

PELLISSIPPI STATE COMMUNITY COLLEGE
MASTER SYLLABUS

GENERAL ECOLOGY
BIOL 2040

Lecture Hours: 3.0

Credit Hours: 4.0

Lab/Field Hours: 2.0

Revised: Spring 2011

Catalog Course Description:

Relationships between organisms and their environment, including human environmental problems. Five hours of lecture and lab/field work with announced field trips.

Entry Level Standards:

One year of high school biology or natural science is preferred.

Prerequisites:

Completion of DSPM sequence.

Textbook(s) and Other Course Materials:

Ecology: Concepts and Applications. 2010. Fifth Edition. Manuel C. Molles, Jr. McGraw Hill Publishing Co., New York. ISBN 978-0-07-338322-4 (\$156)

Instruction is augmented with lab activities, computer simulations, and audio visuals. Demonstration, lab, and reference materials are provided by the instructor.

I. Week/Unit/Topic Basis:

Week	Topic
1	Introduction to Ecology and Evolution ; Life on Land: Terrestrial Conditions and Terrestrial Biomes
2	Life in Water: Aquatic Conditions and Aquatic Biomes
3	Population Genetics and Natural Selection; Temperature Relations: Conditions and Adaptations; Water Relations: Conditions and Adaptations
4	<i>Exam 1 (Life and Its Environments: Chapters 1-6);</i> Energy/Nutrient Relationships: Trophic Levels and Responses to Resource Variability
5	Social Relationships: Animal Behavior ; Population Dynamics: Distributions and Abundance
6	Population Dynamics: Survivorship Curves, Age Distributions; Population Growth
7	Life History Patterns: Numbers of Offspring, Parental Care, and Environmental Conditions <i>Exam 2 (Population Ecology: Chapters 7-12)</i>
8	Competition: Niche and Resource Partitioning
9	Exploitation: Predator-Prey Relationships, Host-Parasite Relationships; Mutualism

- 10 Species Abundance and Diversity;
Community Structure: Community Food Webs and Keystone Species
- 11 *Exam 3 (Interactions Among Living Things: Chapters 13-17);*
Energy Flow: Primary Productivity, Food Chains, Terrestrial and Aquatic System
Comparisons
- 12 Nutrient Cycling: Material cycles and Rates of Decomposition;
Succession: Mechanisms of Change and Stability
- 13 Landscape Ecology: Landscape Structure and Habitat Patches
- 14 Geographic Ecology: Island Biogeography and Latitudinal Gradients;
Global Ecology: Human Activity and Global Nutrient Cycles, Land Cover, and
Atmospheric Composition;
Exam 4 (Energy, Nutrients, and Large-Scale Ecology: Chapters 18-23)
- 15 Final Exam Period

II. Course Goals*:

- A. Understand the connection between the theory of evolution and the study of ecology. V3, V4, V5
- B. Recognize terrestrial and aquatic biome differences and the resulting plant and animal communities. V3, V4
- C. Identify properties of populations, communities and ecosystems. V3, V4, V5
- D. Conduct tests to evaluate local natural populations and their relationships with local environmental conditions. V1, V2, V5, VI 4, VI 6, I 5
- E. Evaluate the impact of human actions on natural and human populations. V5, III 1, III 2, III 3

*Roman numerals after course objectives reference goals of the university parallel program.

III. Expectations for Student Performance*:

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

- 1. Describe populations and forms of species interactions. C
- 2. Identify plant and animal communities and the impact humans have on them. B, C, E
- 3. Identify plant and animal cycles and the impact humans have on them. B, C, D, E
- 4. Identify the major terrestrial and aquatic biomes and their inhabitants. B
- 5. Understand the connections among population genetics, evolution, and ecology. A
- 6. Use the scientific method and critical thinking skills to evaluate the relationships between organisms and their environment. A, D, E
- 7. Interact with professional environmental scientist and peers to take active roles in environmental protection. C, D, E
- 8. Understand human roles as top-level consumers and stewards of the biosphere. A, B, C, D, E

* Capital letters after Expected Student Learning Outcomes reference the course goals listed above.

