Energy, Technology, and Society

Yale Power Plant – treated in the course

Instructor: Prof. Daniel Prober, Becton 417
Daniel.prober@yale.edu

Class meetings:
There will be an optional homework discussion section at times to be announced.

The technology and use of energy. Impacts on the environment, climate, security, and economy. Application of scientific reasoning and quantitative analysis. Intended for non–science majors with good backgrounds in math and science. Enrollment limited to 24.
QR, SC

Seminar
Note: There are no prerequisites; high-school science background is needed.

This course is intended for non-science majors.

This course emphasizes the technology, use and impacts of energy on the environment, climate, security and economy. In addition, we will be discussing policy and ethical issued related to energy use. This course is ideal for any student interested in economics, political science, international relations, or business fields with an interest in the environment, energy generation/use, or climate issues. Throughout this course you will be exposed to all plausible forms of alternative energy and asked to think critically about their viability, practicality, and the ways in which they impact society and the environment. We will become familiar with specific energy facilities at Yale via field trips.

The course will meet twice per week in seminar format mainly with lectures and discussions led by the instructor.

Required text:
Energy, Environment and Climate by Richard Wolfson [Middlebury College] WW Norton Company, Third Edition, 2017. This book is current, very well written, and entertaining to read.

Group Project/Presentation: Before the middle of the term students will be divided into teams to complete a report and presentation to the class on a topic related to an energy technology related policy issue of your choice.

Yale subjects covered in the course:

(clockwise) - the Yale Peabody Museum; Kroon Hall - home of the Yale School of Forestry and Environmental Studies - the most energy efficient building on campus; the Yale Power plant, a major contributor to Yale carbon reduction plans, and the large solar photovoltaic facility on Yale's new West campus our greenest renewable power source. These are covered in the course. The design of Yale's extensive archival and preservation facilities is an important current topic, and one in which Yale has leadership.

Discussion of the Yale Carbon-charge project, and the Yale-owned wind farm in Maine will also be included, for both renewable energy and carbon-reduction issues.

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VI. Grading Procedures:

(a) Problem sets.....(20%)
(**b**) Group project, discussions.....(20%)

(c) Final report (due in last class)…….....(20%)

(d) Midterm and Final…….....(20% each)

Policy for late homework: Homework will be collected at the beginning of class on the date it is due. Failure to turn in homework at this time will result in deduction of points. Same day = 10% deduction, next class day = 50% deduction. Homework will not be accepted more than 1 class day late unless permission is obtained from the instructor.

VII. Academic Integrity

You are encouraged to study together and to work on problem sets together; however, this permissible cooperation should never involve one student having possession of a copy of all or part of work done by someone else. When working in a collaborative environment, always make sure that you understand the work that you are submitting for a problem set. You may NOT copy and paste answers to homework problems from the web.

VIII. Accommodations for students with disabilities

Requests for academic accommodations are to be made during the first week, except for unusual circumstances, so arrangements can be made. Students are encouraged to register with Student Disability Services to verify their eligibility for appropriate accommodations.