BIO-330-01 **Ecology** **Spring 2013**

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Communication: Email is by far the best and fastest way to contact me; my office phone has voice mail, but I will invariably see emails before hearing voice messages.

Office Hours: by appointment; I will usually be in my office Tuesday and Thursday afternoons, and most of the day Monday and Wednesday. Feel free to stop by or call first to make sure I am around.

Course Goal: Students will gain an understanding of how biotic and abiotic components of the natural world interact to form functioning ecosystems. Students will learn how ecological research is conducted and what sort of questions ecologists try to answer. The movement of energy, water, and nutrients through ecosystems will be explored. Population dynamics and the geography of life ("biogeography") will be examined.

Instructional Objectives

A. Knowledge
1. Terminology of ecological interactions
2. Characteristics of relationships among living and non-living components of ecosystems
3. Synergistic connections between living organisms
4. Dependence of living organisms on the non-living components of their habitat
5. Effects of demographic parameters on population sizes

B. Skills
1. Proposing ecologically and scientifically appropriate hypotheses
2. Carrying out ecological research
3. Appropriately testing scientific hypotheses
4. Summarizing scientific studies and identifying the main points made
5. Accurately and appropriately conveying scientific knowledge through writing and presentation
6. Obtaining peer-reviewed scientific articles

C. Dispositions
1. Appreciation and respect for the necessity of living organisms to maintain the earth in a habitable state
2. Appreciation of the utility of the scientific method in seeking answers
3. Recognition of the infinite direct and indirect effects existing among living organisms and their abiotic environments
4. Understanding of the extremely variable niche requirements for living organisms

Textbook: *Ecology: from individuals to ecosystems* 4th edition By Begon, Townsend, and Harper 2006 ISBN: 978-1-4051-1117-1

Instructional Procedures: lecture, laboratory experimentation, group field experiment, on-campus field trips

Exams and Assignments:	**#**	**Value**	**Total**
Exams	3	100 pts each	300
Group Project	1	125 pts	125
Quizzes	6	25 pts each	150
Lab Reports	2	50 pts each	100
Primary Literature Presentations	2	25 pts each	50
Participation		25 pts	25
Homework	3	5 pts each	15
			765 total points

Grading Scale									
94-100%	A	88-89	B+	78-79	C+	68-69	D+	< 60	F
90-93	A-	84-87	B	74-77	C	64-67	D		
		80-83	B-	70-73	C-	60-63	D-		

Tentative Schedule (subject to change; students will be notified if important changes are made)

Month	Day	Topic	Readings	Graded Work
Jan	8	Introduction	Introduction (xi-xii)	
	10	Lab: Pine Tree Data Collection		
	15	Lecture	Chapter 1	
	17	Lecture	Chapter 2	QUIZ 1
	22	Lecture	Chapter 3	
	24	Lab: Fish sampling (I)		Pine Tree Draft 1
	29	Lecture	Chapter 4	QUIZ 2
	31	Lab: Distance analysis		
Feb	5	Exam Review & Group Project Discussion		
	7	**EXAM 1**: Chapters 1-4		
	12	Lecture	Chapter 5	
	14	Lecture	Chapter 6	Pine Tree Final Draft
	19	Lecture	Chapter 7	QUIZ 3
	21	Lab: Mammal tracking		
	26	Lecture	Chapter 8	
	28	Lab: Fish sampling (II)		
Mar	5,7	No class: Spring Break		
	12	Lecture	Chapter 9	QUIZ 4
	14	Group Project Work		
	19	Exam Review & Group Project Work		
	21	**EXAM 2**: Chapters 5-9		
	26	Lecture	Chapter 10	Fish Draft 1
	28	No class: Easter Break		
Apr	2	Lecture	Chapter 11	QUIZ 5
	4	Group Project Work		
	9	Lecture	Chapter 12	
	11	Lab: Mammal capturing		Fish Final Draft
	16	Lecture	Chapter 13	QUIZ 6
	18	Lab: Bird capturing		
	23	Group Project Presentations		Group Project Report
	25	Exam Review & Course Summary		
	30	**FINAL EXAM** – 8:00 a.m. Chapters 10-13		

Exams: three tests (two during the semester, one during final exam week). Each in-class test will fill one entire class period. Tests are non-cumulative, and will be primarily short essay questions, with some multiple choice, short answer, and long essay questions as needed.

Group Project: one semester-long project in groups of three to four students. Students will develop their own research question and experimental design, and will collect and analyze data to culminate in a final group research paper and presentation. This project is intended to instruct students in good data collection techniques and appropriate analysis and teach them how to present their findings in journal article as well as presentation format.

Quizzes: six in-class quizzes, will start at the beginning of class (8 a.m. sharp) on quiz days (be on time). Quizzes will be comprised of short answer and multiple choice questions.

