

Foundations of Ecology

The University of Toledo
College of Natural Sciences and Mathematics
EEES 6600/8600-001
Four (4) Credit Hours

Instructor:	Daryl Moorhead	Term:	Autumn 2015
Office Hours:	T&Th 10-11:30am & 6:00-7:30pm	Class Location/Times:	B/O 1014, 4:30-6:00pm
Office Location:	Bowman-Oddy 3007f	Lab Location/Times:	N/A
Office Phone:	419-530-2017	Course Website:	Blackboard Learn
Email:	daryl.moorhead@utoledo.edu	Instructor's Website:	N/A

COURSE DESCRIPTION

This course is a thorough review of ecological concepts for graduate students. Readings and discussion include classic papers and historical essays.

COURSE OVERVIEW

This course emphasizes basic ecological theory, experimental and analytical methods and their application to levels of ecological organization including organisms, populations, communities and ecosystems. We will also synthesize knowledge across levels of organization.

COURSE OBJECTIVES

Upon completion of this course, the student will be able to:

1. Identify fundamental ecological theories, and apply methods and techniques to evaluate ecological relationships
2. Identify, analyze and quantify the structural features of ecological systems
3. Identify, analyze and quantify the functional relationships related to structural features of ecological systems
4. Select from relevant ecological knowledge to create a synthetic explanation for a body of empirical observations

TEACHING STRATEGIES

This synchronized course integrates live classroom participation with real-time audio-visual participation via internet of off-campus students. It is designed to stimulate student learning through the web-assisted delivery of and participation in readings, lectures, discussions and workshops as well as collaborative activities involving asynchronous discussion and group projects. No on-campus meetings will be required for off-campus students.

WORKWEEK

In this course, weeks run from Mondays through Friday: specifically, they begin at 12:01 AM on Monday morning and end at 11:59 PM on Friday night. All assigned work for any week is to be completed by the end of the day (11:50 pm) specified. The materials for any week will be posted by Monday morning of that week, if not earlier, under the appropriate folder on the course website. Begin each week on Monday by checking the schedule and then viewing the content for the week under Weekly Content.

PREREQUISITES

There are no specific prerequisites for enrollment in this course, however, admission to studies for a graduate degree in the Department of Environmental Sciences requires basic competence in the natural sciences and mathematics, typically including a year of chemistry, physics, biology and calculus.

TECHNICAL SKILLS

To succeed in this course, it will be important for learners to possess the following computer skills:

1. Rename, delete, organize, and save files.
2. Create, edit, and format word processing and presentation documents.
3. Copy, paste, and use a URL or web address.
4. Download and install programs and plug-ins.
5. Send and receive email with attachments.
6. Locate and access information using a web search engine.
7. Use specified software for real-time communication.
8. Use a learning management system (such as the BlackBoard system used for this course).

REQUIRED TEXTS AND MATERIALS

Begon, M, JL Harper and CR Townsend. 2006. *Ecology: From Individuals to Ecosystems*. 4th Ed. Blackwell Science.
Real, LA and JH Brown. 1991. *Foundations of Ecology: Classic Papers with Commentaries*. University of Chicago Press

RECOMMENDED TEXTS AND MATERIALS

Additional readings will be provided as pdf copies of published articles, posted on the class website.

TECHNOLOGY REQUIREMENTS

Specific hardware and software will be needed in order to access course materials and complete assignments.

Browser Check Page

Students need to have access to a properly functioning computer throughout the semester. [The Browser Check Page](#) will enable you to perform a systems check on your browser, and to ensure that your browser settings are compatible with Blackboard, the course management system that hosts this course.

Software

Student computers need to be capable of running the latest versions of plug-ins, recent software and have the necessary tools to be kept free of viruses and spyware. The computer needs to run the following software, available in the [Online Learning Download Center](#).

- Microsoft Word, PowerPoint and Excel Software
- Adobe Acrobat Reader
- Apple QuickTime Player
- Java Plugin Console
- Adobe Flash Player
- Adobe Shockwave Player
- Mozilla Firefox Browser – Recommended

Internet Service

High-speed Internet access is necessary because dial-up is typically slow and limited in downloading information and completing online tests. This course does contain live broadcast audio and video content.

Use of Public Computers

If using a public library or other public access computer, please check to ensure that you will have access for the length of time required to complete synchronized lectures (ca. 1.5 hrs per class period), as well as other tasks and tests. A list and schedule for on-campus computer labs is available on the [Open Lab for Students](#) webpage.

UT Virtual Labs

Traditionally, on-campus labs have offered students the use of computer hardware and software they might not otherwise be able to access. With UT's Virtual Lab, students can now access virtual machines loaded with all of the software they need to be successful using nothing more than a broadband Internet connection and a web browser.

