**METR 4553/5553**  
**Climate and Renewable Energy**  
**11:30–12:45 TR, Room 5600 NWC**  
**Spring 2011**

**Instructor**  
Dr. Mark Morrissey  
Dr. Susan Postawko

**Office**  
NWC 5321  
NWC 5329

**Phone/email**  
325-1738  
mmorriss@ou.edu  
325-1142  
spostawk@ou.edu

**Office hours**  
Tues/Thurs 1:30-2:30  
Or by appointment

**Course description:**  
This course examines the science and technical aspects of solar, wind, hydro, and biomass power systems. Emphasis will be placed on the key role of climate in determining where each of these systems is most likely to provide feasible alternatives to energy generated by fossil fuels.

**Recommended Textbook:** “Renewable Energy”, Godfrey Boyle, Oxford University Press, 2004

**Course web site:** Can be accessed on Desire2Learn @ http://learn.ou.edu (log on using your 4+4 ID)

**Tentative topics:**

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<td>Intro to course; Energy consumption</td>
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<td>Week 3</td>
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<td>Solar energy climatology</td>
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<td>Week 5</td>
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<td>Week 6</td>
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| Week 7     | **EXAM 1**  
Bioenergy                                                          | **Chapters 1 – 3**  
Chapter 4                       |
| Week 8     | Biofuels                                                              | Chapter 4                     |
| **Week 9** | **SPRING BREAK - March 12-20**                                       |                               |
| Week 10    | Biofuels  
Wind Energy                                                      | Chapter 4  
Chapter 7                   |
| Week 11    | Wind Energy  
Intro to hydroelectricity                                            | Chapter 7  
Chapter 5                   |
| Week 12    | Environmental considerations of hydroelectric dams                    | Chapter 5                     |
| Week 13    | Climate change and renewable energy                                   | Chapter 10                    |
| Week 14    | Societal considerations of alternative energy  
**EXAM 2**                                                 | **Chapters 4, 5, 7, 10**     |
Week 15
Environmental Tech
Grad student presentations

Week 16
Grad student presentations

TERM PROJECTS
DUE APRIL 28th

Grading:
2 hourly exams – 25% each
Homework – 20%
Term project – 30%

Term Project: For your term paper, you should focus on, and research extensively, a topic that will be selected by you and approved by us. Use existing literature, or newly collected data. Term-paper and presentation requirements for those enrolled in the graduate levels differ significantly from those enrolled in the undergraduate levels; we will provide detailed instructions on these requirements soon.

A Note on Research: Please note that we expect your research on course projects to be extensive, given the level of this course. Searching web sources for information is fine for starters, but we expect you to go well beyond the web—i.e., to the professional literature (real books and journals). ALL sources, including web sources, must be cited in your list of references—using uncited material is a form of plagiarism.

IMPORTANT POLICIES:
Reasonable Accommodation: The University of Oklahoma is committed to providing reasonable accommodation for all students with disabilities. Students with disabilities who require accommodation in this course are requested to speak with me as early in the semester as possible. Students with disabilities must be registered with the Office of Disability Services prior to receiving accommodations in this course. The Office of Disability Services is located in Goddard Health Center, Suite 166, phone 325-3852 or TDD only 325-4173.

Academic Misconduct: All provisions of the Norman Campus Academic Misconduct Code shall apply in cases of academic dishonesty. Any violation of the Academic Misconduct Code will result in your removal from this course, and a grade of F will be recorded for the course. Academic misconduct is defined as “any act that improperly affects the evaluation of a student’s academic performance or achievement.” At the University of Oklahoma, academic integrity is expected from each student. Misconduct such as plagiarism, fabrication, and fraud, as well as attempting to commit such acts or assisting others in doing so, will not be tolerated. Students are responsible for knowing the OU Academic Conduct Code, which can be found at http://www.ou.edu/studentcode and http://www.ou.edu/provost/integrity