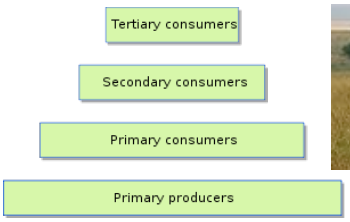


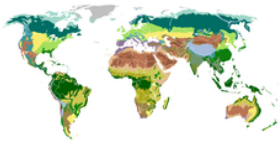

# Bi130 Introduction to Ecology
# Spring Quarter 2011

| Instructors | phone | office | office hours | e-mail |
|---|---|---|---|---|
| Lisa Turnbull | 6-7023 | 15D Klamath | Tu 10:30-11:30 and by appt. | lisat@uoregon.edu |
| Abe Katzen, GTF | -- | TBD | TBD | katzen@uoregon.edu |
| Vivian Schoung, GTF | -- | TBD | TBD | vivians@uoregon.edu |

***Course Goals***
This course is designed for non-majors with an interest in understanding the fundamentals of ecology. Ecology is the biological field that studies the relationship between living organisms and their environment. We will explore the fundamental concepts of ecology including population dynamics, communities, energy flow and ecosystems, and human influences on ecosystems. By the end of the course, you will not only understand the significance of several fundamental concepts of ecology, but hopefully you will also appreciate how some aspects of these concepts relate directly to events in your own life. An additional goal of this course is to help you become a scientifically literate citizen. Part of science literacy is the ability to find, evaluate, and communicate scientific information and issues. We will incorporate these skills in this class.

***Course Format***
*Lectures* (Tuesday, Thursday, 8:30-9:50 in 123 Pacific). You will gain a better understanding of the material and be better prepared for exams by attending class and being an active participant. One way that you will participate during lecture is through the use of clickers. A portion of your course grade will be dependent on class participation using the clickers (see the course evaluation section of the syllabus).

*Discussion* (Friday 9, 10, 11, 12, 1, 2, 3 & 4 in 111 Huestis)
The primary purpose of the discussion sections is to give you a chance to investigate and discuss in more detail the ideas presented in lectures and in the course readings. For two of the exercises (weeks 3 & 9), you will be required to purchase and print *SimUText* lab module workbooks. The cost is $10 for both labs and they are available for purchase from a link posted on blackboard (more details will be provided in class). Attendance to the discussion sections is **mandatory** and will be part of your final grade. Please plan to attend only the section for which you are registered.

***Readings***
There will be **required** readings for this course. Some assigned readings will come from chapters of an online text, *SimUText*. These chapters are only available for purchase through an online store (link provided on blackboard) and the cost is approximately $36. There will also be a few required readings from scientific journals or magazines, and these articles will be made available on blackboard. All reading assignments will be announced in class and on blackboard. You should do the assigned readings *before* coming to class.

For students wishing to have a good textbook reference, we suggest *Essentials of Ecology, 4th or 5th edition* by G. Tyler Miller, Jr. There will be a copy of this text on reserve in the science library.

***Blackboard***
All course documents will be posted on the blackboard course website. This includes lecture outlines, problem sets, required readings, information for the course project, links to the online store to purchase the *SimUText* chapters and lab modules, and general announcements. We recommend checking the blackboard site regularly.

***Course evaluation***

*Exams* (Midterm exam 20%, Final exam 24%)

There will be two exams: one midterm and a comprehensive final exam. Exams will cover material from all aspects of the course including lectures, discussions, and assigned readings. Exams will test an understanding of the concepts and principles discussed, and an ability to apply the concepts to novel situations. **Exams cannot be made up except in the case of a medical or family emergency.** The final exam is Wednesday June 8th and will be rescheduled **only** if you have more than three final examinations on the same day. **There will be no early or late final exams given for any other reason**.

*Clicker Participation (6%)*

Clickers (personal response systems) will be used in most classes starting in week 2. Clickers encourage participation and to provide valuable feedback to instructors and students. Each student is expected to purchase a clicker for use in this class. **You should register your clicker on the course blackboard site by the end of week 2, April 8th**. (If you've already registered your clicker *this term*, for another class, then you don't need to register it again.) Points will be earned two different ways: (1) 2-point questions: 2 points will be awarded based on participation alone, not on whether the question is answered correctly; (2) 4-point questions: 4 points for correct answer, 2 points for incorrect answer. Total percent for the clicker portion of your grade will be based on 85% of the total possible points: your clicker grade = total points earned/85% of total possible.

*Observation of a Scientific Presentation (6%)*

Scientific ideas are presented in a variety of ways, including publics lectures and visual displays. During the first half of this term you are assigned to attend and provide feedback on a scientific presentation of your choosing. Your instructor will be announcing different opportunities throughout the first half of the term, though you are encouraged to watch for other opportunities that capture your interest (check the Eugene Weekly or signs around campus) . Specific guidelines for this assignment are posted on blackboard. The assignment is due during the week 5 discussion session. Try to incorporate what you learn from observing a scientific presentation into the poster presentations you complete for this class.

*Course Project* (18%)

Students will work in groups to create and present a poster on a topic relevant to ecology. Several of the discussion sections will be used for the course project, including poster presentations during weeks 7 and 8. More information about the project will be provided in class, during discussion week 4, and on blackboard. Depending on your choice of materials for making your poster, you should plan to spend ~$10-15/person.

