Instructor: Janet deGrazia  
Department of Chemical and Biological Engineering  
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Meeting times: T/Th 11:30 – 12:45
- Readings are from various sources – no textbook
- All readings will be posted on D2L
- Videos posted on D2L will be considered part of the reading unless otherwise noted

Grading scheme:
- Reading quizzes: 15 %
- Clickers: 10%
- Weekly project updates 15 %
- Exams 1 and 2 (in class): 30 %
- Poster presentation 10 %
- Final Paper 15 %
- Peer evaluation 5 %

Exams:
- Exam 1: Thursday, February 25th
- Exam 2: Tuesday, April 19th
- Both in A108

Course Communication:
Desire2Learn will be used for reading material, quizzes, grades, Dropbox, and group sign-ups.
Required Materials:
iClicker student response device – available at the CU Bookstore. Required for in-class participation questions.

Course Learning Goals:

• To gain a scientifically-based understanding of energy sources and demands
• To grasp the energy future from a realistic perspective
• To be able to engage in policy discussions, planning and decision-making on energy matters with a sound, factual foundation

Course Description
This course is the study of the earth’s energy past, present and future from a fundamental, scientific point of view. Energy sources will include fossil fuels, nuclear, biomass, solar, hydroelectric and wind. Demands will include transportation, manufacturing, agriculture, lighting, heating and air conditioning. In addition, the environmental, social, economic and political aspects of our energy future will be considered.

Class Format:
This class will be taught as a “flipped classroom”. In other words, lecturing will be done outside class through videos and reading, while the classroom time will be spent discussing the various issues and considering the data and approaches of different energy sources. In order for you to benefit from this approach:

a) Reading assignments and videos will be assigned each week. The class will be conducted with the assumption that you have read/watched them.

b) There will a reading quiz due every Tuesday covering the reading for the upcoming class. These will be due at 10:00 am.

c) Clicker questions will make up a large part of the class. These can be based on either information that you should have gleaned from readings or previous lecture (these will be graded) or interesting facts and data that you often will not know (these will be given participation points). The purpose of the second type of questions is to see what students know or don’t know (or what they think they know!)
Grading elements:

Reading quizzes, due every Tuesday at 10:00 am, will cover the upcoming class material. These questions are generally to point out interesting (or maybe not so interesting) facts from the readings. They are worth 15% of your grade so please make sure you are on top of them. The questions themselves are not difficult, but the material they test you on is important. Reading quizzes cannot be made up and I do not drop any.

As mentioned above, there will be clicker questions in every class. Getting the correct answer is not necessarily the goal of these questions – often it’s a matter of determining misconceptions as well as lack of knowledge. I will drop two clicker days. Clicker questions cannot be made up, and you will not get credit if your clicker runs out of batteries, you left it at home, etc. so please don’t ask. Clickers must be registered by the second exam in order to get credit. Clicker scores will be posted after the first exam. If you have all zeroes, that’s a good indication that your clicker is not registered.

Two midterm exams will be given in class. Questions will include calculations as well as testing your knowledge of the material from class and reading quizzes.

Much of your time outside class should be spent on your end-of-the semester project. This consists of a paper as well as a poster presentation. Included in the grading are weekly/biweekly assignments that should keep you on track. Refer to project information for more information.

Your final assignment will be a peer assessment. I will be using this information to judge how much your team members feel you contributed to the project. Anyone who does not turn this in will automatically get a zero for this assignment (which is worth 5% of your grade).

Late assignments will not be accepted, whether it’s one minute or one day. Please make sure you have given yourself plenty of time to submit what is required to DropBox.
Policies and Procedures

Classroom Atmosphere:

Students are encouraged to make suggestions regarding improvements in the course as it proceeds. A "safe environment" in which students are free to ask questions or say what is on their mind will be created. In order to provide the optimal learning environment, please pay attention to the following:

Electronic Restrictions: All cellphones must be powered off and put away before you enter the classroom and not brought out until the class has ended. Anyone who wants to use a laptop computer or tablet in class must obtain prior approval from the instructor. Upon receiving such approval, you must agree to sit in the front row and disable the Wi-Fi connection during class. (Please see the pre-homework for more details).

Class Notes:
Much valuable information will be presented during class - fundamental concepts, methods for approaching solutions, example solutions, etc. Students are encouraged to become active class members. Class notes will be posted at the end of each week.

Academic Dishonesty, Ethics, and Discipline

Any discovered incidents of academic dishonesty will be reported to the departmental disciplinary committee who will recommend an academic sanction. Sanctions can range from an F for the particular assignment and a lowering of your grade at least a full letter grade to an F for the course. In addition, all confirmed incidents will be reported to the University Honor Code where further disciplinary action can be taken. Group activities (group homework) in which a student asks another student in their or another work group for a helpful suggestion will not constitute such an incident. However, using someone else's work, or allowing another student to use your work will be considered a dishonest act. When in doubt, ASK!!! The following list includes some of the examples of acts (not all of them) for which a hearing will result:

(1) Using someone else’s clicker or allowing someone else to use yours
(2) Talking to each other during a class individual exam
(3) Bringing any information into the exams that is not allowed.
(3) Copying sources and claiming them as your own (plagiarism).
(4) Any alteration, forgery, or falsification of official records (such as modification of graded homework problems or exams for which you are seeking additional credit)
(5) Allowing another person to take an exam for you (false identification)
(6) Knowingly providing material of your own or of others to a fellow student.
(7) Possession of or observation of examinations or solutions to examinations prior to the date and time of the exam.
(8) Copying answers from other students during an exam.

Other important information

If you qualify for accommodations because of a disability, please submit to me a letter from Disability Services in a timely manner so that your needs may be addressed. Disability Services determines accommodations based on documented disabilities. Contact: 303-492-8671, Willard 322, and www.Colorado.EDU/disabilityservices.

The University of Colorado at Boulder policy on Discrimination and Harassment (http://www.colorado.edu/policies/discrimination.html), the University of Colorado policy on Sexual Harassment and the University of Colorado policy on Amorous Relationships applies to all students, staff and faculty. Any student, staff or faculty member who believes s/he has been the subject of discrimination or harassment based upon race, color, national origin, sex, age, disability, religion, sexual orientation, or veteran status should contact the Office of Discrimination and Harassment (ODH) at 303-492-2127 or the Office of Judicial Affairs at 303-492-5550. Information about the ODH and the campus resources available to assist individuals regarding discrimination or harassment can be obtained at http://www.colorado.edu/odh.

Students and faculty each have responsibility for maintaining an appropriate learning environment. Students who fail to adhere to such behavioral standards may be subject to discipline. Faculty have the professional responsibility to treat all students with understanding, dignity and respect, to guide classroom discussion and to set reasonable limits on the manner in which they and their students express opinions. Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with differences of race, culture, religion,
politics, sexual orientation, gender variance, and nationalities. Class rosters are provided to the instructor with the student's legal name. I will gladly honor your request to address you by an alternate name or gender pronoun. Please advise me of this preference early in the semester so that I may make appropriate changes to my records. See policies at http://www.colorado.edu/policies/classbehavior.html and at http://www.colorado.edu/studentaffairs/judicialaffairs/code.html#student_code.