lecture, enter in a non-disruptive manner please. Instructors expect all students will complete assignments by class start on the day listed in the syllabus. Assignments must be based on your own original, creative thinking (see 'Fair credit to other authors' warning below). Instructors expect students to notify ahead of time of late assignments except in the case of sudden illness (see below). Without such notification, assignments will lose 25% of their value immediately and 25% for each full day late. Appropriate reasons for late assignments include: medical emergency for self or immediate family (notify us before or during the midterm) or professional travel (this requires formal letter of explanation from the host or agenda showing student's name). Students can expect that instructors will make available all readings at least one week before they are due. You can expect graded assignments to be delivered no more than two weeks after submission (except midterm 3). You can expect instructors to arrive on time for class unless we have given prior notice 24 hours beforehand. You may request an explicit report explaining why you lost credit on any graded work. If you request a re-grade, the entire assignment will be re-graded, which may result in a loss of points.

Fair credit to other authors: Plagiarism is the copying of someone else's work--whether it is your classmate or another author, whether it is written or spoken. Plagiarism can be avoided by combining ALL of the following steps:

- integrate information from multiple sources when you write or speak,
- write in your own words so the output is original and does not directly copy any other person's work,
- credit other authors explicitly when you quote them or repeat their original ideas, and ensure fair quotations are complete and not taken out of context. You may use another author's exact words if you fairly credit them.

To credit others in writing, consult your instructor or TAs for appropriate citation formats. Assignments with evidence of plagiarism will receive zero credit regardless of the accuracy of the work. Expect incidents of plagiarism to be reported to the Dean of Students.

Guidelines for discussion: Peer discussion of current research is an important learning tool and is a critical professional skill to develop. Therefore, our hope and goal is that the discussion component of the course will serve as an opportunity to explore and engage in the various themes of ecology. To accomplish this, TAs will facilitate, *not lead*, discussions. All opinions will be heard without interruption. There should be no signs of disrespect, whether verbal or nonverbal.

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Schedule of class meetings and assignments:**Section 1: Evolutionary ecology**

Assignment: Read Ch. 1 in Kricher and “Science Denialism Has Consequences” before first class period.

Sep 3 R: Introduction and overview of the course

Assignment: Read Chs. 9 and 10 in Kricher before next class period.

Sep 8 T: Lecture: Six million years of hominin ecology (hints on studying included in pdf)

Assignment: Read Chs. 2 and 3 in Kricher, then study pdf lecture “Evolutionary Ecology Part A” in Learn@UW before next class period.

Sep 10 R: **Continue filling in study guide #1** and begin video: Judgment Day: Intelligent Design on Trial <http://video.pbs.org/viralplayer/980040807?chapter=1>

Assignment: Finish video independently (see link above), then read Ch. 4 in Kricher, and read “Science-Based Artist Gives Celebrity Tortoise A Second Life”

Sep 15 T: Lecture: Evolutionary ecology Part B: Struggle for survival and the priority of reproduction

Assignment: Read Ch. 5 in Kricher, then study pdf lecture on “The history of ecological thought Part 1” before next class period.

Sep 17 R: Lecture: The history of ecological thought Part 2

Assignment: Read Ch. 6 in Kricher, then read “Family Tree of Dogs and Wolves...”, “How Dogs Read Our Moods”, and “Human-like social skills in dogs”, before next class period.

Sep 22 T: Lecture: Of wolves and dogs

Sep 24 R: Optional guest Lecture: Latin American wildlife and free-running dogs (Dr. Cristian Bonacic)

Assignment: Read Ch. 7 in Kricher and “Human-super-predators” before Sep. 29th.

Sep 29 T: Start study guide #2 and TBD

Assignment: Read Ch. 8 in Kricher for the exam.

Oct 1 R: No class. Extra office hours for small-group meetings to prepare for exam.

Oct 6 T: **Exam on Section 1**

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Section 2: People, predators, and biodiversity

Assignment: Review Ch. 6 and read Ch. 12 in Kricher, before next class period.

Oct 8 R: Lecture: Apex consumers, trophic cascades, and ecosystem degradation

Assignment: Read “Trophic Downgrading of Planet Earth” to cement information in prior lecture.

Oct 13 T: TBA

Assignment: Watch “Wolves I: Uneasy Coexistence Worldwide” <http://go.wisc.edu/f09631> and “Radioactive Wolves” <http://video.pbs.org/viralplayer/2157025070?chapter=1> before next class period.

Oct 15 R: Lecture: Wisconsin’s wolf recovery 1980–present

Oct 20 T: Lecture: Scandinavian carnivore management

Assignment: Read Ch. 13 in Kricher and “Crop pollination...” before next class period.

Oct 22 R: Lecture: Agroecology, people, and plants

Assignment Read “Breakfast of Biodiversity” and “Dirt” before next class period.

Oct 27 T: Lecture: Soils and food system sustainability

Assignment: Read Ch. 11 in Kricher, “Climate change driving brutal winter...?”, and start video “Can we feed a growing world...” but stop at 51 min:21 sec <http://go.wsic.edu//5ebt44> before next class period.

Oct 29 R: **Complete study guide #3** and lecture: Climate changes

Assignment: Read “The Revival of the Public Trust...”, “Joseph Sax, Who Pioneered Environmental Law...”, and “Youth Sue Obama Administration For Allowing Climate Change...” before next class period.

Nov 3 T: Lecture: The U.S. Public Trust Doctrine 1776–1970

Assignment: Read “Predators and the public trust” before next class period.

Nov 5 R: Lecture: Predators and the Public Trust 1971–present.

Assignment: Read “Only 30: A Portrait of the Endangered Species Act...” and “G.O.P. Assault on Environmental Laws” before next class period.

Nov 10 T: The U.S. Endangered Species Act 1973–present

Nov 12 R: **Complete study guide #4**

Nov 17 T: **Exam on Section 2**

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Section 3: Repairing the damage we've done and avoiding ecosystem collapse

Assignment: Follow self-guided, online tour of the Open Standards for the Practice of Conservation 3.0 at <http://cmp-openstandards.org/guidance/open-standards-self-paced-tutorial/> and finish video "Can we feed a growing world..." <http://go.wisc.edu/5ebt44> (last 45 mins.) before next class period.

Nov 19 R: Lecture on Conservation interventions (strategies)

Assignment: Read "Congress's attacks on science-based rules" before the next class period.

Nov 24 T: Begin study guide #5 and then begin "if a tree Falls" <http://go.wisc.edu/5cbn98> (stop at 9 min:29 sec)

Assignment: Independently complete "If a Tree Falls" <http://go.wisc.edu/5cbn98> before next class period.

Nov 26 R: No class. Thanksgiving

Assignment: Watch "Green Fire" <http://go.wisc.edu/2qr4g7> before next class period.

Dec 1 T: introduction to the theory of planned behavior

Dec 3 R: **Hand in study guide #5** and discuss different approaches to conservation interventions

Dec 8 T: No class. No discussion this week. Extra office hours for small-group meetings to prep for exam

Dec 10 R: **Exam on Section 3**

Dec 15 T: Optional session: Where to next? Environmental studies, sciences, and ecology @ UW with special guest Becky Ryan, Academic Programs Office of the Nelson Institute for Environmental Studies

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