

Syllabus for Biology 360
Ecology
Fall 2014

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

Classrooms: Lecture - 338 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

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

Text: 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.

An absence on an examination day will require either prior permission or a suitable excuse from a physician, the Health Center or Dean of Students Office before a make-up is given.

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:	Lecture Exam 1	100 points
	Lecture Exam 2	100 points
	Final Exam	100 points
	Laboratory Assignments	<u>300 points</u>
		600 points

Course Guidelines: All assignments are to be handed in according to the due date on the syllabus or announced in class or lab. **Late work will be penalized.**

All students are expected to follow the principles of academic honesty as set out in the policies of Moravian College. See the Student Handbook for details. Any and all written work must be done in your own words (with the exception of direct quotations which are clearly indicated as such), and written work must include proper citations indicating the sources for any ideas, concepts, facts, or other information derived from others, whether or not you have restated it in your own words. Any cases of suspected cheating or plagiarism will be referred to the Academic Affairs Office. Academic dishonesty may result in a failing grade in the course.

In case of any crisis or emergency, or an extended absence from class, you must inform me directly, through Learning Services or the Academic Dean's Office.

Students who wish to request accommodations in this class for a disability must contact Ms. Elaine Mara, assistant director of academic support services for academic and

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disability support, at the lower level of Monocacy Hall, or by calling 610-861-1401. Accommodations cannot be provided until authorization is received from the Academic Support Center.

These guidelines are intended for the benefit of the students as far as clarification of my expectations for the course; however, in exceptional circumstances I reserve the right to exercise discretion in the application of these guidelines to individual cases or to refer a particular case to the Academic Dean if necessary.

Classroom Expectations:

Respect for others' answers and views.

Disruptive behavior during class will result in your dismissal from the class the first time, after that, disciplinary action will be taken.

Cell phones need to be turned to OFF and put away in a purse or bookbag during class. Use of cell phones in any way during class will result in dismissal from class and be counted as an absence.

Non-alcoholic drinks and non-odiferous snacks are allowed in class, other "odiferous food" is not.

If you arrive late, be respectful by not disrupting a class already in progress.

**Ecology Lecture Schedule
Fall 2014**

Day & Date		Topic	Molles Chapter
M	Aug. 25	Introduction: What is Ecology?	1
W	27	Climate & Biogeography	2
F	29	Field trip: Jacobsberg State Park Meet @ 11:45 AM Collier Entrance; Return by 4:15 PM	
M	Sept. 01	Life on Land: Terrestrial Biomes	2
W	03	Life on Land: Terrestrial Biomes	2
F	05	Population Genetics & Natural Selection	4
M	08	Population Genetics & Natural Selection	4
W	10	Population Distribution & Abundance	9
F	12	Moravian College Tree Inventory: Bartlett Tree Experts	
M	15	Population Distribution & Abundance	9
W	17	Population Dynamics	10
F	19	Field Trip: Lehigh Gap Nature Center Meet @ 11:45 AM, Collier front entrance; Return by 4:15 PM	
M	22	Population Dynamics	10
W	24	Population Growth	11
F	26	Field Trip: Lehigh Gap Nature Center Meet @ 11:45 AM, Collier front entrance; Return by 4:15 PM	
M	29	Population Growth	
W	Oct. 01	Population Growth	
F	03	Exam 1	1, 2, 4, 9, 10,11
M	06	Life Histories	12
W	08	Life Histories	12
F	10	Field trip: Tannersville Bog Meet @ 11:45 AM Collier Entrance; Return by 4:15 PM	
M	13	NO CLASS-Fall Break	
W	15	Competition	13
F	17	Field trip: Deputy Field Center Meet @ 11:45 AM Collier Entrance; Return by 4:15 PM	
M	20	Competition	13
W	22	Predation, Herbivory, Parasitism & Disease	14
F	24	Field trip: Deputy Field Center Meet @ 11:45 AM Collier Entrance; Return by 4:15 PM	
M	27	Predation, Herbivory, Parasitism & Disease	14
W	29	Life in Water	3
F	31	Life in Water	3
M	Nov. 03	Exam 2	12-14; 3
W	05	Species Abundance and Diversity	16
F	07	Species Abundance and Diversity	16

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M	10	Species Interactions and Community Structure	17
W	12	Species Interactions and Community Structure	17
F	14	Species Interactions and Community Structure	17
M	17	Energy and Nutrient Relations	7
W	19	Energy and Nutrient Relations	7
F	21	Primary Production and Energy Flow	18
M	24	Primary Production and Energy Flow	18
W	26	NO CLASS-Thanksgiving Break	
F	28	NO CLASS-Thanksgiving Break	
M	Dec. 01	Succession and Stability	20
W	03	Succession and Stability	20
F	05	Global Ecology	23
M	08	Global Ecology	23

Final Exam: Thursday, December 13 @ 8:30 AM

**16-18, 7,
20, 23**

**Laboratory & Field Schedule
Fall 2014**

Date	Experiment	
Fri.	Aug. 29	Patterns in Nature Field Trip-Jacobsberg State Park Meet @ 11:45 AM, Collier front entrance; Return by 4:15 PM
Fri.	Sept. 05	Leaf Angle, Light Interception & Water Relations- Jacobsberg State Park Meet @ 1:15 PM, Collier front entrance; Return by 4:15 PM
Fri.	Sept. 12	Moravian College Tree Inventory Meet @ 1:15 PM To be determined
Fri.	Sept. 19	Monarch Butterfly Tagging-LGNC. Meet @ 11:45 AM, Collier front entrance; Return by 4:15 PM
Thurs.	Sept. 25	TurtlePop Project-LGNC (optional) Meet @ TBD, Collier front entrance Return by 4:15 PM
Fri.	Sept. 26	TurtlePop Project-LGNC Meet @ 11:45 AM, Collier front entrance; Return by 4:15 PM
Sat.	Sept. 27	TurtlePop Project-LGNC (optional) Meet @ TBD, Collier front entrance
Fri.	Oct. 03	Life Tables & Survivorship Curves Meet at 1:15 PM in Collier 300
Fri.	Oct. 10	Tannersville Bog Trip Meet @ 11:45 AM, Collier front entrance; Return by 4:15 PM
Fri.	Oct. 17	Quadrat Sampling Deputy Field Center Meet @ 11:45 AM, Collier front entrance; Return by 4:15 PM

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Fri.	Oct. 24	Quadrat Sampling Deputy Field Center Meet @ 11:45 AM, Collier front entrance; Return by 4:15 PM
Fri.	Oct. 31	Stream Ecosystem Assessment Meet @ 1:15 PM in Collier front entrance to pick up waders
Fri.	Nov. 07	Aquatic Macroinvertebrate Identification and Analysis Meet in Collier 300 @ 1:15 PM
Fri.	Nov. 14	Island Biogeography, Diversity & Soil Microarthropods Jacobsberg State Park Meet @ 1:15 PM, Collier front entrance; Return by 4:15 PM
Fri.	Nov. 21	Soil Microarthropod Identification and Analysis Meet in Collier 300 @ 1:15 PM
Fri.	Nov. 28	NO LAB-Thanksgiving Break
Fri.	Dec. 05	Wrap-up