

Syllabus for Biology 360

Ecology

Instructor: Dr. Frank T. Kuserk
Louise E. Juley Professor of Biological Sciences
305 Collier Hall of Science
Office phone: (610) 861-1429
Home phone: (215) 368-2593
Cell phone: (215) 915-0375
e-mail: kuserk@moravian.edu

Office Hours: MWF 10:00-11:30 AM and by appointment

Classrooms: Lecture - 335 PPHAC; MWF 11:45 AM-12:35 PM
Lab -300 Collier; F 1:15 PM-4:15 PM

Course Description: Ecology is the scientific study of the relationships of organisms to their environment and to each other. Broad in scope and evolutionary in perspective, ecology attempts to understand the reasons for the abundance and distribution of organisms, the flows and cycles of energy and matter in ecosystems, the intra- and interspecific relationships between organisms, and the structure and functions of communities.

Course Objectives: Upon completion of this course students will be able to demonstrate:

- 1) a knowledge of basic concepts in ecology, including understanding the dynamic nature of ecological processes and the importance of variation in space and time
- 2) an ability to make a scientific argument & support it with appropriate examples or scientific justification
- 3) a knowledge of and ability to apply the scientific process
- 4) an ability to find, evaluate, & use published scientific information
- 5) an ability to objectively analyze and interpret data
- 6) a competence in scientific writing and oral communication
- 7) an ability to work together in teams
- 8) an ability to integrate concepts within and among scientific disciplines
- 9) the relevance of ecology to society

Texts: Molles, Manuel C. Jr. 2013. *Ecology: Concepts and Applications* (6th edition; paperback), McGraw Hill, Boston (ISBN 978-0-07-353249-3).

Class Attendance: It has been my experience that students who do poorly in this course generally have numerous absences. I strongly suggest that you attend and participate in all lecture sessions unless you have a valid reason not to. I will not specifically maintain lecture attendance records. However, if I detect that you have excessive absences or are habitually late to class I will speak with you in private.

Laboratory sessions, because they involve hands-on experiences that cannot be mastered effectively without performing them, are especially critical if one is to become a successful scientist. Unexcused absences from lab will result in a lowering of your lab grade by 20 points (3.3%) for each absence. Excused absences from lab beyond the first two (2) will result in a lowering of your lab grade by 20 points for each absence. You are still required to complete any assignment associated with a laboratory in order to receive the points associated with that assignment.

Grading: The grading system is as follows:

A = 93.0 - 100.0	C = 73.0 - 76.9
A- = 90.0 - 92.9	C- = 70.0 - 72.9
B+ = 87.0 - 89.9	D+ = 67.0 - 69.9
B = 83.0 - 86.9	D = 63.0 - 66.9
B- = 80.0 - 82.9	D- = 60.0 - 62.9
C+ = 77.0 - 79.9	F = 59.9 and below

Assignments:	Lecture Exam 1	100 points
	Lecture Exam 2	100 points
	Final Exam	100 points
	Laboratory Assignments	<u>350 points</u>
		750 points

Policy on Academic Honesty:

Moravian College expects its students to perform their academic work honestly and fairly. A Moravian student, moreover, should neither hinder nor unfairly assist the efforts of other students to complete their work successfully. This policy of academic integrity is the foundation on which learning at Moravian is built.

The College's expectations and the consequences of failure to meet these expectations are outlined below. If at any point in your academic work at Moravian you are uncertain about your responsibility as a scholar or about the propriety of a particular action, consult your instructor.

Guidelines for Honesty

All work that you submit or present as part of course assignments or requirements must be your original work unless otherwise expressly permitted by the instructor. This includes any work presented, be it in written, oral, or electronic form or in any other technical medium. When you use the specific thoughts, ideas, writings, or expressions of another person, you must accompany each instance of use with some form of attribution to the source. Direct quotes from any source (including the Internet) must be placed in quotation and accompanied by proper

citation, following the preferred bibliographic conventions of your department or instructor. I will make clear the preferred or required citation style for student work. Student ignorance of

bibliographic convention and citation procedures is not a valid excuse for having committed plagiarism. When you use the specific thoughts, ideas, writing, or expressions of another person, you must accompany each instance of use with some form of attribution to the source.

You may not collaborate during an in-class examination, test, or quiz. You may not work with others on out-of-class assignments, exams, or projects unless expressly allowed or instructed to do so by the course instructor. If you have any reservations about your role in working on any out-of-class assignments, you must consult with your course instructor. Although no students in your class or in the Writing Center should ever be allowed to write your paper for you, they are encouraged to read your work and to offer suggestions for improving it. Such collaboration is a natural part of a community of scholars.

You may not use writing or research that is obtained from a “paper service” or that is purchased from any person or entity, unless you fully disclose such activity to the instructor and are given express permission.

You may not use writing or research obtained from any other student previously or currently enrolled at Moravian or elsewhere or from the files of any student organization, such as fraternity or sorority files, unless you are expressly permitted to do so by the instructor.

You must keep all notes, drafts, and materials used in preparing assignments until a final course grade is given. In the case of work in electronic form, you may be asked to maintain all intermediate drafts and notes electronically or in hard copy until final grades are given. All these materials must be available for inspection by the instructor at any time.

A student may appeal either a charge of academic dishonesty or a penalty as follows:

1. First, to the course instructor.
2. Next, in the case of First-Year Seminar, to the Chair, First Year Seminar Committee.
3. Next, to the Academic Standards Committee, chaired by the Associate Dean for Academic Affairs.

