

**Evolution & Ecology 101 -- Introduction to Ecology
Lecture Schedule -- Schreiber
Winter 2013**

	<u>Date</u>	<u>Lecture</u>	Readings from Cain et al's <u>Ecology: 2nd ed.</u>
	Part I	Ecology of individuals	
1	Jan. 8	What is ecology?	Ch. 1
2	Jan. 10	The physical environment	Ch. 2, 3
3	Jan. 15	Physiological ecology	Ch. 4
4	Jan. 17	Organism form and function	Haldane reading "On being the right size"
5	Jan. 22	Resource acquisition	Ch. 5
	Part II	Populations and interactions	
6	Jan. 24	Life histories & population growth I	Ch. 7, 9.1-9.3
*	Jan. 29	MIDTERM	Covers lectures 1-6, sections 1-3
8	Jan. 31	Life histories & population growth II	Ch. 9.4-9.5, 10.1-10.3
9	Feb. 5	Predator-prey interactions I	Ch. 12
10	Feb. 7	Predator-prey interactions II	Ch. 13
11	Feb. 12	Competition I	Ch. 11
12	Feb. 14	Competition II	Ch. 11
13	Feb. 19	Positive interactions	Ch. 14
14	Feb. 21	Spatial ecology	Ch. 8, 10.4
*	Feb 26	MIDTERM	Covers lectures 8-14, sections 4-7
	Part III	Communities and biological diversity	
15	Feb. 28	Food webs and trophic interactions	Ch. 15, 20.3-20.4
16	Mar. 5	Succession and disturbance	Ch. 16
17	Mar. 7	Biodiversity I	Ch. 18
18	Mar. 12	Biodiversity II	Ch. 17
19	Mar. 14	Global ecology and climate change	Ch. 24
*	Mar. 22	FINAL EXAM (6:00-8:00 PM)	

Instructor:

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Teaching Assistants:

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Rooms: Lecture: Wellman 2; Tues/Thurs, 9:00 – 10:20 am

Section: Sections are held in Storer 1342 (Julia Wed 8,9,10), Hart 1128 (Nick Wed 9), Wellman 25 (Nick 10), Bainer 1134 (Julia 1:10), Hutchison 102 (Nick 1:10), Wickson 1038 (Nick 4:10).

Office hours & room:

Sebastian Schreiber:	Thurs 10:30-11:30 in 2320H Storer Hall
Nicholas Fabina:	Wed 11:00-12:00 in 2342 Storer Hall
Julia Moore:	Tues 2:30-3:30 in 2346 Storer Hall

The number of office hours will be increased during the week before each exam.

Course Format and Supplies

Course prerequisites: BioSci 2B and C; Calculus (Math 17A,B or the equivalent). Junior status is recommended. Our experience is that students without calculus have great difficulty with the population concepts and receive on average a letter grade lower than students with calculus. Come talk to one of us if you have doubts as to your preparation for the course.

Course format (4 units):

Lecture. (Tues/Thurs 9:00-10:20) We expect you to attend lecture. The easiest way to learn EVE 101 material is simply to attend lecture, listen, and take good notes. Our experience is that students who attend lecture regularly earn higher grades. Lectures will include occasional video presentations and class discussions designed to highlight key concepts.

Section. (W 8, 9, 10, 1:10, 4:10) **Sections are required.** The sections are intended for small group discussions and projects that will reinforce principles that we cover more generally in lecture. We present material in section not presented in lecture that will be covered on exams. Homework questions will be assigned for this material in advance; *assignments are due the day of that section.*

Text book: Ecology (2nd Edition) Drs. Michael Cain, William Bowman, and Sally Hacker.

On the course schedule you have all the readings for the entire quarter. You should skim the readings in advance of each lecture topic, so that you can take notes more effectively and get more out of lecture.

Smartsite web resources:

The EVE 101 Smartsite will serve as a cyber-reserve desk, with copies of all the course materials. It will also have EVE 101 news, posts of before-exam office hours and any other items that need to be brought to your attention quickly.

Supplementary materials for section:

Section topics and handouts. Sections cover actual scientific studies illustrating the general topics that we cover in lecture. In most of the sections you will discuss papers published in the primary literature (professional scientific journals). Copies of these papers and homework questions will be posted on Smartsite the week before they are due. **The weekly homework are due at the beginning of each section that they cover, so that you read the papers in advance and come prepared to participate in section discussions.** In addition to the readings, there will be one “ecology in action” mini-project where you will share your findings with TAs and your colleagues.

