BIOLOGY 206-H01: HONORS FOUNDATIONS IN BIOLOGY: ECOLOGY & EVOLUTION LAB

INSTRUCTOR: Dr. Ellen Wisner
COORDINATOR: Maria Stanko

OFFICE: 431 Colton Hall
EMAIL: mstanko@njit.edu
PHONE: 973-642-4975
COURSE WEBSITE: http://moodle.njit.edu/
EMAIL: wisner@njit.edu
COURSE SCHEDULE: M: 1:00 - 3:55pm
Colton Biology Lab: 120L

DESCRIPTION: This course is the laboratory component of Foundations in Biology: Ecology and Evolution. You MUST be registered for the lectures (Biology 205) to take the lab. The labs are designed to complement and elaborate upon concepts learned in the lecture, to give you hands-on experience making observations and gathering data, and to introduce you to common procedures and analyses used in the study of ecology and evolution.

LAB PREPARATION: For each lab, a lab handout and a lab worksheet will be posted on the course website by Friday morning of the previous week. Please read through both of these files thoroughly before coming to lab, and be sure to bring a print-out of BOTH files to each lab. Note that for some labs, you will need to bring handouts and worksheets for two labs. Please obtain a 3-ring binder to keep your lab handouts and worksheets organized into a lab notebook.

COURSE WEB PAGE: We will use Moodle in this course. To use Moodle students must have an NJIT UCID. If you are matriculated at NJIT you should already have a UCID. If you are a Rutgers student you can request one here https://newacct.njit.edu/~accts/cgi-bin/new or call the NJIT helpdesk for assistance (973-596-2900).

COURSE GRADE:
Your grade for lab will be determined based on quizzes, worksheet assignments, and one written lab report:

Quiz: You will begin each lab with a quiz. Students arriving late to lab will not be permitted to take the quiz. Make sure you read the lab handout before coming to lab so you’re prepared! The quizzes will ask about the current week’s lab and will also include some review from previous weeks.

Assignment: Each week, complete the worksheet that accompanies your lab handout. Some of it will be completed during the lab; often, there are analyses or interpretive questions that you’ll need to complete on your own time. Worksheets for each lab are due IN LAB the week after the lab is completed (see lab schedule). Please note that while you usually work in groups during the lab and will share data and discuss results with your group, your worksheet and other parts of the assignment must be your own work.

Lab Report: You will design a plant experiment and report the results in a full lab report in the style of a scientific publication. Failure to turn in either section of the draft will result in a loss of 30 points.
Writing Assignment: You will write a 4-5 page research grant on an evolutionary or ecological topic of your choosing. You do not need to conduct an experiment or collect data. The purpose of this assignment is for you to learn more about a subject that interests you and to hone your skills in written communication of scientific information. You will receive additional information on this assignment in class. This writing assignment will be worth a total of 65 points.

In-Class Discussions/Activities: Each week there will be either a brief discussion or a learning activity at the beginning of class. You will receive points based on your participation and performance in these activities.

<table>
<thead>
<tr>
<th>POINT BREAKDOWN</th>
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<tbody>
<tr>
<td>Quizzes:</td>
<td>10 pts per week = 110 points</td>
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<tr>
<td>Assignments:</td>
<td>25 pts per lab = 325 points</td>
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<td>Writing Assignment</td>
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<td>In-Class Discussions &amp; Activities</td>
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<td>Lab Report:</td>
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<td>Total</td>
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LAB SAFETY: General safety precautions:

- No eating or drinking in the lab.
- Wear closed-toed shoes to lab.
- Follow the directions for lab procedures and ask your TA if you’re unsure about how to operate any equipment.
- Keep an organized workspace and label all materials.
- Notify your TA immediately of any injuries, spills, or broken equipment.
- Your lab handouts and your TA will alert you to safety concerns specific to a particular lab.

Attendance, Make-Up, and Lateness Policy: Attendance at every lab is required and necessary to earn a good grade in lab. You will not be permitted to turn in a worksheet for a lab you did not attend. If you must miss lab for a valid reason, you may attend another lab section during the SAME week only, with documentation (doctor’s or dean’s note) of your absence. You MUST let your TA know if you want to make-up a missed lab. Late assignments will be deducted 10% of the points available for each 24 hours after the assignment was due.

Academic Dishonesty: The course has a zero tolerance policy for academic dishonesty, including plagiarism and cheating. Instances of dishonesty will be punished by a zero on the assignment and consultation with the office of the Dean of Students to determine if further action is required. If you have any questions about what constitutes plagiarism or cheating, please ask your TA or refer to the academic integrity code NJIT Academic Integrity Code.
# Lab Schedule:

<table>
<thead>
<tr>
<th>WEEK / DATES</th>
<th>LECTURE TOPIC</th>
<th>ASSIGNMENT DUE</th>
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<tbody>
<tr>
<td>9/3</td>
<td><strong>Sept. 3, 2012:</strong> Labor Day – No Classes</td>
<td>➤ NO LABS THIS WEEK</td>
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| WEEK 1       | 9/10          | Lab 1: Variation and Statistics  
Lab 3: C-fern [Week 1] | |
| WEEK 2       | 9/17          | Lab 2: Genetic Change in Model Populations  
Lab 3: C-fern [Week 2] | Lab 1 DUE |
| WEEK 3       | 9/24          | Lab 3: C-fern (Week 3) /  
Lab 4: DNA Extraction and PCR (Week 1) | Lab 2 DUE |
| WEEK 4       | 10/1          | Lab 4: DNA Extraction and PCR (Week 2) /  
Lab 5: Constructing a Phylogeny (Week 1) | Lab 3 DUE |
| WEEK 5       | 10/8          | Lab 5: Constructing a Phylogeny (Week 2) | Lab 4 DUE |
| WEEK 6       | 10/15         | Lab 10: Competition (Week 1)  
▪ Begin Plant Experiments  
Lab 6: Plant Species Identification | Lab 5 DUE |
| WEEK 7       | 10/22         | Lab 7: How to Write a Lab Report | Lab 6 DUE |
| WEEK 8       | 10/29         | Lab 8: Optimal Foraging | Lab 7 DUE  
➤ Lab Report DRAFT, Part 1 DUE |
| WEEK 9       | 11/5          | Lab 9: Mark-Recapture | Lab 8 DUE |
| WEEK 10      | 11/12         | Lab 10: Competition ( Week 2)  
▪ End Plant Experiments  
Lab 11: Computer Simulation: Isle Royale | Lab 9 DUE  
➤ Writing Assignment Draft 1 DUE |
| 11/19-25     | **Nov. 22-25:** Thanksgiving Recess – No Classes | ➤ NO LABS THIS WEEK |
| WEEK 11      | 11/26         | Lab 12: Island Biogeography | Lab 10, 11 DUE  
➤ Lab Report DRAFT, Part 2 DUE |
| WEEK 12      | 12/3          | Lab 13: Ecological Footprint | Lab 12 DUE  
LAB 13 DUE |
| ➤ 12/10      | **FINAL LAB REPORT DUE** ➤ NO LABS THIS WEEK | ➤ Writing Assignment Draft 2 DUE |

**FINAL EXAM WEEK: DECEMBER 14-20, 2012**