IV. Evaluation:

A. Testing Procedures: 50% of grade

Each unit will be evaluated with a 100-pt multiple choice and short answer exam. There is a 100-pt multiple choice comprehensive exam. There are no make-up exams.

B. Laboratory and Field Work Expectations: 50% of grade

Labs will involve weekly lab and field experiments, data analysis, and write-ups. (170 pts.)
There will be 4 announced field trips and one field application experience (330 pts.)

C. Other Evaluation Methods:

N/A

D. Grading Scale:

900 – 1000	Points	90 – 100 %	A
800 - 899	Points	80 - 89%	B
700 - 799	Points	70 - 79%	C
600 - 699	Points	60 - 69%	D
590 – or fewer	Points	0- 59%	F

VI. Policies:

A. Attendance Policy:

Pellissippi State expects students to attend all scheduled instructional activities. As a minimum, students in all courses (excluding distance learning courses) must be present for at least 75 percent of their scheduled class and laboratory meetings in order to receive credit for the course. Individual departments/programs/disciplines, with the approval of the vice president of the Learning Division, may have requirements that are more stringent. In very specific circumstances, an appeal of the policy may be addressed to the head of the department in which the course was taken. If further action is warranted, the appeal may be addressed to the vice president of the Learning Division.

Institutional policy mandates that a student be present for at least 75% of their scheduled class and laboratory meetings in order to receive credit for the course. Students must:

1. come to class.
2. be on time.
3. come focused on learning.
4. come prepared to participate in the learning process.
5. bring materials to gather information.
6. turn in assignments on time.
7. complete trips on the days selected.
8. understand that there are no make-up tests.
9. understand that success will only come from hard work.

B. Academic Dishonesty:

Academic misconduct committed either directly or indirectly by an individual or group is subject to disciplinary action. Prohibited activities include but are not limited to the following practices:

- Cheating, including but not limited to unauthorized assistance from material, people, or devices when taking a test, quiz, or examination; writing papers or reports; solving problems; or completing academic assignments.
- Plagiarism, including but not limited to paraphrasing, summarizing, or directly quoting published or unpublished work of another person, including online or computerized services, without proper documentation of the original source.

- Purchasing or otherwise obtaining prewritten essays, research papers, or materials prepared by another person or agency that sells term papers or other academic materials to be presented as one's own work.
- Taking an exam for another student.
- Providing others with information and/or answers regarding exams, quizzes, homework or other classroom assignments unless explicitly authorized by the instructor.
- Any of the above occurring within the Web or distance learning environment.

C. Accommodations for disabilities:

Students who need accommodations because of a disability, have emergency medical information to share, or need special arrangements in case the building must be evacuated should inform the instructor immediately, privately after class or in her or his office. Students must present a current accommodation plan from a staff member in Services for Students with Disabilities (SSWD) in order to receive accommodations in this course. Services for Students with Disabilities may be contacted by going to Goins 127, 132, 134, 135, 131 or by phone: 539-7153 or TTY 694-6429. More information is available at www.pstcc.edu/departments/swd/.

D. Other Policies

As a condition of course enrollment, every participant must sign and abide by the institutional Hold Harmless Agreement and Release of Liability documents. Additionally, only those enrolled in the course may participate in the activities. Students are expected to dress in an appropriate, socially acceptable manner and respect their peers and instructor.

During fieldtrips, wearing a seat belt in the college vehicle is required. No tobacco products are allowed from start to finish of any group field experience. Additionally, individuals with special medical considerations or on prescription medications must advise their instructor prior to participation and carry with them appropriate dosages of medications for the duration of the exercise. The instructor reserves the right to refuse to allow any student to participate in a field exercise where there is a perceived risk to that individual or the group due, among other considerations, their individual state of health and fitness and preparedness for the venture.