



Homestead Campus

**PCB 2033 – Introduction to Ecology (3 credits)
Spring 2007-2 Term (January – May 2008)
Reference #440584**

- Day/Time:** Lecture: Mondays and Wednesdays, 7:05-8:20 PM
- Classroom:** Room G-103, Building G, MDC-Homestead Campus
- Instructor:** Professor Mark Chiappone
On Campus: 305 237-5073
Mobile: 305 898-5390
E-mail: mchiappo@mdc.edu
- Office Hours:** Building B, Room B-119
Mondays: 10:00 AM to 5:30 PM
Wednesdays: 12:00 AM to 2:00 PM
- Learning Support Lab, Room D-203
Tuesdays and Thursdays: 12:40-2:00 PM
Wednesdays: 2:00 PM to 5:30 PM
Fridays: 10:00 AM to 12:00 PM
- Course Description:** This course will provide students with an understanding of and an appreciation for how organisms relate to one another and their environment at the levels of biological organization from the individual to the biosphere. Prerequisites: PSC 1515 or BSC 2011. (3 hr. lecture)
- General Education Outcomes:** (1) Communicate effectively using listening, speaking, reading, and writing skills.
(2) Use quantitative analytical skills to evaluate and process numerical data.
(3) Solve problems using critical and creative thinking and scientific reasoning.
(4) Formulate strategies to locate, evaluate, and apply information.
(7) Demonstrate knowledge of ethical thinking and its application to issues in society.
(8) Use computer and emerging technologies effectively.
(10) Describe how natural systems function and recognize the impact of humans on the environment.

Resources

- Textbook:** Elements of Ecology, 6th edition, Smith and Smith (2006)

- Course Web Site:** Your professor's web site at <http://faculty.mdc.edu/mchiappo> provides links to the course syllabus, PowerPoint lectures, templates for completing the homework questions, and practice tests.
- Learning Support:** Computer support and tutoring is available in the Learning Support Lab and Computer Courtyard located on the 2nd floor of Building D.
- Course Compass ID:** **chiappone49934** is used to establish access to course web site at www.coursecompass.com. This web site provides online quizzes and supplementary instructional materials that go along with your textbook.

Class Procedures

- Attendance:** There will be a sign-in sheet for every class to verify attendance. If you cannot attend class, please notify the instructor via email or telephone. Class participation counts as 5% of your grade; therefore, poor attendance will be reflected in the final grade. Poor attendance may result in a student being dropped from the course after three absences.
- PERSONAL COMMUNICATION DEVICES:** Pagers and cellular phones are NOT conducive to the educational process in this class. I will assume that any interruption in class will be justifiable based on a real emergency and that the student being summoned will need to leave immediately to deliver a baby, attend to the dying, retrieve an injured child from daycare, or otherwise take immediate action which necessitates leaving.
- Supplementary Materials:** An access code with every new textbook allows students to access course compass at www.coursecompass.com. This web site contains mandatory online quizzes for each chapter, as well as supplementary instructional materials such as vocabulary lists, videos, and animations. The textbook web site at www.ecologyplace.com for *Essential Biology, 3rd edition* is an assessment-driven web site system that accompanies the course textbook.
- Review Sessions:** The lecture notes in PowerPoint and the practice tests are available online on your professor's faculty web page at <http://faculty.mdc.edu/mchiappo>. Exam questions will be drawn from questions on the practice tests.
- Learning Support Lab:** You are encouraged to visit the Learning Support Lab or Computer Courtyard if you do not have access to a computer with internet connection off campus. You will need a computer with internet connection to access Course Compass to take the online quizzes.

Grading Procedure

- Components:** **60% Exams:** six exams covering 2-4 chapters each in multiple-choice format. Exams will be drawn from the practice tests available on the course web site. Each exam will count towards 10% of your final grade. Exams will not be graded on a curve, and except for unusual circumstances, no make-up exams will be provided. If you anticipate missing an exam, make arrangements with the professor to take the exam early.

15% Online Quizzes: There are 19 online quizzes available at www.coursecompass.com that must be taken by the due dates specified on the web site. Quizzes are in multiple-choice format and cover the main ideas of each chapter.

20% Homework: You will complete answers to the study questions at the end of each chapter covered during the course, consisting of 4-17 questions. The templates for completing the homework assignments are available on your instructor's web site (<http://faculty.mdc.edu/mchiappo>) and must be used. Late work will not be graded. Study questions must be typed, grammatically correct, accurate, and emailed to your professor by the due dates specified.

5% Attendance: a sign-in sheet will be available at the beginning of class to verify attendance. Each class counts for approximately 0.167% points towards your final grade (total of 30 classes). You are expected to have read the material that will be covered before lecture and to participate in class discussions.

Grading Scale:

A = 90-100, B = 80-89, C = 70-79, D = 60-69, F = 0-59

No pluses or minuses will be given. In order to receive an incomplete, the student must be passing the course with a "C" or better and must have attended at least two-thirds of the classes. An incomplete is granted only in a rare circumstance. It is the responsibility of the student to withdraw from the course by the appropriate deadline if the student wishes to receive a grade of W.