The virtual lab is open 24/7 and 365 days a year at [VLAB: The University of Toledo's Virtual Labs](#).

COURSE POLICIES

The following statements regarding course policies do not constitute a complete list of behavioral expectations for students. The University of Toledo posts official policies regarding topics as diverse as on-campus parking ([Parking Services](#)), library use and the assignment of an incomplete grade, which are readily found by searching the university website. However, a few of the generally relevant policies follow:

Class Participation

All students should plan to attend class. For those who regularly attend classes on campus, this entails being physically present. For those off-campus students who participate via internet, this entails actually being connected via internet at the time of the class. Class meetings will NOT be recorded and thus are NOT available at other times.

Professional Etiquette

Office hours are scheduled for a reason. Use them! Your professors (including me) must efficiently allocate time among many demands. Arriving at our doors, unexpected, disrupts the (often tenuous) organization of time that we strive to achieve and seldom results in as positive an experience as arriving during office hours or for a SCHEDULED appointment. Off-campus students are welcome to communicate with the course instructor via communication software during office hours.

Phone Contact

Feel free to call at anytime, especially before you plan a visit outside scheduled office hours. However, some things cannot be accomplished via telephone, such as checking on your exam grades, etc., because these topics can only be discussed with a student in person (as per FERPA regulations).

Policy Statement on Academic Dishonesty

Academic dishonesty will not be tolerated. Please read [The University's Policy Statement on Academic Dishonesty](#).

Copyright Notice

The materials in the course website are only for the use of students enrolled in this course for purposes associated with this course, and may not be retained or further disseminated.

GRADING POLICIES

Grades reflect performance on all assignments, including essays, homework, quizzes and participation in discussions (outlined below). Quizzes will be available for approximately one week to complete on-line with grades posted immediately upon closing. Homework will be submitted on line as MS-Excel files and will be graded and returned within a week of completion. Essays will be submitted on line as MS-Word files and will be graded and returned as scheduled. Discussions will include individual comments posted on class discussion boards, and summarized for the class by selected (or volunteer) students during the class period (approximately one discussion per week); each student's participation will be peer-reviewed as well as reviewed by the class Teaching Assistant and me. Additional guidelines, grading criteria, and timeframe for grades and feedback will be provided as needed, as each assignment is announced.

Students are expected to complete and submit all assignments and tests by the due date listed in the Course Schedule. Late assignments and make-up tests will not be permitted unless arrangements are discussed and approved well before the required due date. Ask questions as soon as possible by email or by phone if you do not understand an assignment.

The grading scale for this course is: A = 90 – 100%; B = 80 – 89%; C = 70 – 79%; D = 60 – 69%; F = < 59%

Graded Tasks	Total Points	% of Final Grade
10 Discussions @ 3 pts (online)	30	10%
4 Quizzes @ 40 pts (online)	160	53%
1 Essays plus revision @ 20 pts	40	13%
7 Home-works @ 10 pts	70	23%
Total	300	100%

Quizzes

Four quizzes, one per module, will be offered on-line approximately every 4-5 weeks during the class (check the Course Schedule). They will be available for you to take over approximately a week's time. They will be objective type questions, i.e., matching, true/false and multiple-choice. There is no separate midterm or final exam.

Essays

A short essay will be assigned that covers an ecological topic of relevance to course topics, typically linked to current events (hence the flexibility in timing). They will be succinct, one-page (not counting figures, tables or references), coherent, grammatically correct, typed, double-spaced, times new roman size 12-font. They will be submitted electronically as a MS-Word file. They will be due approximately two weeks after assignment, critiqued and returned for revision. Revisions will be due approximately two weeks after assignment.

Homework

Several sorts of quantitative problems will be addressed in class workshops, such as life-table analysis, ordination, Lotka-Volterra models, energy and nutrient flows, etc. An example problem will be given to the class for group discussion and analysis; ***please bring a laptop to class or let me know if you need to use a departmental laptop.*** A separate problem will then be given to each person for independent analysis as a homework assignment (MS-Excel file), to be submitted for a grade. Homework will be due approximately one week after each in-class workshop.

Workshop	Topic
1	Bray and Curtis ordination
2	Life tables and key factor analysis
3	Intraspecific competition
4	Interspecific competition
5	Predation
6	Biodiversity
7	Matter and energy fluxes

Discussions

Discussions pose a challenge for a mixed on/off-campus clientele. So, a discussion board will be opened on the class website for each paper assigned. The board will be open for approximately one week during which time each student will post his/her comments about the paper according to three criteria: context of the work, methods and key results. Three students will be selected (or volunteer) to provide a synthetic summary (not verbatim compilation) of the comments within these three categories, and present their ***brief*** synopsis in the classroom.

