

Syllabus

Course content and goals

Ecology is the scientific study of the relationships between living organisms and their environment, including their relationships with other living organisms. The primary goal of this course is to provide you with an introduction to all of the major areas in the field of ecology. Fundamental concepts, central questions, and essential knowledge of each area will be emphasized, but there will be many examples that will serve as mini-case studies. Some places where our knowledge is incomplete (the 'cutting edge') and some current 'hot topics' in the field of ecology will be discussed.

Each of the different areas of ecology has potential applications to one or more environmental issues. Relevant applications of ecology will appear as appropriate throughout the course, but the focus of this course is upon ecology as a scientific discipline, not upon environmental issues.

Professor: Dr. N. Fowler, Section of Integrative Biology
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Teaching assistant: Ms. Whitney Behr
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office: BIO 119
office hours: F 10:00am - 12:00 noon and by appointment

Lecture

- WEL 2.110, TTh 9:30-11:00 am.

Attendance, including timely arrival, at all lectures is required.

I will try to post a pdf of the powerpoint file of a lecture before that lecture, on Canvas; if it is not available before the lecture, it will be available soon afterwards. The powerpoint slides will provide an outline of the lecture, spelling of technical words, diagrams, illustrations, etc. They will not contain all the lecture material, or even most of it, so viewing the powerpoint files cannot replace lecture attendance.

Discussion sections

- 49685 Monday, 9:00 a.m.-10:00 a.m. WAG 208
- 49690 Monday 10:00 a.m.-11:00 a.m. GDC 2.402
- 49695 Monday 2:00 p.m.-3:00 p.m. MEZ 2.102

- 49700 Monday 3:00 p.m.-4:00 p.m. **MOVED TO MEZ 1.208**

WAG = Waggener Hall, south of Welch along Speedway

GDC = Gates Dell Complex (computer science building), across Speedway from Welch

MEZ = Mezes Hall, middle building of the east “six-pack”

CLA = Liberal Arts Building, on the East Mall opposite Geology

Attendance, including timely arrival, at all meetings of the discussion section for which you are registered is required and will be part of your grade.

Assignments are due at the beginning of discussion sections. Assignments turned in after the discussion section begins get the same lateness penalty as assignments turned in a day late, so never be late to a discussion section (or skip it) to finish an assignment.

Appointments with Dr. Fowler or with the TA

Experience has shown that making an individual appointment at a time best for both works much better than setting aside more and more office hours that, no matter how extensive, many students still cannot attend. So please do not hesitate to call or email to make an appointment!

Please do not misinterpret Dr. Fowler’s or Whitney’s shut office doors as meaning that we do not want to see our own students. In particular, Dr. Fowler’s office faces the main door of a building near the edge of campus. So she often has to leave the door shut to avoid a steady stream of interruptions (delivery people, lost people, people who assume I am the receptionist for ‘biology’, etc., etc.).

If you make an appointment with either of us, please keep it or cancel it in a timely fashion.

Email: You may also send us questions via email. We will do our best to answer these within one or two weekdays (that’s Monday or Tuesday for a question sent Friday). Emails should be addressed either to “Dr. Fowler” or to “Whitney” and should be in complete sentences, spell-checked, and proof-read before sending.

Textbook

Bowman, W. D., S. D. Hacker, and M. L. Cain. 2017. Ecology, 4th edition. Sinauer Associates, Sunderland, MA.

You are responsible for learning both the material presented in the lectures and the material in the assigned readings. You will find that there is a substantial, but not complete, overlap between these two sources of information.

Except for the first lecture, you are expected to have read the assigned chapters before the class with which they are listed in the schedule.

Index cards

Bring white 4"x6" index cards to all classes. If you write neatly enough without lines, the cards need not be lined. Short quizzes given during the lectures must be answered using these cards. Quiz answers written on other sizes or kinds of paper will not be accepted.

Tests

- There will be three exams, on the dates shown below. Makeup exams will only be available if you have a verified medical or similarly valid excuse, and must be taken in a timely fashion. While the exams will not be explicitly cumulative, be aware that the course material is, by its very nature, cumulative, and therefore answers to questions on later exam may require knowledge of material tested on an earlier exam. Each exam will be a mix of short answers, longer essays, definitions, perhaps some multiple choice questions, perhaps some matching questions, and likely some problems to be solved. While most questions will be on material explicitly covered in lectures and/or the textbook, some questions may ask you to apply what you have learned to a new situation or otherwise to take it further than we did in class.

