

NREM 2013

Ecology of Natural Resources

Spring 2009 Syllabus

TR 9:00 – 10:15



Instructor: Dr. Tim O’Connell
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Course Objectives: My objective in this course is to promote basic ecological literacy through illustration of three main ideas: the distribution and diversity of life on earth, the interactions of organisms within their environments, and how an understanding of ecological principles is critical for effective management of natural resources.

What you will get out of this course: Though lecture, discussion, and presentation of visual media, you will gain a familiarity with classical ecological themes such as species richness and biodiversity; habitats, ecoregions, and biomes; energy transfer and pyramids of biomass; species interactions and niche concepts; nutrient cycling; survivorship, fecundity, and fitness; life tables and population growth modeling; and communities and landscapes. We will conclude the course by turning our attention to several current issues in natural resource management: invasive species, prescribed fire, global warming, and alternative energies. We will also spend some time reviewing critical thinking skills and the scientific method as we keep asking the question “How do we know this?” Finally, we will access original scientific literature to provide practice in obtaining, assimilating, and communicating ecological information.

Assessment of Learning Objectives: The learning objectives for the course include the ecological topics described under “course objectives” above, as well as development of skills in literature review, access of original literature, and written communications. Assessment of those learning objectives will be determined through assignments and examinations.

Learning Objective
Ecological knowledge
Literature review
Original literature access
Written communications

Assessment Form
In-class quizzes, in-class assignments, exams
Annotated bibliography
Take-home assignments
In-class and take-home assignments, exams

Desire2Learn: I will post ALL lecture notes, quiz and exam keys, reading and take-home assignment instructions, and other pertinent information on the course page on the Desire2Learn website. Because this is a new course for me, I will not always be able to post lecture notes well in advance of when I give a particular lecture. You should attend each class planning to take your own notes as well; I am offering my lecture notes to you as a supplement to your own notes.

Textbook: There is no required textbook for this course. I will occasionally assign specific readings. These will be announced in lecture and posted to D2L.

Course materials: Please have on hand your own 3X5" index cards in class, every day. On most days, I plan to give pop quiz questions for you to answer on these cards.

Grading: Grades will be determined as a percentage of points you earn out of 400 possible. There will be two in-class exams during the semester and a semi-cumulative final exam.

Here is the total point break-out:

Activity/Assignment	Points	Percent of grade	Cumulative percent
In-class quizzes	30	7.5	7.5
Annotated bibliography	30	7.5	15
In-class assignments	20	5	20
Take-home assignments	20	5	25
exam 1	100	25	50
exam 2	100	25	75
final exam	100	25	100
TOTAL COURSE POINTS	400	100%	100%

Here is how your grade will be determined:

Letter Grade	Points earned (percentage)
A	362-400 (91-100%)
B	322-361 (81-90%)
C	282-321 (71-80%)
D	242-281 (61-70%)
F	< 242 (< 61%)
F!	0 (0%) for academic dishonesty

No one should ever have to ask me “how well do I need to do on the final to get an A” because it’s right there for you in black and white. If you earn at least 362 points, you will get an A.

Special needs: If you have a disability and need special accommodations of any nature, I will work with you and the Office of Disabled Student Services (326 Student Union) to provide reasonable accommodations so that you have a fair opportunity to perform successfully in this class. Please let me know about your disability and the accommodations you desire by the end of the second week of class.

Unforeseen problems: While I expect you to attend every class meeting (otherwise why are you here?), I will not take attendance. If you are sick and need to miss a class, you do not need to contact me in advance. (In fact, it is very likely that I do *not* want to hear a litany of your most disgusting symptoms.) All notes and readings will be posted to the course's Desire2Learn page, so you will have access to everything we cover. Please do keep yourself and your germs at home when are sick, and don't worry about what you will have missed.

There are three exams, three take-home assignments, two in-class exercises, and numerous pop quizzes in class this semester. If you need to miss . . .

a pop quiz: Do not worry about it because each one is worth a tiny fraction of your grade in the course. I will assign many more quiz points than the maximum of 30 points allowable I will actually count. You may also bank extra credit from the amount of points you earn over 30 to make up for a missed in-class assignment.

an in-class assignment: We will have two unannounced in-class assignments worth 10 points each. If you happen to be absent on a day when we are doing one of these assignments, you may use extra quiz points you have earned to make up for the loss.

a take-home assignment: There are three written assignments due on Feb 5, Mar 12, and Apr 21, respectively. These are due IN CLASS on those days, and only hard copies will be accepted – you cannot email them just to get them in on time. If you must turn an assignment in late, I will accept it but you will be penalized **5 points/day** beginning at 10:15 am on the day the assignment was due.