Primary Literature Presentations: two presentations over the course of the semester. Each presentation will involve the student selecting a journal article containing original research (i.e., no review articles) with actual field data (i.e., no pure modeling or entirely theoretical articles) and preparing an original ten minute presentation explaining the question, methods, and conclusions of the article. This is meant to provide students with an understanding of the sort of research being done in the field of ecology, and give them a clear idea of the experimental and data collection techniques employed by ecologists. All journal articles need to be cleared with the professor. Some good sources for articles are the following journals: *Ecology Letters*, *Journal of Ecology*, and *Ecology*, but feel free to use any journal with ecological articles meeting the above criteria. You will be signing up for presentation dates, keep track of when you're presenting.

Lab Reports: two reports written in journal article format (abstract, introduction, methods, results, discussion, literature cited; following format instructions provided by instructor) based on two lab exercises from class.

Homework: three small assignments (statistics, literature search, plagiarism); dates to be announced

Attendance: Required for laboratory exercises and field trips (see schedule above). Additionally, there is a participation grade that will be based on your general enthusiasm, involvement, and punctuality during all aspects of this course. Participation grades will be assigned periodically throughout the semester.

Late Policy: assignments due electronically at the beginning of the class period on the due date (unless otherwise specified). Late assignments will be accepted up to 10 days after the due date, but points will be deducted for all late submissions. If submitted on the due date but after the original submission deadline, the final grade will be reduced by 5% of assignment's value. For each full day late, 10% will be deducted.

Make-up Tests and Quizzes: All tests and quizzes must be taken at the assigned times. A valid excuse is required to take a make-up test or quiz (having an appointment at that time does not count as a valid excuse). If a test or quiz is moved to another day, you will be notified in class and through email. Quizzes will be given at the beginning of class. If you are late and miss the quiz, you will not have a chance to retake it. If you come in late but before the quizzes have been collected, you will have until the final person who showed up on time for the quiz is finished. Quizzes are multiple choice and short answer and generally last 15 to 20 minutes.

Quiz Etiquette: Quizzes will be at the beginning of class. If you finish early, please just sit quietly and wait for everyone else to finish. In order to limit the possibility of cheating, I would like everyone to remain seated until the quizzes are handed in. During this time of quiet reflection, please do not get your cell phone out or ask to use the restroom. Make sure you are happy with your quiz answers, and wait.

Academic Honesty: Plagiarism and general academic dishonesty will not be tolerated. Work must be your own unless an assignment is explicitly identified as group work. I will be using turnitin.com to provide you with feedback on submitted assignments. You **must** submit assignments to turnitin.com to receive credit. Any sources used must be appropriately cited. Do not use **any** direct quotations in your writing; put **everything** in your own words. **DO NOT COPY-AND-PASTE ANYTHING**; copying directly from a source (even a few words in a row) will result in a zero grade for that assignment and potentially more severe repercussions. Feel free to ask me if you need guidance on any of these issues, I am here to help you. Please refer to the student handbook for more information.

Technology: Please avoid distracting others with the use of electronic devices. This is especially relevant during laboratories and field trips, and I will ask you to cease using such devices if necessary.

Classroom behavior: we may have some heated discussions during this class, but please respect everyone's point of view and discussion points. Disrespectful behavior will not be tolerated, and in extreme cases I may ask a belligerent student to leave the classroom for rest of the class session.

When you need help: this course has a lot of information and concepts to learn (in addition to your other courses and responsibilities). Please ask me for help when you need it. I am here to answer questions and can meet with you to go over class materials and explain concepts. Please just ask.

Disability Statement: Students who have documented their disabilities with the Coordinator of Disability Services (Erskine 214, 251-4233) are encouraged to meet privately with me to discuss arrangements for their approved accommodations.

Email: I will communicate with you often and exclusively through your ODU email. Please check it regularly, as you are responsible for any messages sent to your account (see http://www.ohiodominican.edu/stuserv/computing/Policy/emailcommpolicy.shtml). If you have problems with your email or need help managing your email account, please contact the ODU Computer Helpdesk.

HOW TO DO WELL IN THIS CLASS

1. Come to lecture every time
2. Pay attention in lecture (e.g., don't text message)
3. Take notes
4. On the same day as the lecture, take a few minutes and review your notes; if something doesn't make sense, email me or ask about it at the beginning of the next lecture
5. Come to my office and ask questions; look through your notes and find the three (or more) concepts you least understand, have me go over those with you again one-on-one
6. Turn in all assignments; a 40% is much, much better than a 0

How to correctly write an email to an instructor/professor (or anyone else, for that matter):

1. Use a descriptive subject
2. Address it to the intended recipient
3. Capitalize, spell check, and write complete sentences
4. Include your full name at the end (I've more than once been baffled by unsigned emails)
5. Proofread

Example:

Subject: Quiz question
Professor Mathys—
I have a question about Thursday's quiz. Are all vertebrates as cool as salamanders, or just birds? Thank you for your time.
Sincerely,
Ruth Harkness

Example of what not to do:

Subject: thursday
prof, will their be a cruve on thursdays quiz. i wasnt sure. thanx