- There will be short quizzes before most lectures. There will be no make-ups for these. Instead the lowest quiz grade will be dropped.

Grading

- 25% each exam; total = 75% of your grade.
- 25% for quizzes, assignments, attendance at lectures and discussion sections, and discussion section participation.
- Note that the final 25% includes your discussion section grade. Most discussion sections will have worksheets or other graded assignments.

- All apparent grading errors, disputes, and so forth must be submitted in writing to Dr. Fowler within one week of the date when the exam or quiz is returned and the assignment or quiz grade is posted. If you are disputing the scoring of an answer, you must explain in writing either why you believe that your answer is the same as the answer in the key, or why you believe that your answer is correct even though it is not the same answer as the answer in the key. In the case of suspected point addition errors, indicate exactly where the suspected addition error is.

- Plus/minus grading will be used for the course grade.

Important university dates

Monday, September 4: Labor Day, no classes

Tuesday, September 5: end of official drop/add period; last day to drop without approval

Friday, September 15: last day to add a class; last day to drop with refund

Tuesday, November 7: last day to drop a class (except in urgent and substantiated non-academic circumstances)

Wednesday - Saturday, November 22-25: Thanksgiving break; no classes

University policies

Religious holidays: An absence for this reason may be excused if you notify Dr. Fowler at least 14 days in advance. For a religious holiday that falls within the first 14 days of the semester, notification at the beginning of the semester is sufficient.

Academic dishonesty: Scholastic dishonesty on any exam or assignment will result in a failing grade (F) which you may not drop, and will be reported to the Dean of Students. The University Code of Conduct says "The core values of the University of Texas at Austin are learning, discovery, freedom, leadership, individual opportunity, and responsibility. Each member of the University is expected to uphold these values through integrity, honesty, trust, fairness, and respect toward peers and community."

Students with disabilities: The University of Texas at Austin provides upon request appropriate academic accommodations for qualified students with disabilities. For more information contact Services for Students with Disabilities (SSD), Student Services Building Suite 4.206, email ssd@austin.utexas.edu, phone 512-471-6259, web page <http://diversity.utexas.edu/disability/>. Please let Dr. Fowler know as soon as possible if you will be needing such accommodations, so she can work with you and the SSD office to make sure you get them.

Emergencies and crises: This is not, as far as I know, a formal university policy, but in case of genuine emergencies and crises, especially medical ones, I will work with you to make arrangements and accommodations. I don't ever want anyone lying in a hospital bed worrying about their ecology class! Documentation may be requested.

Classroom rules

- Except for students with a note from SSD verifying necessity, and for certain discussion section activities, students will not be permitted to use computers in lectures or discussion sections. Human nature is what it is, and the temptation to surf the web, look at email, etc. is just too great!
- For the same reason, cellphones, tablets, and ALL other electronic gadgets must be turned off and put away while in lecture or discussion section. There are only two exceptions to this rule: Students with a note from SSD may use whatever gadgets SSD recommends. And, if you ask for and get permission before class from Dr. Fowler, you may tape a lecture if doing so does not distract other students.
- Classroom rules include all the usual expectations of politeness to the instructors and other

students, such as no private conversations during a lecture.

While this is a biology class, not a class in ethics, policy, or economics, some of the material we will be discussing has such aspects. Differing opinions on such topics as prevention of animal cruelty versus preservation of endangered species are welcomed, and no student will be graded (up or down) on his or her opinion on such matters. However, opinions must be expressed politely and no *ad hominem* comments will be permitted. (*Ad hominem* argument: one that addresses another person's personal traits rather than the subject matter.)

Absence policies

- missing a lecture and quiz

There are no make-up quizzes. Your lowest quiz grade will be dropped. If you miss a lecture, you are strongly encouraged to get a copy of the lecture notes from someone in the class, or even better, from two different people. The powerpoints and textbook by themselves are not sufficient.

- missing a discussion section

- permitted absences from discussion sections

- These are limited to grad school and med school interviews that you cannot schedule at any other time, presenting a talk at a scientific meeting that cannot be otherwise scheduled, and certain other time-specific professional activities closely related to your education as a biologist. There are no permitted absences for job training, working at a job, or attending a review class.

