GENERAL ECOLOGY
BIOL 2030 (formerly BIO 2030)

Class Hours: 4.0  Credit Hours: 4.0
Laboratory Hours: 0.0  Date Revised: Fall 01

Catalog Course Description:

Relationships between organisms and their environment, including human environmental problems. Four hours of lecture with announced field trips.

Entry Level Standards:

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

Prerequisites:

None

Textbook(s) and Other Reference Materials Basic to the Course:

Instruction is augmented through the use of handouts and audio visuals. Demonstration and reference materials are provided by the instructor.

I. Week/Unit/Topic Basis:

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<tr>
<th>Week</th>
<th>Topic</th>
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<tbody>
<tr>
<td>1</td>
<td>Properties of populations and life history patterns</td>
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<td>2</td>
<td>Population growth, intraspecific population regulation and interspecific population competition</td>
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<td>3</td>
<td>Predation and parasitism and mutualism</td>
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<td>4</td>
<td>Human interactions and population genetics and speciation Unit 1 Test (Chapters 11-19)</td>
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<td>5</td>
<td>Community structure and dynamics</td>
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<td>6</td>
<td>Processes shaping communities and production in ecosystems</td>
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<tr>
<td>7</td>
<td>Trophic structure and biogeochemical cycles</td>
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<tr>
<td>8</td>
<td>Global environmental change Unit 2 Test (Chapters 20-26)</td>
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<tr>
<td>9</td>
<td>Tundra and taiga</td>
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</table>
II. Course Objectives*:

A. Identify properties of populations and identify species interactions. I.5

B. Identify properties of communities and understand ecosystems and human impact. IV.1, IV.3

C. Recognize biome differences and the resulting plant and animal communities present. I.5, VII.2

D. Recognize both freshwater and salt water ecosystem differences and the resulting plant and animal communities present. I.5, VII.2

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

III. Instructional Processes*:

Students will:

1. Locate and evaluate ecological habitats and issues in the ERC and on the World Wide Web. Information Literacy Outcome, Technological Literacy Outcome

2. Collect data, make comparisons and draw conclusions on environmental issues. Information Literacy Outcome, Numerical Literacy Outcome

3. Read and critique trade publications, maps and environmental data. Communication Outcome

4. Develop a vocabulary that allows them to communicate more effectively with scientific peers and the public. Communication Outcome, Transitional Strategy

5. Participate in lecture and field activities which develop teamwork, problem solving and information analysis. Problem Solving and Decision Making Outcome, Active Learning Strategy

6. Select two off-site learning experiences that promote independent thinking and sustained effort and time such as an independent site investigation and development of a wild plant collection. Personal Development Outcome
7. Examine etiquette issues related human habitation, such as the location of homes and industries, appropriateness of developments and use of the biosphere without degradation of natural resources. *Personal Development Outcome, Cultural Diversity and Social Adaptation Outcome*

*Strategies and outcomes listed after instructional processes reference Pellissippi State’s goals for strengthening general education knowledge and skills, connecting coursework to experiences beyond the classroom, and encouraging students to take active and responsible roles in the educational process.*

**IV. Expectations for Student Performance***:

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

1. Describe populations and known forms of species interactions.  
2. Identify plant and animal communities and the impact humans have on them. 
3. Identify plant and animal cycles and the impact humans have on them. 
4. Identify the six major biomes. 
5. Differentiate among the major terrestrial habitats and their inhabitants. 
6. Identify major freshwater habitats.  
7. Identify major saltwater habitats.  
8. Understand their role as a top-level consumer and steward of the biosphere.  

*Letters after performance expectations reference the course objectives listed above.*

**V. Evaluation:**

A. Testing Procedures: 50% of grade

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

B. Laboratory Expectations:

N/A

C. Field Work: 50% of grade

Fieldwork will involve three 100-pt announced field trips and subsequent reports. Failure to show on the chosen date of any trip will result in no credit for that event and possible forfeiture of opportunity to participate on remaining trips. Additionally, fieldwork will involve a 100-pt off-campus investigation selected by the student with prior approval of the topic by the instructor and a 100-pt off-campus data analysis as directed by the instructor.

D. Other Evaluation Methods:

N/A

E. Grading Scale:
VI. Policies:

A. Attendance Policy:

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. After being excessively late for or missing one equivalent week of lecture, each subsequent tardiness or absence will reduce the final letter grade by one letter. Failure to sign the class roll by the end of any session or exercise constitutes an absence.

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 there is no extra credit for individuals.
10. understand that success will only come from hard work.

B. Academic Dishonesty:

Any form of test or individual assignment collaboration with another individual will result in an “F” in the course.

C. 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.

On field exercises 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.