TPSS 236
Renewable Energy and Society

Dr. Brian Turano
Assistant Specialist for Bioenergy
College of Tropical Agriculture and Human Resources
Department of Tropical Plants and Soil Sciences
Gilmore Hall, Room 213; Tel: 956-9380
Email: turanob@ctahr.hawaii.edu

Office Hours: Mondays 8-9 am
Others by appointment

This syllabus is for the benefit of the student and does not constitute a contract. The instructor reserves the right to change the course content or sequence of instruction. Changes in the due dates for assignments will be given with at least one week’s notice.

TPSS 236 Catalog Description- 3 credits
Combined lecture and discussion course regarding the ability of renewable energy technologies to meet local, national, and global energy demands and their potential impacts on the environment and society.

I. Course Structure

A. Course Objective:
The general course objective is to increase student understanding of renewable energy technologies, their applications, and potential effects on the environment and society.

B. Student Learning Objectives:
Students will:
   a. Understand the array of renewable energy technologies and their applications
   b. Be able to communicate clearly, both orally and in writing, well-reasoned opinions on the potential environmental and societal impacts of a renewable energy-based economy
   c. Develop a global perspective on renewable energy solutions

To demonstrate successful achievement of these objectives, the student should show competence through exams, written assignments, and oral presentations.

C. What is expected of the students:
   a. Students are expected to come to class and be prepared to participate in class discussion.
   b. Students are expected to read outside materials and other materials when assigned.
   c. Students are expected to turn in written assignments on time.
   d. Students are expected to deliver well-organized and clear oral presentations.
   e. Students are expected to respect their fellow student’s opinion about issues discussed in class and keep discussions at the academic level and not the emotional level.
D. Organization
Class will meet twice per week; each week will focus on a specific topic, as shown in Table 1. There is no textbook for the course. Reading assignments and materials will be given in class and/or posted on the class website. The class format will be as follows: one class will comprise a lecture by the instructor or invited lecturer on renewable energy technology or related topic; the other class will comprise student oral presentations on a local, national, or international project in that topic area, followed by class discussion. In addition, students will write a one paragraph essay on the previous week’s topic that will be handed in at the next class meeting. Student participation will be encouraged by calling on one or more students to share what they have written.

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Introduction to renewable energy</td>
</tr>
<tr>
<td>2</td>
<td>Solar energy</td>
</tr>
<tr>
<td>3</td>
<td>Wind energy</td>
</tr>
<tr>
<td>4</td>
<td>Geothermal and geoechange</td>
</tr>
<tr>
<td>5</td>
<td>Ocean energy</td>
</tr>
<tr>
<td>6</td>
<td>Hydroelectric power</td>
</tr>
<tr>
<td>7</td>
<td>Biomass and biofuels</td>
</tr>
<tr>
<td>8</td>
<td>Hydrogen fuel cells</td>
</tr>
<tr>
<td>9</td>
<td>Mid-term exam</td>
</tr>
<tr>
<td>10</td>
<td>Climate change</td>
</tr>
<tr>
<td>11</td>
<td>Carbon sequestration and carbon trading</td>
</tr>
<tr>
<td>12</td>
<td>Transportation fuels and power infrastructures</td>
</tr>
<tr>
<td>13</td>
<td>Energy conservation strategies and public awareness</td>
</tr>
<tr>
<td>14</td>
<td>Environmental impacts and resource management</td>
</tr>
<tr>
<td>15</td>
<td>Societal and cultural impacts</td>
</tr>
<tr>
<td>16</td>
<td>Green building and community design</td>
</tr>
</tbody>
</table>

E. Grading
Final course grades will be based on this approximate point distribution:

a. Student presentation 100 points
b. Mid-term exam 300 points
c. Attendance 100 points
d. *Class participation 200 points
e. Final paper 300 points
Total 1000 points

Letter grades will be assigned on the plus/minus-grading system.

Each student will be required to give a 15 minute oral, power point presentation on some aspect of the week’s topic. The presentation can describe, but is not limited to the following: a current project in a community, state, or country; an idea for a new avenue for research, application of
the technology, potential implementation location, or potential environmental or societal impacts.

* Students will be required to hand in approximately 13 one paragraph essays worth 10 points each. The remaining 70 points will be awarded at the instructor’s discretion for student contribution to class discussions.

Attendance will be graded as follows: students will be allowed to miss one class without providing the instructor with advance notice by phone and email; 10 points will be deducted for each class missed thereafter; missing two consecutive classes requires a physician’s certification.

F. Course Requirements and Other Policies
1. No make-up exams will be given, except with a legitimate excuse with proper validation (e.g. a physician’s certificate). If you have a legitimate excuse you must contact the instructor by phone and email within 24 hours after the exam.

2. No late assignments will be accepted, except with a legitimate excuse with proper validation. All assignments must be handed in before the start of class that they are due or they will considered late.

3. Students should notify the instructor before class via phone and email that they will miss class.

G. Academic Dishonesty:
Academic Dishonesty is a violation of the Student Conduct Code. From the University of Hawaii at Manoa Catalog, Appendix, Section “Student Conduct and Discipline”.

1. Cheating includes, but is not limited to, giving unauthorized help during an examination, obtaining unauthorized information about an examination before it is administered, using inappropriate sources of information during an examination, altering the record of any grade, altering an answer after an examination has been submitted, falsifying any official University record, and misrepresenting the facts in order to obtain exemptions from course requirements.

2. Plagiarism includes, but is not limited to, submitting, to satisfy an academic requirement, any document that has been copied in whole or in part from another individual's work without identifying that individual; neglecting to identify as a quotation a documented idea that has not been assimilated into the student's language and style; paraphrasing a passage so closely that the reader is misled as to the source; submitting the same written or oral material in more than one course without obtaining authorization from the instructors involved; and "dry-labbing," which includes (a) obtaining and using experimental data from other students without the express consent of the instructor, (b) utilizing experimental data and laboratory write-ups from other sections of the course or from previous terms during which the course was conducted, and (c) fabricating data to fit the expected results.
H. Disciplinary Sanctions for Violations of the Student Conduct Code:
One or more of the following sanctions may be imposed whenever a student is found to have violated any of the rules contained in the Conduct Code (refer to the conduct code for specifics)

1. Warning
2. Probation
3. Restitution
4. Recission of Grades or Degree
5. Suspension
Student Syllabus Review Form

I have received and read this syllabus and I understand it. If I have any questions about the syllabus I will ask the instructor.

Name (print)  

Signature  

Date  

Please read the syllabus and attest that you understand it by printing your name, signing your name and dating this form in the appropriate spots. Please return this form to Dr. Turano by the third class meeting.