Lab Syllabus Spring 2015 ESM 221L

Instructors:

Goal: In lab you will be developing a majority of the skills we want you to learn in ESM 221, whereas the much shorter lecture will comprise more of the subject-specific content as well as material that introduces the relevance of the lab sessions and some prerequisite skills. The goal of the lab component of 221 is to allow students to practice techniques and skills and explore concepts further than is possible in the shorter lecture sessions. Many of the overall course objectives will be addressed most in the lab section:

a) Develop approaches to environmental problem solving for different categories of problems;
b) Using basic conceptual/graphical and quantitative models in combination with writing, describe and predict processes and solutions relevant to the management of biodiversity, including population growth, take, and management;
c) Characterize environmental data via graphical representation and statistical analysis (with descriptive statistics and t-tests, and correlations), and interpret it;
d) Search for, read, and analyze scientific papers;
e) Clearly communicate science, including your research, with coherent written papers and short oral presentations.

Grade: Your lab grade represents 40% of your total grade for ESM 221. This 40% is built from the sum of:

8% Preparation, participation (don’t miss lab!), pop quizzes – attend all labs having read the lab handout and having done any other assigned readings/tasks, ask and answer questions, do the assigned work, and help other students.
48% In-lab worksheets: Quality, precision, and thoroughness of your work on each in-lab assignment and any associated homework (other than below).
8% Mini lab report of Diversity lab. Please pay attention to your TA’s comments on this assignment as they will help greatly with the write-up for the C sequestration lab. (see rubric)
36% Carbon sequestration labs:
  • data (3%), which should be high quality, precise, complete, and shared in a timely manner;
  • presentation of research (8%) clear and in-time presentation on the relevance of your study, the methods you used (especially the ones only your group used), your findings as seen in your graphs, and your conclusions about your findings and your broader conclusions on the topic (see rubric);
  • lab report (15%) clear, concise, and correct report on your Carbon sequestration study, in the style of a primary literature scientific paper (see rubric).
  • report revision (10%) (consult graded rubric, discussion in class, and notes on paper to revise)

Please be aware that some of the assignments will be weighted more heavily than others (underlined in the schedule) due to the amount of work associated with the assignment. The following worksheets/assignments are worth twice the points as other worksheets:

Lab 2 Population Wkst, Lab 4 Wksts, Lab 5 Tree Diversity Wkst, Lab 7 Carbon sequestration data table and the annotated bibliography for C sequestration.

Policies
  • Handouts for each week’s lab will be provided on D2L.
• Be sure to include your name and your TA’s name on all lab assignments! Your assignments should always be written in complete sentences, with correct spelling and grammar.

• In each lab, there is an Assignments section: please read this to make sure items due by the end of lab are completed and to check what is due the following week. Turn in your lab assignments at the end of the lab in which they are assigned or, for longer assignments, at the beginning of the lab in which they’re due.

• As many Assignments involve computer programs we will be using D2L Dropbox to accept Assignments. Please make sure to turn in Assignments to the correct Dropbox folder (folders will be labeled with the Lab Week and name of Assignment). It is your responsibility to make sure you have turned in all of the Assignments to the appropriate place.

• Please try very hard not to miss your lab section and be sure to communicate with your TA proactively if you are very sick and cannot attend. Come prepared (including dressing for the outdoors on outdoor lab days), be an active member of your group, and show all other students and your TA respect.

• Late assignments: To be fair to all students and your TA, your assignment grade will be reduced by 15% if you turn work in late and it may not be returned until the end of the term. Extension requests must be made >3 days prior to the assignment due date.

Services: If you are a student with a documented disability and are registered with the Disability Resource Center, please contact me so that we can arrange whatever academic accommodations you need. If you are a Veteran and have questions about University services or need assistance with your transition from military to campus life, please contact Chris Goodrich, Coordinator of Veterans Services at the Office of Veterans' Services, SMSU room 425.

Code of conduct: We are to ‘realize’ the highest ethical standards of behavior. Check out the Student Code of Conduct, to which you are bound: http://www.pdx.edu/dos/codeofconduct.

