ESM220L: Introduction to Environmental Systems LAB, Winter 2016

Lab TA:

- Course materials will all be posted on D2L.
- In order to excel in the lab, you need to be prepared, which means reading the handout and any associated materials for the week BEFORE coming to lab. In order to encourage preparation, pop quizzes may be held at the start of any lab covering the day’s topics. Any additional materials not contained in your lab manual will be posted one week in advance. Hard copies of materials (data sheets, etc) that we use during a lab session will be provided.
- Please bring a lab notebook with you each week; you will also need graph paper for several labs.
- Weekly assignments are due at the beginning of lab each week. Please hand in an electronic copy via D2L (unless otherwise specified).
- Weekly assignments should always be written in complete sentences, with correct spelling and grammar. Be sure to include your name and your TA’s name on all lab assignments!
- Grading - Lab is 50% of your total grade for the class; within the lab, the breakdown is:
  - 10% pop quizzes, participation, and preparation
  - 20% Lab 1: graph (2%), outline (8%), report (10%)
  - 35% Lab 3: data (2%), outline (8%), report (15%), presentation (10%)
  - 35% Term Paper: outline (5%), first draft (10%), final paper (20%)
- In each lab, there is a Deliverables 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.
- Late assignments will be deducted 5% per day. This includes group data that needs to be shared with the rest of the lab. Late assignments must be turned into D2L.

Tentative Schedule

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<tr>
<th>Week</th>
<th>Lab Topics</th>
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| Jan 4/6  | Lab 1: Introduction to experimental design and data collection, components of a lab report  
**Due:** Graph of collected data |
| Jan 11/13| Lab 2: Introduction to Excel, summarizing and graphing data, brainstorm for field trip, continuation of in-class project on environmental stressors (Module 1), introduction to term paper  
**Due:** Lab 1 outline |
| Jan 18/20| no lab                                                                   |
| Jan 25/27| Lab 3: Field trip to Balch Creek: Local stream water quality and riparian assessment  
**Due:** Lab 1 report |
| Feb 1/3  | Lab 4: Data classification and analysis from field trip, comparison of field data to larger data sets  
**Due:** Lab 3 data |
| Feb 8/10 | Lab 5: Term paper research questions, preparation for presentation  
**Due:** Lab 3 report outline (field data only) |
| Feb 15/17| Lab 6: Continuation of in-class project: ecosystem services related to energy (Module 3)  
**Due:** Lab 3 report (field data only) |
<table>
<thead>
<tr>
<th>Date</th>
<th>Activity</th>
<th>Due</th>
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<tbody>
<tr>
<td>Feb 22/24</td>
<td>Lab 7: Presentations on water quality study (Labs 3, 4, 5); student critiques and improvement goals</td>
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<td>Feb 29/</td>
<td>Lab 8: Effects of marine protected areas</td>
<td>Term paper outline</td>
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<td>Mar 2</td>
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<td>Mar 7/9</td>
<td>Lab 9: Spatial prioritization for conservation of endangered species</td>
<td>Term paper draft 1</td>
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<td>Final</td>
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<td>Term paper (Monday lab: March 15 @ 9am; Weds lab: March 17 @ 9am)</td>
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