Exam questions:

All exam questions are handed out in advance, as a list of possible questions. *We do not provide you with a key to all the exam questions.* We give you the questions; we are not going to write the

answers for you too! (more later on studying for the exam). You have all the information needed to take the exams: it is in your lecture notes, the text, the handouts, and in your head.

Grading Structure:

There will be a total of 500 points that will determine your final course grade. The points will be distributed as follows:

In-class exams: total of 400 points

Midterm I	120 pts. (6 lectures; 3 sections)
Midterm II	130 pts. (7 lectures; 4 sections)
Final	150 pts. (5 lectures; 2 sections; synthesis)

These exams will be held during the lecture period (or in the case of the final, as scheduled by the UCD registrar; dates above) and will be a mixture of short answer and essay questions. You will be tested on material from **lecture**, **sections**, **text**, and **handouts**. Sample questions, many taken from former exams, will help you know what to expect on these exams and help you study. The final exam will have up to 70 points for questions that synthesize the course material.

Take-home assignments:

Section homework:	100 pts (6 x 10 pts. homework, 30 pts. project, 10 pts. participation)
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Homework will cover material and readings presented in the sections. Homework assignments are intended to prepare you for each section and will be due on the day that material is covered, at the beginning of section.

Total:	<u>500 pts.</u>
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Your course grade will be assigned on a fixed scale, not a "curve". These cutoffs may be lowered but never raised:

A's $\geq 90\%$, B's $\geq 80\%$, C's $\geq 70\%$, D's $\geq 60\%$, F's $< 60\%$

Criteria for grading and other instructions for the exams & homework

Grading criteria and expectations: Most of the exam questions will ask for explanations or discussion of important ecological concepts and processes. As such, the correct answer will usually not be a single term or short phrase that is either right or wrong.

Instead, your answer will include a number of features, **all of which must be present to get a perfect score**. These include:

- technical terms used in the correct context;
- a logical progression of thought, i.e., a logical order to key phrases, sentences, or concepts;
- brevity, which means that your answer should only contain the essential elements required by the question;
- if called for, real examples from the lecture, sections, text or your own experience.

Keys will be provided after the exam. It may be possible for your answer to contain all the important words or phrases in the key but at the same time not receive a perfect score. **Reasons for not garnering full points are as follows:**

- You said something incorrect, even though the rest of your answer was otherwise complete;
- Your answer was not logically presented. That is, everything was there somewhere, but you did not link the concepts in a way that indicates you have a firm understanding of the process or principles involved;
- Your answer was not clearly worded. While exam situations involve limited time and we do not grade on grammar, we also will not give the benefit of the doubt if your wording is confusing. You must indicate that you understand the concepts;
- You might have used the shotgun approach, which is to tell us everything that might possibly be relevant. While you said nothing that was incorrect, all the extraneous material indicates you do not firmly understand the concepts or processes;
- You memorized the keys posted from previous exams, and by chance the same question was used this year. We don't want to hear what we said! We want to know what you understand. You must write the answers to the questions in your own words.

Students who are fully prepared and have a firm understanding of the concepts will be able to write a few, clearly worded, logical sentences in a limited amount of time. Such answers will receive the highest possible score, and answers will receive points in proportion to their merit, relative to the best possible answer.

The two exams during the quarter are worth increasing numbers of points, in part so that you can become familiar with how the exams are graded.

Regrading procedure: You have one week after the midterm is handed back if you wish to submit your exam for regrading. You will be asked to write out your questions and concerns about any of the test questions or the addition of scores on a separate sheet and hand this back so that regrading requests can be considered as a group, for maximum consistency. *Note:* when you turn your exam in for re-grading, we will re-evaluate other, related questions or even the entire exam. Our intent is to establish your comprehension of the material as a whole.

How to study for exams

Testing philosophy: The exam is not merely an opportunity for the instructor to evaluate your knowledge. It is human nature (unfortunately!) to learn more if you are tested on the material. You can therefore use the testing situations positively as a motivation to learn and as a way to get feedback from the instructor. Also, we try to read each exam ourselves, to learn your names as much as possible, and to write comments on your exams as much as possible.

We have no need to "curve" the class or get a certain number of A's, B's, etc. Our goal in the exams is to teach you as much as possible and to help you learn the material. We would therefore be delighted if everyone earned A's, and conversely, we get discouraged when students are not grasping material on the exams. We do expect students to work hard and earn their grades.