ALWAYS REFER TO ASSIGNMENTS POSTED ON D2L FOR FULL INSTRUCTIONS!

There will be two outdoor labs for this class. The first outdoor lab will be the week of February 1 (Wk 5) and we will be going to the South Park Blocks. The second outdoor lab will be the week of February 15 (Wk 7) and we will be going to Marquam Park. This lab will require sturdy shoes for hiking around Marquam Park. Please come prepared. If you have any concerns regarding these labs let your instructor know ASAP. Additionally, as part of the Carbon Sequestration labs you will be required to collect data in the field with a group which will take place the week of February 22 (Wk 8).

Please see the schedule on the following pages for detailed information about the labs and associated Assignments.

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<th>Lab activity</th>
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<td>Wk 1:</td>
<td>(1) Syllabus and introductions</td>
<td>Due at End of Lab:</td>
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<td>1/4-1/8</td>
<td>(2) Fish Game</td>
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| Wk 2  | 1/11-1/15 | (1) Population modeling  
(2) Literature Search  
(3) Mini-Excel Workshop                                                                                             | Due at End of Lab:  
(1) Population Model Worksheet  
(2) Literature Search Worksheet                                                                  | (3) Excel Review Worksheet                                                                 |
| Wk 3  | 1/18-1/22 | NO LAB: Martin Luther King Jr.                                                                                                           |                                                                                                      |                                                                                             |
| Wk 4  | 1/25-1/29 | (1) Population size using Excel                                                                                                          | Due at End of Lab:  
(1) Population size worksheet                                                                 |                                                                                             |
| Wk 5  | 2/1-2/5   | OUTSIDE LAB: South Park Blocks  
Community Diversity 1                                                                                                                         | Due at End of Lab:  
(1) Diversity worksheet  
(2) Enter data into Class Data Sheet  
(3) Research Question for Diversity Lab Report (1/group) | (3) Excel Review Worksheet                                                                 |
| Wk 6  | 2/8-2/12  | (1) Community Diversity 2  
(2) Intro to Carbon sequestration                                                                                                       | Due at End of lab:  
(1) Worksheet                                                                                       | (3) Excel Review Worksheet                                                                 |
| Wk 7  | 2/15-2/19 | OUTSIDE LAB: Marquam Park  
Carbon sequestration: Tree measurements and C calculations for Marquam Park; Measurements of independent variable that may be affecting tree size or C sequestered/hectare. | Due at End of Lab:  
(1) Enter Tree measurements and C-Seq Calculations in Class Data Sheet (1/group)  
(2) C sequestration data table for MP areas  
(3) Your group data on the independent variable and corresponding measurements, (1/group) | (3) Excel Review Worksheet                                                                 |
| Wk 8  | 2/22-2/26 | Independent Data Collection for Carbon Sequestration Lab  
-Be prepared to go outside and collect data with your group                                                                               | Due at the End of Lab:  
(1) Data sheet (1/group)                                                                                 | (3) Excel Review Worksheet                                                                 |

* - Bibliography* of potential papers for each lab report.
| Wk 9: 2/29-3/4 | **Carbon sequestration:** Graphing, writing, talk preparation | **Due at the End of Lab:**  
(1) Graphed measurements comparing tree size or C sequestration per hectare in SPB vs MP or other comparison, with figure captions, (individual)  
**Due Dates:** C-sequestration Lab Report* (individual)  
- For Monday Lab: Wednesday March 2 by 8am  
- For Wednesday Lab: Friday March 4 by 8am  
- For Friday Lab: Monday March 7 by 8 am |
| Wk 10: 3/7-3/11 | **Carbon sequestration:** Present talks*.  
TA will return feedback on Lab Report- Remaining two hours of lab will be devoted to revising lab reports. | (1) Talks.  
(2) Using class feedback from talks and TA feedback from your Lab Report, make any changes to lab report & submit no later than Tuesday, March 15  
**For All Labs-**  
**Due Tuesday March 15 by midnight:**  
- Final rewrite of lab report* |

* this item has a rubric