Disability Accommodations:

Students who wish to request accommodations in this class for a disability should contact Elaine Mara, assistant director of learning services for academic and disability support at 1307 Main Street, or by calling 610-861-1510. Accommodations cannot be provided until authorization is received from the Academic Support Center. Do this as soon as possible to enhance the likelihood that such accommodations are implemented in a timely fashion. Any student who wishes to disclose a disability and request accommodations under the Americans with Disabilities Act (ADA) for this course first **MUST** meet with either Mrs. Laurie Roth in the Office of Learning Services (for learning disabilities and/or ADD/ADHD) or Dr. Ronald Kline in the Counseling Center (for all other disabilities).

Ecology Lecture Schedule*

Fall 2012

Day & Date			Topic	Molles Chapter
M	Aug.	26	Introduction: What is Ecology?	1
W		28	Climate & Biogeography	2
F		30	Field trip: Jacobsberg State Park Meet @ 11:30 AM Collier Entrance; Return by 4:15 PM	
M	Sept.	02	No class-Labor Day	
W		04	Life on Land: Terrestrial Biomes	2
F		06	Life on Land: Terrestrial Biomes	2
M		09	Population Genetics & Natural Selection	4
W		11	Population Genetics & Natural Selection	4
F		13	Population Distribution & Abundance	9
M		16	Population Distribution & Abundance	9
W		18	Population Dynamics	10
F		20	Campus Tree Inventory Project Discussion	
M		23	Population Dynamics	10
W		25	Population Growth	11
F		27	Field Trip: Lehigh Gap Nature Center Meet @ 11:30 AM Collier Entrance; Return by 4:15 PM	
M		30	Population Growth	11
W	Oct.	02	Exam 1	1-4; 9-11
F		04	Life Histories	12
M		07	Life Histories	12
W		09	Competition	13
F		11	Field Trip: Deputy Field Study Center Meet @ 11:30 AM Collier Entrance; Return by 4:15 PM	
M		14	No Class: Fall Break	13
W		16	Competition	13
F		18	Field trip: Deputy Field Study Center Meet @ 11:30 AM Collier Entrance; Return by 4:15 PM	
M		21	Predation, Herbivory, Parasitism & Disease	14
W		23	Predation, Herbivory, Parasitism & Disease	14
F		25	Field Trip: Tannersville Bog Meet @ 11:30 AM Collier Entrance; Return by 4:15 PM	
M		28	Mutualism	15
W		30	Life in Water	3
F	Nov.	01	Life in Water	3
M		04	Exam 2	12-15; 3
W		06	Species Abundance and Diversity	16
F		08	Species Abundance and Diversity	16
M		11	Species Interactions and Community Structure	17
W		13	Species Interactions and Community Structure	17

F	15	Energy and Nutrient Relations	7
M	18	Energy and Nutrient Relations	7
W	20	Primary Production and Energy Flow	18
F	22	Primary Production and Energy Flow	18
M	25	No Class: Thanksgiving Break	
W	27	No Class: Thanksgiving Break	
F	29	No Class: Thanksgiving Break	
M	Dec. 03	Primary Production and Energy Flow	18
W	05	Succession and Stability	20
F	07	Succession and Stability	20

Final Exam: Wednesday, December 11, 8:30AM

16-18, 7, 20

Laboratory & Field Schedule*

Fall 2013

Date		Experiment
Fri.	Aug. 30	Patterns in Nature Field Trip-Jacobsberg State Park Meet @ 11:30 AM, Collier front entrance; Return by 4:15 PM
Fri.	Sept. 06	Leaf Angle, Light Interception & Water Relations- Jacobsberg State Park Meet @ 1:00 PM, Collier Front Entrance
Fri.	Sept. 13	Basic Ecological Data Analysis & Statistics Memorial 201 Meet @ 1:15 PM, Memorial 201
Fri.	Sept. 20	Campus Tree Inventory Project
Thurs.	Sept. 26	TurtlePOP Mark/Recapture Study (optional) Meet @ 1:00 PM, Collier Front Entrance
Fri.	Sept. 27	TurtlePOP Mark/Recapture Study (mandatory) Meet @ 11:30 PM, Collier Front Entrance
Sat.	Sept. 28	TurtlePOP Mark/Recapture Study (optional) Meet @ 9:00 AM, Collier Front Entrance
Fri.	Oct. 04	Life Tables & Survivorship Curves Meet at 1:15 PM in Collier 300
Fri.	Oct. 11	Permanent Forest Plot Project Deputy Field Study Center Meet @ 11:30 AM, Collier front entrance Return by 4:15 PM
Fri.	Oct. 18	Permanent Forest Plot Project Deputy Field Study Center Meet @ 11:30 AM, Collier front entrance; Return by 4:15 PM
Fri.	Oct. 25	Tannersville Bog Trip Meet @ 11:30 AM, Collier front entrance; Return by 4:15 PM
Fri.	Nov. 01	Stream Ecosystem Assessment

Meet @ 1:00 PM, Collier front entrance;
Return by 4:15 PM

Fri.	Nov. 08	Aquatic Macroinvertebrate Identification and Analysis Meet in Collier 300 @ 1:15 PM
Fri.	Nov. 15	Island Biogeography, Diversity & Soil Microarthropods Jacobsberg State Park Meet @ 1:00 PM, Collier front entrance; Return by 4:15 PM
Fri.	Nov. 22	Soil Microarthropod Identification and Analysis Meet in Collier 300 @ 1:15 PM
Fri.	Nov. 29	No Lab: Thanksgiving Break
Fri.	Dec. 06	Wrap-up

*All laboratory sessions are tentative due to weather conditions. I will send an e-mail by 10:00 AM on the day of lab with information about the day's activities.