In a single exam, you cannot possibly write down everything you have learned. Our hope is that you will have learned so much that you would need many hours to write it all down. The exams are aimed at sampling your knowledge. There will be a variety of questions to cover the general topics evenly. Sample exam questions and answers will be available for you to view the range of material you are expected to know and the depth of knowledge that will be required of you.

How to study:

1. Ecology is a subject that emphasizes concepts and processes more than memorizing names, terms and examples. Lecture material in particular will focus on understanding ecological principles as opposed to memorizing definitions and key words.

We do not recommend the use of flash cards to study for the exams. It takes a lot of time to fill them out, and we have relatively few terms to memorize. Instead, we recommend using flowcharts and graphs, as a substitute for flash cards. Flowcharts and graphs emphasize processes and relationships rather than memorization.

2. You should try drawing graphs from memory. For example, write down a list of independent and dependent variables and try to fill in the graphs without looking at your notes or book. This exercise will allow you to discover where your understanding of concepts is weakest.

3. Write out the potential exam questions (at least in outline form) as though they were the test.

4. Study in teams with other students in the class, asking each other questions. Use the study questions as if they were an oral exam. We can make the section room available for study groups, depending on its availability. We can also set up a listserv for the class if there is sufficient interest.

5. Use the chat room on Smartsite to discuss topics for the class and pose questions to one another. The instructors and TA's will sometimes "drop in" to the chat room and can provide feedback if desired, particularly on days leading up to the exams.

STUDY ACTIVELY, not passively. Simply reading over notes, exams and study questions is studying passively. Active studying is when you write out material from memory or talk over the material with other students, the T.A. or instructor. You can "test" yourself or study with someone else who can "test" you and vice-versa. Extra office hours before exams are extremely useful for studying because we emphasize active learning in office hours.

Criteria for academic honesty

What is cheating? You should all have experience with the guidelines for student conduct and academic honesty. If you are unfamiliar with University regulations, the Student Judicial Affairs office will be happy to provide you with their brochure. Their web site is <http://sja.ucdavis.edu>.

There are three forms of academic dishonesty that are possible in EVE 101. The first and one that has been most often used is to "doctor" a midterm exam, copying from the posted key, and then hand it back for re-grading. The second is to copy from another student's exam during the examination period. The third is to plagiarize material for the section assignments from the homework of other students or from books and other published material. If you are not sure what **plagiarism** is, be sure to ask your instructor or teaching assistant.

Thus academic dishonesty involves presenting work that is not truly your own for evaluation as your work. In addition to the deception, which is not ethical in our society, such academic dishonesty goes against everything the University stands for. First and foremost, a student is here to learn and to grow by the learning experience. A student practicing dishonesty is not learning. Second, students are evaluated by instructors, and these evaluations are used by others outside the University to establish a student's qualifications. If grades are based on dishonesty, the quality of a University of California degree is lessened.

Our viewpoint on academic dishonesty: *There is no excuse whatsoever for dishonesty!* Our teaching philosophy is to make this course interesting and challenging and to have students learn as much as possible. We provide you with *everything* you need to master the material. Because ranking students is not a priority in our teaching, we do not try to curve the class or otherwise prevent you from getting the grade you earned based upon your work in the class. We want everyone to get A's.

If you feel unfairly treated by one of us or by the "system" or if you are having some difficulty that is affecting your grades, please come and speak to one of us rather than try to take matters into your own hands. Further, we have a strong responsibility to the students in the class whose grades would mean less if any one person is being dishonest. As a result, we have instituted a number of measures to make sure that no dishonesty takes place in this course.

Course policies related to academic conduct: By far most of the students here at UCD are honest— in our experience more than 99%. As a result, we ask your patience and cooperation with any measures or policies we have to institute to prevent academic misconduct. You should feel that we are working to protect your grade, not that we are suspicious of each and every student.

The midterm will be photocopied before being graded and returned (we recycle the paper at the end of the course). Exams will also be proctored. Because we respect the student honor code, we do this primarily so that we are available for answering questions. In any case, ecology is a topic that does not lend itself to short, simple answers that are easy to copy. We do read exams carefully and have as a result been able to identify exams that are overly similar.

If we have enough evidence for suspected academic misconduct, we will prepare a case and turn it over immediately to the Student Judicial Affairs office. In this way, a student can be treated as fairly and as impartially as possible. Confirmed instances of academic misconduct will result in a "zero" for that exam or homework assignment, and potentially stronger measures can be applied depending on the seriousness of the misconduct. Repeat instances of misconduct, in this course or in combination with other courses, may result in a student's dismissal from the University.