*Problem Sets* (8% total)

The problem sets used in this course are designed to help you further your understanding of the material we discuss in class and prepare you for the types of questions you will see on the exams. Your grade for the problem sets will be a combination of your score on the graded responses that accompany sections of the Sim U Text and the two problem sets that will be collected in your discussion section. Due dates for electronic Sim U questions will be posted on blackboard and announced in class. The problem sets due in your discussion sections will be available on blackboard at least one week before each is due. You will turn these in at the beginning of your discussion section. **Late problem sets will not be accepted.** You are encouraged to work with classmates to complete the problem sets but the work you turn in should be your own. You are also encouraged to come see one of the instructors during office hours if you have questions pertaining to the problem sets.

*Discussion section activities* (2% each; 18% total)

Your discussion score each week for will be based on attendance, participation, and completion of any exercises assigned. The final exam review session during week 10 will be optional, though attendance is strongly encouraged to improve your preparedness for the final exam.

***Commitments***
I am committed to helping you to succeed in this class. I will do my best to present material is engaging and will appeal to a variety of learning styles. At any time, please let me know what I can do to help you to learn the material and enjoy this course. It helps me to know course material that has inspired you or what you've struggled to understand.

You need to be committed to this class to succeed. You will need to use a significant amount of time outside of class in order to master the material in this class and complete required assignments. I will guide you in your understanding of the material, but my teaching style is not to simply tell you everything you need to know. You will be encouraged to expand on what we've discussed in class by thinking critically and logically drawing your own conclusions.

***Students with disabilities***
The University of Oregon is working to create inclusive learning environments. Please notify us if there are aspects of the instruction or design of this course that result in barriers to your participation. You may also wish to contact Disability Services in 164 Oregon Hall at 346-1155 or disabsrv@uoregon.edu

***Professional conduct***
Come to class on time and refrain from engaging in activities that could be distracting to your fellow students. Packing up your belongings before class has ended is disruptive to other students around you and to me so please wait until I have stopped lecturing to begin preparing to leave. Do not converse with your neighbors when someone else is talking (instructor or classmate) as this interferes with the ability of other students to learn.

Academic dishonesty devalues the reputation of our institution, its faculty, its students, and your academic degree. Academic misconduct is particularly unfair for students who do their work with integrity and honor. The University Student Conduct Code (available at http://studentlife.uoregon.edu/StudentConductandCommunityStandards/StudentConductCode/tabid/69/Default.aspx) defines academic misconduct. Please familiarize yourself with this code. Additional information about a common form of academic misconduct, plagiarism, is available at www.libweb.uoregon.edu/guides/plagiarism/students.

We want you to learn and to do well in the course, but we have zero tolerance for academic dishonesty. Sanctions for academic dishonesty will be a lowering of the final grade or failure. If you find yourself in trouble, or if you are aware of academic dishonesty occurring, please talk to one of the instructors. Personal crises do happen. If you are having difficulties that are interfering with your ability to do well in the class, please tell an instructor as soon as possible. We may be able to refer you to someone for help or to make special arrangements if the need is real and if you have done your best to deal with the situation in a timely manner. Finally, we promise to respect you as students and as individuals, and ask that you return that respect to us and to your fellow classmates.

## *Course Schedule*

The following class schedule is subject to change. Any adjustments to the schedule will be announced.

| Week | Date | Lectures | Discussion section |
|---|---|---|---|
| 1 | 3/29 | L1: Introduction to ecology | Introduction<br>Read *Ecology* (available on bb) |
| | 3/31 | L2: Evolution & Natural Selection | |
| 2 | 4/5 | L3: Life History | Describing Populations |
| | 4/7 | L4: Population Ecology I:population growth without resource limits | |
| 3 | 4/12 | L5: Population Ecology II:population growth with resource limits | SimUText lab: Isle Royale<br>*purchase & print workbook |
| | 4/14 | L6: Population Ecology III: population growth in humans | |
| 4 | 4/19 | L7: Behavioral Ecology | Course Project: introduction & scientific sources |
| | 4/21 | L8: Community Ecology I:introduction to community ecology | **Problem Set #1 due** |
| 5 | 4/26 | L9: Community Ecology II: species interactions | Midterm exam review<br>**Scientific presentation observation due** |
| | 4/28 | L10: Community Ecology III: species interactions | |
| 6 | 5/3 | **Midterm Exam (Lectures 1-10)** | *The Silent Invasion* |
| | 5/5 | L11: Community Ecology IV:community dynamics | |
| 7 | 5/10 | L12: Community Ecology V: Invasive species | **Course Project: Poster Session I** |
| | 5/12 | L13: Biodiversity & Conservation Biology I | |
| 8 | 5/17 | L14: Biodiversity & Conservation Biology II | **Course Project: Poster Session II**<br>**Problem Set #2 due** |
| | 5/19 | L15: Ecosystem Energetics & Productivity | |
| 9 | 5/24 | L16: Ecosystem Energetics & Productivity II | SimUText lab: Nutrient Pollution<br>*purchase & print workbook |
| | 5/26 | L17: Ecosystem Nutrient Cycling I | |
| 10 | 5/31 | L18: Ecosystem Nutrient Cycling II | Final exam review |
| | 6/2 | L19: Ecosystem Nutrient Cycling III | |
| Final | 6/8 | **Wednesday 8 am: Final exam on entire course** | |