

## Physics 168 Syllabus: Energy Conversion and Resources

**Instructor:** Adrian Hightower; HSC 117; x2826; [hightower@oxy.edu](mailto:hightower@oxy.edu), <http://faculty.oxy.edu/hightower/>

**Meeting Times:** Monday, Wednesday, Friday 10:30 – 11:25, FOWLER 110

**Office Hours:** Wednesdays and Fridays 1:30 - 3:00 PM or by appointment.

**Website:** <http://departments.oxy.edu/physics/Phys168/>

### Text Book:

**Required:** Energy and the Environment 2<sup>nd</sup> Ed., by R. A. Ristinen J. J. Kraushaar ISBN: 0471739898

**The Goal:** Physics 168 introduces the physics of energy conversions and their applications to our global energy resources. The goal of this course is to provide students with the tools to recognize and quantify the various energy conversion processes important to industrial societies.

1. Physics Framework - Students will be able to categorize dynamic physical systems in terms of processes of energy conversion.
2. Mathematical Tools – Students will be able to perform calculations utilizing the calculus, probability and statistics associated with this subject.
3. Vocabulary – Students will be comfortable with the vocabulary used in engineering and economics of energy technologies.
4. Familiarity with Textbook – Students will be intimately acquainted with the required text book and will be able to utilize it as a resource in the future.

**The Course Flavor:** Class time will be used to clarify, refine and elaborate on material presented in the assigned reading. Students are responsible for completing the assigned reading before the class period.

### Course Structure:

Homework: Homework will be due in class by 10:30 am. No electronic submissions will be accepted. Students are encouraged to work together in the spirit of academic integrity. Homework sets will contain a combination of collaboration and non-collaboration problems. Students must complete non-collaboration problems solely on their own or with the help of the instructor.

Exams: This course will have two midterms and one final exam. Exams will be closed book and taken in class. Students may use notes written in their own hand.

Late Work: Late work will not be accepted and in-class work (quizzes, exams) may not be made up without prior approval of instructor. Notification of an absence in itself does not guarantee approval.