

Course Syllabus

Instructor: Carole Hardy, Adjunct Faculty - Environmental Science & Management

Email: hardycar@pdx.edu

Classroom: SRTC 201

Day/Time: Monday & Wednesday 11:30am-1:20pm

Office hours: Tuesdays and Thursdays 2:30- 4:00pm and by appointment STRC Room 139B

Materials for the Class:

- Access to a computer to complete assignments and access Canvas
- No textbook required: Journal articles, PDFs and links to videos provided on Canvas

Course Description

This course is a study of how societies use energy and the effects that energy use has on society and the earth's systems. As part of this study, we will cover economic and environmental impacts of different sources of energy, read about the social dynamics that surround energy sources and energy use, review political issues that surround and affect energy consumption, and explore future energy use. The academic portion of this course will cover those topics through links to online articles, scientific journals, websites, short videos, TED talks and other online sources which will all be provided through Canvas.

You will complete a study of your own energy use and create a poster showing your use and how it compares to an average citizen from another society (i.e. another country). Your poster will be your final project for this course which summarizes your personal audit compared to worldwide energy use.

Lectures, discussions, and tests will occur in person during class time Mondays and Wednesdays from 11:30am – 1:50pm. If accommodations are needed, please email me. The course work includes weekly reading summaries, student-led in-class discussions, a term-long project (four energy reports and a final poster summarizing your findings), a midterm, and a final.

Instructor Inclusivity Statement: It is my intent that students from all backgrounds and perspectives be well served by this course, that students' learning needs be addressed, and that the diversity that students bring to this course be viewed as a resource, strength, and benefit. It is my priority to create a learning space that is **respectful**, sexuality, ability, age, socioeconomic status, ethnicity, race, nationality, and culture. I encourage and appreciate any suggestions for meeting this goal. Please let me know way to improve the effectiveness of the course for you personally or of other students or student groups. In addition, please let me know of any religious or other significant events that may conflict with any course requirement this term so that we can make alternative arrangements.

Canvas: All materials for this course will be posted to Canvas, and this is where you will submit all assignments. I will also post grades and other feedback to Canvas. Please note, contact me via my direct email: hardycar@pdx.edu, not through the Canvas system.

Course Outline

Week 1: Introduction to Energy and Society

Week 2: Why is Consider Energy Use Important?

Week 3: Direct Energy Use

Week 4: Indirect Energy Use

Week 5: Energy Use for Transportation & MIDTERM EXAM

Week 6: Energy Use for Agriculture

Week 7: Green Economies, Green Infrastructure and Energy

Week 8: Carbon Cap and Trade: Global and Local

Week 9: Climate Change and Justice

Week 10: The Future of Energy - Innovations

Finals Week: Poster Presentation & FINAL EXAM

Assignments and Grading

Each week you will attend two lectures, and complete then summarize weekly reading/video materials. You will sign up to lead two class discussions on the readings/video materials. You will complete a mid-term and a final exam. You will produce five reports on energy use and a final report in the form of a poster. Your poster will summarize your study in of energy use around the world, analyze your own energy use and compare it to worldwide use.

Below is the breakdown of points for each assignment:

Assignment Type	Points	Percent of Grade
Weekly Reading Summaries	3 points each Week 1- 10 (30 pts)	10%
Term Project	150 points total	50%
- Four (4) Reports	- 25 points each (100 points)	- 33%
- Final Poster	- 50 points	- 17%
Mid-term Exam	30 points	10%
Final Exam	30 points	10%
Participation/Discussions	60 points	20%
- Lead Discussions	- 10 points each x 2 (20 points)	
- General Participation	- 40 points	
TOTAL	300 points	100%

Grade value: Scores for each graded assignment/test will be totaled and a final grade will be based on the total score as. Percent of 300 as follows: A = 94 – 100%; A- = 90- - 93%; B+ = 87 -89%; B = 84 – 86%; B- = 80 – 83%; C+ = 77 - 79%; C = 74 - 76; C- = 70 – 73%; D = 60 - 69%; F = 59% and below.

