NREM 380: Tropical Forestry and Agroforestry

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Objectives:
1. Understand the biophysical environment of tropical forests
2. Become familiar with forest management planning and practices
3. Develop practical skills in forest inventory measurement and analysis
4. Understand the role and potential of tropical agroforestry

Assignments*:

<table>
<thead>
<tr>
<th>Assignment</th>
<th>% of Grade</th>
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<tbody>
<tr>
<td>Field Trip Assignments</td>
<td>15</td>
</tr>
<tr>
<td>In-class participation</td>
<td>20</td>
</tr>
<tr>
<td>Mid-term exams (2)</td>
<td>20 each</td>
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<tr>
<td>Final exam</td>
<td>25</td>
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</tbody>
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Expectations:

I expect that students will come to class prepared, having reviewed the reading assignment ahead of time. For the Friday discussion sessions, I expect students to come prepared to engage in a meaningful discussion, whether or not they are scheduled to present to the rest of the class. Students can expect that I will follow the syllabus as closely as possible so they can adequately prepare for class. They can expect that I will provide clear instructions for all assignments. They can further expect that I will grade assignments and exams fairly and return them promptly. They can finally expect that I will maintain regular office hours or be available by appointment at a mutually convenient time.

Assignments:

1. In-class participation
   Participation in class is evaluated three ways. First, students are expected to attend class regularly. No attendance will be taken, but frequent absences will be noted. Second, students are expected to come to class having read the assigned readings for that week. General questions about the readings will be handed out beforehand, and students will be expected to turn in their responses at the beginning of class. Responses will be graded on a simple +/- basis. Finally, on alternate Fridays, we will use the lecture period for student presentations and discussions of topics or readings covered in class. Students assigned to present will be expected to have thoroughly read or reviewed the assigned material and make a 5-10 minute formal presentation to the rest of the class on the topic. Other students will be required to engage in a discussion with the presenter on the topic. Specific instructions on the format of the presentation will be given to presenters by the instructor.

2. Field trip assignments.
   We will take two half-day field trips during the semester in lieu of a Friday discussion section. This will allow us to do hands-on forest inventory and analysis work. There will also
be an optional 3-day field trip to the island of Hawaii during Spring Break. Assignments will include summary, analysis, and interpretation of data collected during the field trips.

3. Exams: Two mid-term exams will be given. A comprehensive final exam will be given during exam week.

Schedule of Topics

**Weeks 1-2: Tropical Forests and Life Zone Classifications**

*Readings:*

*Discussion:*
How well does Hawaii fit in life zone classification schemes?

**Weeks 3-5: Tree and Forest Structure, Dynamics, and Measurements**

*Readings:*
Idol. Handout: *Trees and Tree Architecture*.
Idol. Handout: *Tree and Forest Measurements*.

*Field Trip*

*Discussion:*
Comparison of forest inventory and analysis procedures

**Week 6: Forests and Forestry in Hawaii**

*Readings:*

*Exam 1*

**Weeks 7-8: Tropical Forest Management from Pre-history to European Colonization**

*Readings:*

*Discussion:*
The controversial role of shifting cultivation in tropical forest management
Weeks 9-10. Modern Silvicultural Systems

Readings:
Handout on harvest methods
Discussion: Plantation forestry in the tropics

Week 11: Optional Field Trip to Hawaii Island, Mar. 24-26

Week 12-15. Tropical Agroforestry Systems

Readings:
   Chapter 1. Information Resources for Pacific Island Agroforestry.
Huxley 1999. *Tropical Agroforestry*. Section III.
   Chapter 12. The Tree-Crop Interface.
   Chapter 13. Competition and Complementarity.
   Chapter 5. Introduction to Integrating Trees into Pacific Island Farm Systems.
   Chapter 4. Integrating Understory Crops with Tree Crops.
   Chapter 7. Economics of Farm Forestry.

Exam 2

Field Trip

Discussion: Tree-crop interactions in agroforestry systems.

Weeks 16-17. Designing Sustainable Forestry Systems

Readings:

Discussion: Sustainable forestry in the tropics