**General Information**  
Catalog Number, Section, and Term: BIOL 2150, 21, Fall 2008

Title of Course: Lab: Ecology and Field Biology

Pre-requisites: BIOL 1251, BIOL 1253, BIOL 1252, BIOL 1254 General Biology I, II or equivalent.

Class Room and Meeting Times and Dates: Dickinson Hall Room 5523  
Mondays 2:00 PM – 4:50 PM, September 8, 2008 – December 15, 2008

Instructor: Dr. Marion McClary

Office Location and Office Hours: Dickinson Hall Room 4456, Mondays 5:30 PM – 6:30 PM, Tuesdays 12:00 PM – 1:00 PM, Thursdays 12:00 PM – 1:00 PM

Laboratory Location: Dickinson Hall Room 5513

Telephone with voice mail: 201-692-2606

FDU Email Address: mcclary@fdu.edu

**Course Description**  
Field and laboratory work illustrating the topics discussed in BIOL 2250. 0 credit.

**Text and Materials**  

**Rules, Regulations, Grades**  
Attendance and lateness policy: Students are responsible for all material missed due to absence and or tardiness.

Makeup and missed work policy:  
1) Laboratory/field papers are due one week after the laboratory/field date (see outline)

2) Laboratory/field papers may be handed in on or before the date they are due

3) Laboratory/field papers by the last day of the course will become zeros. An incomplete (I) is given if there is a doctor’s or other official notes.

4) Only doctor’s notes or other official notes can remove zeros
Academic Integrity Policy:
Students enrolled at Fairleigh Dickinson University are expected to maintain the highest
standards of academic honesty. Students have the responsibility to each other to make
known the existence of academic dishonesty to their course instructor, and then, if
necessary, the department chair, or the academic dean of their college. Course instructors
have the added responsibility to state in advance in their syllabi any special policies and
procedures concerning examinations and other academic exercises specific to their
courses. Students should request this information if not distributed by the instructor.
Academic dishonesty includes, but is not necessarily limited to, the following:

1. **Cheating**—Giving or receiving unauthorized assistance in any academic exercise or
   examination. Using or attempting to use any unauthorized materials, information,
   or study aids in an examination or academic exercise.

2. **Plagiarism**—Representing the ideas or language of others as one’s own.

3. **Falsification**—Falsifying or inventing any information, data, or citation in an
   academic exercise.

4. **Multiple Submission**—Submitting substantial portions of any academic exercise
   more than once for credit without the prior authorization and approval of the
   current instructor.

5. **Complicity**—Facilitating any of the above actions or performing work that another
   student then presents as his or her assignment.

6. **Interference**—Interfering with the ability of a student to perform his or her
   assignments.

Sanctions: Any student violating academic integrity will, for the first offense, receive
one or a combination of the following penalties imposed by the faculty member:

1. **No credit (0) or Failure for the academic exercise.**

2. **Reduced grade** for the course.

3. **A failure in the Course.**

4. Recommendation for **Academic Probation** to the dean of the college in which the
   student is registered.

The instructor shall file a notice of the penalty in the student’s file maintained in the
campus Office of Enrollment Services.

In cases of interference and complicity, whether or not the student is registered in the
affected course, the incident and penalty shall be recorded in the student’s file maintained
in the campus Office of Enrollment Services.

For a subsequent violation of academic integrity, a student will be subject to any
combination of the above sanctions, and, after due review by the academic dean
according to the procedures below, one of the following:

1. **Suspension** from the University for one year. Readmission will be contingent
   upon the approval of the academic dean.

2. **Dismissal** from the University

3. **Dismissal from University identified on the student’s academic transcript** as a
   result of a violation of the Academic Integrity Policy.
Grading policy:
There will be twelve laboratory/field papers. Each laboratory/field paper is worth 4.17% of your grade. The twelve laboratory/field paper grades are 50% of your grade. There will be two lecture exams. The average of your lecture exam grades is 50% of your grade. Your final grade will be an average of twelve laboratory/field paper grades and your lecture grade. This average will then be placed on the following scale for your grade:

- A  92 - 100
- A-  89 - 91
- B+  86 - 88
- B   82 - 85
- B-  79 - 81
- C+  76 - 78
- C   72 - 75
- C-  69 – 71
- D   60 - 68
- F   0 - 59

Safety Policy:
Effective with the Fall 2001 semester no student will be permitted into laboratories wearing shorts, halter-tops, open toed sandals, undershirts, tank tops or any other inappropriate attire. All students are to purchase a white laboratory coat which can be used for any Biology or Chemistry class which requires a lab--non-majors or majors.

Course Objectives
The objectives (goals) of this course are for you to become competent in knowledge of:
(1) following laboratory protocols; (2) data collection and analysis; (3) reading scientific literature; and (4) writing scientific papers.