Course Content Overview

Reading/video Written Summaries:

Readings and videos are posted on Canvas and organized by week and topic. Brief written summaries of reading/video materials are to be submitted on Canvas by 11:59pm every Sunday **except for Week 1 when**

the Reading Summary is due on Tuesday January 4 at 11:59pm so you can be prepared to participate in the class discussion.

Write a **SHORT** paragraph (3-4 sentences) about EACH communication piece assigned. The summary should include: 1) the main message of the reading/video 2) a fact that was interesting, important and/or new to you, 3) a question you are left with after reviewing the communication. Each reading/video should be identified by title, and by author name and year published if applicable. Each summary is worth 3 points (1 point for turning in a *completed* summary and 2 points for content) for a total of 30 points or 10% of your final grade.

Lead Discussions on Materials:

One to two times during the term each student will prepare discussion questions and lead an in-class discussion on readings/videos assigned. A sign-up sheet will be circulated in class and will be made available on Canvas. Prepare 3-4 discussion questions on the reading or video assigned to you and be prepared to facilitate a 15-20 minute class discussion encouraging all to participate. Each discussion you lead is worth 10 points.

Term-long Project

You will complete energy analyses and produce a report for each. A summary of the reports will be presented in poster form at the end of the term. More detail will be available for each assignment on Canvas and will be reviewed in class.

- **Global Energy Report:** Research energy use in different nations around the world. You will be provided some resources and will find some on your own. Choose countries from different regions of the world and compare energy uses between individuals who live in those countries and in the U.S.
- **Personal Use Audits (3 audits)**
 - **Household appliances:** The purpose of this assignment is for you to calculate the energy used by the appliances in your home over a week of time. Locate the power rating (aka wattage) of each of your household appliances. Use this information to calculate the energy they use 7 days. Extrapolate to use over a year. Analyze your yearly use and think of ways you can reduce your yearly appliance energy use, and then write a report.
 - **Household lights & fans:** This audit will be conducted similarly to the appliance audit. Locate the wattage of your light bulbs and fans.
 - **Computers/Devices:** This audit will be conducted similarly to the appliance audit. You will locate the power rating for the cords you use AND identify the embodied energy for each device.
- **Energy Use Report and Footprint:** Using your three personal audits, you will extrapolate your energy use to a yearly average and compare your use with worldwide averages from your Global Energy Report. The footprint calculated will be associated with the CO₂ released.
- **Final Poster:** Create a poster summarizing the information produced in each of the five reports. You will produce a digital poster and submit on Canvas. The poster will include figures and short text blocks to show your energy use and how it compares to worldwide averages. More details and guidelines on how to produce a poster will be provided and discussed during the second half of the term.

Mid-term and Final

The mid-term and final will be open note, open computer so you can access your reading summaries and lecture materials. The tests will be a combination of short answer and multiple-choice questions. A study guide will be presented the week prior to the tests. These tests will help you focus on the information that is most important. The goal of this course is to help you think critically about the information reviewed during the term and consider how it is relevant and meaningful to you and the decisions you make.

Participation:

Active discussion will be a major component of this class. Participation points include **attendance** in, **leading discussions**, and **participation in discussions**. To fully participate in discussions, it is expected that readings will be completed **before** class. The written summaries should help you prepare for in-class discussions. Participation throughout the term is worth 60 points, which is 20% of your final grade. I cannot emphasize enough the importance of this aspect of the class – this is how we learn not only from the materials presented, but from each other through the generation of new ideas and new thinking.

Course Policies

Late and missed work policy: A 20% late penalty will be applied for all reading summaries, discussion questions and assignments. The penalty will not apply if prior arrangements are made with the instructor or in the case of documented illness or emergency.

Access and inclusion for students with disabilities: If any aspects of the instruction or course design result in barriers to your inclusion or learning, please notify me. I am happy to work with you to ensure that your full participation in this course is possible. The Disability Resource Center (DRC) provides reasonable accommodations for students who encounter barriers in the learning environment. If you already have accommodations from the DRC, please contact me to make sure I have received a faculty notification letter and discuss your accommodation.