Participation will be peer-reviewed (2/3 your grade on this task) as well as evaluated by the course Teaching Assistant and me (the other 1/3).

AMERICANS WITH DISABILITIES ACT

The Americans with Disabilities Act (ADA) requires that reasonable accommodations be provided for students with physical, sensory, cognitive, systemic, learning, and psychiatric disabilities. In accordance with the ADA and university policy, if you have a documented disability and require accommodations to obtain equal access in this course, please contact the instructor at the beginning of the semester to discuss any necessary accommodations. Please contact Student Disability Services for verification of eligibility at 419-530-4981 (voice) or 419-530-2612 (TDD).

COMMUNICATION GUIDELINES

Provide specific requirements and etiquette expectations for online discussions, email, and other forms of communication (QM 1.3 and 5.4), and indicate the instructor's timeframe for responding to student emails and/or discussion posts (QM 5.3). An example:

Email

Students are expected to check their UT email account frequently for important course information. This class is being taught for you, so if you are having trouble understanding any aspect of it, please let me know. I am here to help, and will do my best to respond to email within 24 to 48 hours.

Discussion

This course makes use of on-line resources, so participation is vital to your success, and thus your active engagement is crucial to learning. At times in this course, you will participate in discussions designed to help you understand assigned readings. To earn full credit, you must post your comments by noon of the day BEFORE the scheduled in-class synopsis of comments prepared by a classmate (or you). Please see the Grading Rubric for Online Discussions for complete grading criteria (posted on the course website).

Collaborate

This synchronized course integrates live classroom participation with real-time audio-visual participation via internet of off-campus students. It utilizes the Collaborate tool added to the Course Menu, through which you can connect to each class session. This tool will permit you to watch and listen to lectures, discussion and questions posed in class, as well as participate. You will be able to ask questions that will be heard in class, in fact, you will be asked questions and given assignments that will require you to participate via Collaborate. Please become familiar with this tool at your earliest convenience.

Netiquette

It is important to be courteous and civil when communicating with others, remember that you are NOT anonymous in this class. Students taking online courses are subject to the communication regulations outlined in the Student Handbook. To ensure your success when communicating online, take time to familiarize yourself with the "dos" and "don'ts" of Internet etiquette.

TECHNICAL SUPPORT

Should you have difficulty with any aspect of the technical dimensions of this course, please contact the instructor as soon as possible. However, many difficulties with intent access, etc., can often be more rapidly remedied by contacting support personnel at the University of Toledo:

****If you encounter technical difficulties with Blackboard, please contact the UT Online Help Desk**** at (419) 530-8835 or utdl@utoledo.edu. The Help Desk offers extended hours in the evenings and on weekends to assist students with technical problems. When calling after hours, leave a detailed message, including your Rocket Number and phone number, and an Online Learning staff member will respond on

the next business day. The UT Online Help Desk website is available at:
<http://www.utoledo.edu/dl/helpdesk/index.html>

****Technical questions related to on-campus Internet access, virtual labs, hardware, software, personal website hosting, and UTAD account management can be directed to UT's IT Help Desk**** at (419) 530-2400 or ithelpdesk@utoledo.edu. The IT Help Desk website is available at <http://www.utoledo.edu/it/CS/HelpDesk.html>.

LEARNER SUPPORT

The University of Toledo provides a variety of academic and student support services and other resources that can help students succeed in the course. Examples include the following:

eTutoring Services

The Ohio eTutoring Collaborative, in partnership with The University of Toledo, now provides online tutoring support for all UT students. eTutoring Services are offered in a wide array of subjects, including Writing, Math, Calculus, Statistics, Accounting, Biology, Chemistry, and Anatomy and Physiology.

eLibrary Services Portal

The eLibrary is a customized gateway to UT Libraries for online students. It was designed to help you locate the best online library resources without leaving Blackboard.

Student Disability Services

Student Disability Services provides accommodations and support services to students with disabilities.

Counseling Center

The Counseling Center is the university's primary facility for personal counseling, psychotherapy, and psychological outreach and consultation services. The Counseling Center staff provide counseling (individual and group), mental health and wellness programming, and crisis intervention services to help students cope with the demands of college and to facilitate the development of life adjustment strategies.

Services for Online Students

Knowing what to do, when to do it, and who to contact can often be overwhelming for students on campus - even more so for distance learners. Visit the Resources for Current Students webpage to learn more about the wide range of services for online students.