Important Dates for the Spring 2007-2 Semester (January-April 2008)

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| Monday, January 14: | Last Day to Change Courses without Penalty; Withdraw from classes with 100% refund; Register, add, drop, or change sections of credit courses without signature of instructor |
| Tuesday, March 18: | Last Day to Withdraw with a Grade of W |
| Friday, April 25: | Last Day of Classes |
| Friday, May 2: | Last Day of Final Exams |

PCB 2033 – Introduction to Ecology

Spring 2007-2 Tentative Course Schedule

Class #	Date	Activity		Class #	Date	Activity
1	W 1/09	Introduction Chapter 1		16	W 3/05	Chapter 9
2	M 1/14	Chapter 1		17	M 3/10	Chapter 10
3	W 1/16	Chapters 1and 2		18	W 3/12	Chapter 11
	M 1/21	No Class MLK Holiday		19	M 3/17	Chapter 12
4	W 1/23	Chapter 2		20	W 3/19	Exam #4 Chapters 9-12 Homework Due
5	M 1/28	Exam #1 Chapters 1-2 Homework Due		21	M 3/24	Chapter 13
6	W 1/30	Chapter 3		22	W 3/26	Chapter 13
7	M 2/04	Chapters 3 and 4		23	M 3/31	Chapter 14
8	W 2/06	Chapter 4		24	W 4/02	Chapter 15
9	M 2/11	Chapters 4 and 5		25	M 4/07	Exam #5 Chapters 13-15 Homework Due
10	W 2/13	Exam #2 Chapters 3-5 Homework Due		26	W 4/09	Chapter 16
11	M 2/18	Chapter 6		27	M 4/14	Chapter 17
12	W 2/20	Chapters 6-7		28	W 4/16	Chapter 18
13	M 2/25	Chapter 7		29	M 4/21	Chapter 19
14	W 2/27	Chapter 8		30	W 4/23	Exam #6 Chapters 16-19 Homework Due
15	M 3/03	Exam #3 Chapters 6-8 Homework Due				

Required Textbook Homework – PCB 2033

Study Questions

Homework is to be typed, grammatically correct, and your own work. Questions are to be answered completely and can be accessed from the 6th edition of the textbook or from the professor's web site. Copying off of another student constitutes plagiarism and will result in a zero for the homework assignment. Homework turned in late will not be accepted. Homework is to be emailed to mchiappo@mdc.edu by NOON the day of the exam.

Chapter 1: The Nature of Ecology, Page 15, Study Questions 1-7

Chapter 2: Adaptation and Evolution, Pages 40-41, Study Questions 1-10

Chapter 3: Climate, Page 64, Study Questions: 1-8

Chapter 4: The Aquatic Environment, Page 83, Study Questions 1-10

Chapter 5: The Terrestrial Environment, Page 101, Study Questions: 1-11

Chapter 6: Plant Adaptations to the Environment, Page 132 Study Questions: 1-13

Chapter 7: Animal Adaptations to the Environment, Page 162, Study Questions: 1-17

Chapter 8: Life History Patterns, Page 182, Study Questions: 1-11

Chapter 9: Properties of Populations, Page 203, Study Questions: 1-4

Chapter 10: Population Growth, Page 221, Study Questions: 1-10

Chapter 11: Intra-specific Population Regulation, Page 240, Study Questions: 1-9

Chapter 12: Metapopulations, Page 255, Study Questions: 1-9

Chapter 13: Inter-specific Competition, Page 282, Study Questions: 1-7

Chapter 14: Predation, Page 310, Study Questions: 1-9

Chapter 15: Parasitism and Mutualism, Page 331, Study Questions: 1-7

Chapter 16: Community Structure, Page 352, Study Questions, 1-7

Chapter 17: Factors Influencing Community Structure, Page 371, Study Questions 1-9

Chapter 18: Community Dynamics, Page 396, Study Questions 1-8

Chapter 19: Landscape Ecology, Page 422, Study Questions 1-11

Course Units and Competencies

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Course Units

Introduction: What is Ecology?

- Ecology, environmentalism, and the history of ecology
- Applying the scientific method in ecology
- The processes of evolution

The Physical Environment

- Weather, climate, light and the water cycle
- Temperature and moisture
- Nutrients and soils

The Organism and Its Environment

- The many “flavors” of photosynthesis
- Cellular respiration
- Adaptation, biological clocks and periodicity

Populations

- Abundance patterns
- Sexual relationships in nature
- Biodiversity and extinction

Communities

- Exotic plants and animals in south Florida
- Mutualism and parasitism
- Niches and inter-specific relationships

Ecosystems

- Ecosystems and energy flow
- Food chains and food webs
- Biogeochemical cycles

Biogeography and Biodiversity

- South Florida’s unique plant communities (mangroves, wetlands, rocklands, hammocks)
- Biogeographical realms and biomes (tundra, taiga, boreal forests, deciduous forests, savannahs, deserts, tropical forests, aquatic systems)

Course Competencies

Competency 1: Understand how organisms are adapted to survive, grow, and reproduce

Competency 2: Understand the tremendous diversity of how organisms interact with one another

Competency 3: Understand how the forces of natural selection and ecological succession shape populations and communities

Competency 4: Understand the structure and function of populations, communities, and ecosystems

Competency 5: Understand the uniqueness of the south Florida ecosystem

Competency 6: Have a greater appreciation of the beauty and amazing complexity of the natural world