Teaching Methodologies/Activities
The following will be used to assess student learning:

1. Papers

Modes of instruction that will be used by the instructor:

1. Hands-on Demonstration
Course Outline

Laboratory and field exercises may change as dictated by weather, tidal conditions, and opportunities that may arise.

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Activity</th>
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<tr>
<td>Sept.</td>
<td>Ecology and How To Do It</td>
<td>Lecture only</td>
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<td>Ecology of evolutionary backdrop</td>
<td>Quadrat Method</td>
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<td>Physical conditions and the availability of resources</td>
<td>Intraspecific Competition Laboratory</td>
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<td>Conditions and resources and the world’s communities</td>
<td>Lake Ecology</td>
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<td>Interspecific competition</td>
<td>Interspecific Competition Laboratory</td>
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<td></td>
<td>MID TERM EXAM</td>
<td>Lecture only</td>
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<tr>
<td></td>
<td>Predation, grazing, and disease</td>
<td>Grazing Laboratory</td>
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<td>Nov.</td>
<td>Evolutionary Ecology</td>
<td>Population Differentiation</td>
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<td></td>
<td>From populations to communities</td>
<td>Patch (Gap) Dynamics</td>
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<td></td>
<td>Patterns in species richness</td>
<td>Shannon-Weaver diversity index</td>
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<td>Flux of energy and matter through ecosystems</td>
<td>Nutrient budgets in aquatic communities (lakes)</td>
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<td>Dec.</td>
<td>Sustainability</td>
<td>Erosion Study</td>
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<td></td>
<td>Habitat Degradation &amp; Conservation</td>
<td>Acid Deposition</td>
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<td>FINAL EXAM</td>
<td>Lecture only</td>
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Other Information
(Please see the next two pages)
Papers:
You will be responsible for 12 papers. They must be typed and will be graded based on their organization, content, grammar, punctuation, and spelling. They are to be written in scientific format (avoid using “my”, “our”, “I”, or “we”).

Title Page
State the title of your work, your name, school address, and the date.

Abstract
Write a few sentences of the introduction, methods, results, and discussion. If you get information from other authors, you must cite them. You cite them by writing their last name followed by a comma and the year of publication in parentheses.

Introduction
Start by giving the background of the topic and end by stating the purpose of the study.

Materials and Methods (written in past tense)
Explain how you did the study. As you explain how you did the study, include the materials that you used in paragraph form. No lists.

Results
Start by saying what you found and end by showing what you found. You show the reader what you found by referring to tables or figures (graphs or diagrams). You refer to them by number (like Table 1 or Fig. 1). You must number your tables and figures. For tables or figures you must provide a key or legend to explain the meaning of any signs or symbols that you use. For graphs you must also label the x axis and the y axis and state the units (moles or grams, #, or %).

Discussion
Start by briefly telling the reader what you found and end by telling them what you think the results mean and why. If the study did not turn out as you thought it should, state the reasons why. How do you think these reasons gave you the results that you got? You can include your mistakes here but you must explain how you think these mistakes gave you the results that you got. At the very end of this section you should conclude by making a statement about whether the purpose of this study was accomplished or not, and what it means in a general sense.

Hints for writing papers
1. Keep a detailed record of what you used to do the study and how you did the study
2. Write the materials and methods section using this information
3. Look at your tables and figures and state what you got
4. Write the results section using these data
5. Decide what you think the results mean and why
6. Write the discussion using these ideas, conclude (general) by relating to the purpose
7. Decide what information the reader needs to know to understand the discussion
8. Write the introduction using this information, state study purpose, and write abstract.
Papers:
You will be responsible for 12 papers. They must be typed and will be graded based on their organization, content, grammar, punctuation, and spelling. They are to be written in scientific format (avoid using “my”, “our”, “I”, or “we”).

Title Page
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Abstract
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Introduction
Start by giving the background of the topic and end by stating the purpose of the study.

Materials and Methods (written in past tense)
Explain how you did the study. As you explain how you did the study, include the materials that you used or will use in paragraph form. No lists.

Results
Start by saying what you found and end by showing what you found. You show the reader what you found by referring to tables or figures (graphs or diagrams). You refer to them by number (like Table 1 or Fig. 1). You must number your tables and figures. For tables or figures you must provide a key or legend to explain the meaning of any signs or symbols that you use. For graphs you must also label the x axis and the y axis and state the units (moles or grams, #, or %).

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Acknowledgements
Thank everyone that helped you with the project except your coauthors.

Literature cited
Write the author’s last name, a comma, their first initial, and a period before writing the same for the other authors. Next write the year the paper was published, a period, the title, a period, the journal name, volume, and page numbers. Do this for each work cited and put on separate lines. Put in alphabetical order by last name of the first author.