Exam 1 or Exam 2: If you need to miss an exam for any reason, you are automatically covered by “disaster insurance.” I will substitute the grade you earn on the Final Exam for the grade of the exam you have missed. If, for example, you earn a 78 on the first exam, miss the second exam, and score an 83 on the final, I will record 78, 83, and 83 as your exam grades for the course. This applies no matter what, no questions asked.

the Final Exam: This is a bit trickier. If you need to miss the Final Exam, then the default solution is that I assign you a grade of “Incomplete” for the course in that semester. We then work out between ourselves how best to have you fulfill your remaining obligation to the course, which will most likely take the form of a make-up exam administered at some point in the subsequent year.

Academic Dishonesty: The University is cracking down big-time on all matters of academic dishonesty. Any student engaged in plagiarism or other types of cheating will receive (at a minimum) an F for the particular assignment. Students who fail a course due to academic dishonesty will receive the dreaded “eff-shriek”, and the literal symbol “F!” will appear on the transcript. You should read and understand the OSU policies on academic dishonesty. I am actually in violation if I do not “prosecute” cases of academic dishonesty. I’m a busy man; please give no reason to do this.

When to seek help: Neither Jason nor I will schedule regular office hours: Just set up a time (preferably by email) if you want to visit with one or both of us about something. If you do poorly on an exam for which you really felt prepared, then that is an excellent time to come and speak with your instructor. Do not accept poor grades as your lot in life – you’re too good for that! Instead, when you have some difficulty, come and see me for a few minutes and we’ll try to get you back on track.

Calendar of events for NREM 2013, Spring 2009:

day	date	topic/activity
Tu	1/13	Course orientation. Ecology and natural resources.
Th	1/15	How do we know what we know? Critical thinking and science.
Tu	1/20	Unit 1 – diversity and distribution of life on earth.
Th	1/22	Planet Earth: “Shallow Seas”
Tu	1/27	Water, organic molecules, and energy
Th	1/29	The history of life on earth
Tu	2/3	Planet Earth: “Jungles”
Th	2/5	Continents, biomes, and biogeography [take-home 1 due]
Tu	2/10	Oklahoma ecoregions
Th	2/12	Planet Earth: “Fresh Water”
Tu	2/17	EXAM 1 – 100 pts.
Th	2/19	Unit 2 – Energy and nutrients
Tu	2/24	Thermodynamics and sources of energy
Th	2/26	Oxidation/reduction; photosynthesis/respiration
Tu	3/3	Planet Earth: “Great Plains”
Th	3/5	How to make a protein and why it matters
Tu	3/10	Nitrogen, carbon, and water cycles
Th	3/12	Planet Earth: “Seasonal Forests” [annotated bibliography due]
<i>Tu</i>	<i>3/17</i>	<i>SPRING BREAK!!!</i>
<i>Th</i>	<i>3/19</i>	<i>SPRING BREAK!!!</i>
Tu	3/24	Unit 3 – Natural selection and evolutionary process
Th	3/26	Fitness 1: autecology, growth, and optimal foraging
Tu	3/31	EXAM 2 – 100 pts
Th	4/2	Fitness 2: survivorship, fecundity, and populations
Tu	4/7	Fitness 3: predation, competition, and communities
<i>Th</i>	<i>4/9</i>	<i>No Class – AFO/WOS meeting</i>
Tu	4/14	Unit 4 – Current topics in natural resources: fresh water
Th	4/16	Current topics in natural resources: invasive species
Tu	4/21	Current topics in natural resources: prescribed fire [take-home 2 due]
Th	4/23	Current topics in natural resources: global warming
Th	4/28	Current topics in natural resources: alternative energies
Tu	4/30	Planet Earth: “Into the Wilderness”

FINAL EXAM, 100 pts. – Thursday, May 7th in 107 Ag Hall (our regular meeting room) from **8:00 – 9:50 am.**

“What is the extinction of the condor to a child who has never known a wren?”

Robert Michael Pyle on *the extinction of experience*