

“Sustainable Energy for a Greener Tomorrow” DeCal Course Syllabus

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Course Website: decal.org/courses/4073

Summary

This course will give an introduction to energy topics and explore the social, environmental and economic consequences of our carbon-based economy. We depend on energy to fuel our cars and airplanes, grow and transport our food, light our cities, warm our homes, cook our food, and power our machinery, appliances, and electronics. As we continue to deplete our resources (and pollute our air and water in the process), the challenge to satisfy our energy needs continues to mount. How will our generation respond?

We will use guest speakers, article presentations, fun projects, involved debates, and films to explore the energy cycle - tracing its origins, distribution, consumption, and waste. We'll also calculate our personal carbon footprint and learn about policies that promote energy efficient and responsibility among the campus community.

Learning Objectives

At the end of the semester, you will have a better understanding of the wide variety of energy resources, utilities in California and the U.S., and what lies in store for the future of energy use and distribution. You will also evaluate how much energy you consume, the consequences of the resulting pollution, and how you can change your lifestyle to consume less. Then you will use what you've learned to connect with the campus community and initiate a discussion regarding energy use in the University's operations and the campus community's behavioral habits.

Ground Rules

1. If you do not attend the first, second and third week of class, you will be dropped.
2. If you plan to drop the class, you must do so before the third week of classes or you will receive a NP.
3. You must enroll in the DeCal for 2 units, P/NP only.
4. Be respectful to your fellow classmates and guest lecturers.
5. If you need to leave early before class ends or during a guest lecture, please let us know beforehand.
6. **No laptop/phone use during class.** Active participation and respect for our guest speakers is key to a great semester.

Attendance

Up to 3 absences are allowed, but not for the first three weeks of class. Being more than 15 minutes late to class or leaving class 30 minutes early will count as an absence.

Make-Up Opportunities: If you miss more than 2 classes, make-up assignments are available (attending campus sustainability events, catching up on films missed in class, and other opportunities to be approved by the facilitators). Make-up assignments must be accompanied by a 2 page (double-spaced, 12-point font) written paper about what you learned or found interesting. Remember that our class follows UC Berkeley's plagiarism policy. A **maximum of 1 make-up assignment is allowed**, meaning 4 absences or more will lead to a NP.

Assignments

Assignments turned in late will be penalized one letter-grade for each week it is late.

Readings

Readings will be assigned weekly and are critical for maintaining conscious attendance.

“Policy-palooza” Discussions

Each week we will examine an energy topic through the aid of guest lecturers and student presentations. You and a group will sign-up to present a “Policy of the Week.” This is your chance to “sell” a policy to the class that will have social and environmental implications. Two teams of partners will each present a different policy on the same subject

Each team will have 15 minutes to:

1) Provide a very brief overview of the policy, including but not limited to its motivation, actions, cost, points of contention, and **how it relates to energy**. For example, if you formed a policy on wave energy, you could talk about placing generators off the shores of Ocean Beach and talk about its capacity factor, potential for displacing fossil fuels, etc.

2) Identify and present a current event or technological breakthrough found through a reputable news source that pertains to the policy (think political unrest regarding oil, changing trends in water consumption -- there's a lot out there!). This is the focus of the presentation and you should make it clear to the class why your specific policy is controversial and/or worthy of discussion. You will be provided with a recommended reading list with a variety of energy topics to get started. You must **send your references** to the facilitator so they can distribute them to the rest of the class, who will read in preparation for the discussion following the presentation.

Home Energy Audit

Students will assess their plug load usage of everyday electronic appliances around their room/apartment/house via Excel spreadsheet. The audit will also include a short lighting audit and calculation of their carbon dioxide emissions.

Group Project

Teams of students will create and implement energy-related projects this semester, such as conducting lighting audits, doing a sustainable design case-study, creating a model of a new technology, a cool infographic, website or form of publicizing energy-saving tips. Groups will be presenting final projects on the last day of the DeCal. This is a graded project, and will constitute a large portion of your P/NP status.

Carbon Footprint Calculator

Students will be completing a short survey to calculate their carbon footprint with the Cool Climate Carbon Footprint Calculator.

Grading Evaluation

Grading for this course is arranged on a "Pass / Not Pass" basis. ("Pass" is 70% C or better). All assignments must be completed to pass the course, regardless of grade.

30% Attendance

30% Participation (including the Carbon Footprint Calculator assignment and Policy of the Week, which will count as half of your participation grade in total)

20% Home Energy Audit

20% Group Project

Date**	Topics	Assignments & Due Dates
1/24	Introduction, Course Overview, and Expectations Kean Amidi-Abraham DeCal Facilitator	Read Ban Ki Moon Op-Ed
1/31	Energy Infrastructure and Environmental Issues Kean Amidi-Abraham DeCal Facilitator	Get Class Number and Enroll Sign up for Group Project Read Barack Obama Article
2/7	Climate Change, begin Documentary (TBD) Kean Amidi-Abraham DeCal Facilitator	Brainstorm Policy Topics Read NYT Article Read Exxon Article

2/14	Finish Documentary (TBD), Class Discussion	Cool Climate Calculator Assigned Read Jones, Kammen Article A Neat Composition
2/21	Climate Footprint and You Chris Jones Renewable and Appropriate Energy Lab (RAEL)	Cool Climate Calculator Due Read SF Gate Article Read Goldstein Article
2/28	Energy Demand Response Sam Cohen, Simone Young-Tem, Carli Yoro Energy Solutions	Home Energy Audit Assigned Read Earth Institute Blog Post Read Wired Article
3/7	Energy Conservation and Water Charles Bohlig East Bay Municipal Water Utility District (EBMUD)	Read EIA Article Read NYT Article
3/14	Factory Farming Sonja Huang Factory Farming Awareness Association	Read IPCC SRREN (pgs. 882-916)
3/21	Writing and Presenting a Policy Kean Amidi-Abraham DeCal Facilitator	Read Part 1 Citations (TBD)
3/28	Spring Break (No Class)	
4/4	Policy-palooza (Part 1)	Home Energy Audit Due Read Part 2 Citations (TBD)
4/11	Policy-palooza (Part 2)	Read Part 3 Citations (TBD)
4/18	Policy-palooza (Part 3)	Read Yergin Prologue Read NYT Op-Ed
4/25	Group Project Presentations	

**** Subject to Change**