- Forward a copy of the invitation to Dr. Fowler via email, or bring a paper copy to class or to her office hours at least one week beforehand to get permission to miss your discussion section.

- You are expected to turn in the written work of the discussion section you missed, which will be graded.

- conflicts with scheduled field trips in other classes

- There have been semesters in which one of the biology field courses scheduled a weekend field trip that conflicted with Bio 373 discussion sections. This may happen again.

- Let Dr. Fowler know as soon as possible (i.e., as soon as you have the schedule for that class). She will work with the other professor to resolve the conflict.

- non-permitted absences from discussion sections

- Depending on the topic, you may, or may not, be allowed to do the written assignment on your own and turn it in the written work for partial credit.

- missing an exam

- Rather than create a whole set of makeup exams, the same makeup will be given to anyone who misses a particular test. It will consist of a few (2-4) long essays that cover the contents of the unit. This allows different students can take the same makeup exam on different days.

- Written documentation (email or paper) of the illness or the family emergency that caused the absence is required.

- extended absences due to illness

If you develop an illness that requires you to miss a significant number of classes and discussion sections, get written (email or paper) documentation from your doctor to give to Dr. Fowler, and see her as soon as possible. Intermittent illnesses like MS can sometimes fall into this category, as well long-lasting single episodes of an illness. Drops are available for serious, substantiated, non-academic issues from the Dean's office throughout the semester. Students who would prefer not to drop the course can work with Dr. Fowler to develop a plan of work.

- a final note about absences

- Please don't worry too much if you miss a single day due a minor illness or to a personal activity like a family event. Your grade will be composed of many different numbers - many quizzes, many discussion sections - and a single 0 is not likely to have a huge effect on it. Also remember that the lowest quiz grade will be dropped, and some partial credit may be possible for a missed discussion (see above).

Schedule

date	lecture topic	assigned chapter(s) in Bowman	discussion section activity	due in discussion section (at the <u>B</u> eginning or the <u>E</u> nd of class, as noted)
Th 31 Aug	introduction, basic concepts	1		
M 4 Sept	<i>no class: Labor Day</i>		<i>no disc sections</i>	
T 5 Aug	physical environment	2		
Th 7 Sept	climate			
M 11 Sept			climate graphs	<i>bring computer to disc section</i>
T 12 Sept	energy	20 & 21		
Th 14 Sept	energy			
M 18 Sept			energy, cycles	B: climate graphs E. energy worksheet
T 19 Sept	cycles	22 & 25		
Th 21 Sept	cycles			
M 25 Sept			cycles	E: cycles worksheets
T 26 Sept	biomes	3		
Th 28 Sept	biomes			
M 2 Oct			biomes	E. biomes worksheet
T 3 Oct	exam 1			
Th 5 Oct	physiological ecology	4 & 5		
M 9 Oct			physiological ecology	E: physiological ecology worksheet
T 10 Oct	physiological ecology			
Th 12 Oct	population spatial structure	9		
M 16 Oct			mark-recapture; math review	E: mark-recapture worksheet

T 17 Oct	population dynamics	10 & 11		
Th 19 Oct	population dynamics			
M 23 Oct			population dynamics	B: math review worksheet
T 24 Oct	population stage structure			
Th 26 Oct	life histories	7		
M 30 Oct			stage structure	B: population worksheet
T 31 Oct	predation	12 & 13, review 21		
Th 2 Nov	exam 2			
M 6 Nov			document reliability	B: stage structure worksheet B: groups, projects identified
T 7 Nov	competition	14		
Th 9 Nov	mutualisms	15		
M 13 Nov			work on project	E: group plan & outline
T 14 Nov	community structure	16		
Th 16 Nov	community dynamics	17 & 18		
M 20 Nov			food webs	E: food webs worksheet
T 21 Nov	community dynamics	19		
Th 23 Nov	<i>no class: Thanksgiving</i>			
M 27 Nov			work on project	B: individual paper summary
T 28 Nov	community dynamics			
Th 30 Nov	biodiversity	23		
M 4 Dec			presentations	B: group presentation
T 5 Dec	conservation	24		
Th 7 Dec	exam 3			
M 11 Dec			<i>no disc sections</i>	