ECO 180 Citizens, Energy, and Sustainability

Spring 2020 Syllabus

Tues/Thurs 11:00am-12:15pm

Estabrooke 130

**COURSE INFORMATION**

**Course Description**

This course introduces students to why they should care about energy issues and what they can do about them. Students will get a broad overview of a variety of technical, economic, environmental, and social implications of energy production and use. The course will focus on current U.S. and global energy use and policies as well as alternative energy options.  Students will learn how citizens can play a vital role in determining the direction that the future energy system and policies will take. In the course of our lifetime each of us will be asked to make individual energy decisions, including voting on energy-related issues. This course will give you a place to start in understanding the complex tradeoffs associated with sustainable energy decision-making. Students will be required to do readings and watch videos prior to class so they can spend most of the class time engaged in active learning (e.g., discussions, debates, problem-solving, games, presentations, etc). Students may be required to participate in field trips.

**Undergraduate General Education Requirements**: Population and the Environment and Social Context and Institutions[[1]](#endnote-1).

**Undergraduate Prerequisites:** None

**Credits**: 3

**COURSE DELIVERY METHOD**

**Mode of Instruction**: In-person, with online content

**Learning Management System**: Google Classroom (<https://classroom.google.com>, class code: **zzpimdm**)

**Preferred Hardware**: Laptop with HDMI connector and/or tablet or phone for access to Google Docs, Sheets, Forms, Drive, and Classroom

**FACULTY INFORMATION**

**Dr. Sharon Klein**

Associate Professor

School of Economics

Winslow Hall, Room 305C

207-581-3174

sharon.klein@maine.edu *(when sending email to this address, please start the subject line with the course designator (e.g., ECO 405 or ECO 505))*

**Office Hours**: TBD during first week of class

**INSTRUCTIONAL MATERIALS AND METHODS**

**Required Texts:** There is no required text for this course. All required readings and videos will be available through the course website in Google Classroom (<https://classroom.google.com>, class code: **zzpimdm**). It is recommended that students bring a laptop and HDMI connector to class if they have one. This is not required, but may make some in-class activities easier.

**Google Classroom** will be our main stop for most course content. This is where I will post weekly readings, videos, some assignments, as well as announcements and most grades. I may ask you to submit some assignments through Classroom. You will receive grades for these assignments through Classroom. Classroom also links to Google Drive (GD) so if you have GD installed on your computer and set up to automatically sync, you can access the Classroom folder for this course directly from your computer’s desktop. Alternatively, you can visit your GD through your web browser and find the Classroom folder for this course in there.

**Google Programs:** We will be using many Google programs (Docs, Sheets, Forms, Slides) to facilitate active and collaborative learning. Students should familiarize themselves with these programs and make sure they know how to use them and attend office hours early on if they are having trouble. There will be resources posted on Google Classroom to help students familiarize themselves with these programs.

**Non-Traditional Teaching Methods**

This course uses active, inquiry-based, and collaborative learning methods, as well as a partial “flipped” classroom model to enrich student understanding of the material and help students develop professionally and personally (for more information, see: <https://www.youtube.com/watch?v=MdymI61hLPY&list=PLE8C54256779B374D&index=3&feature=plpp_video>). There will be times we will use a traditional lecture-style approach to class, but most of the time in class, students will be expected and required to actively engage in discussions, debates, problem-solving, and other activities that help improve learning outcomes, problem-solving and critical thinking skills, confidence, retention of information, group collaboration, and many other important aspects of learning. In order to participate fully in these activities, students will need to do readings, watch videos, and complete written assignments outside of class, on time. Students will be graded on each of these important components of learning, in-class (through exams and in-class assignments) and out-of-class (through homework). It is also recommended that students bring a laptop and HDMI connector to class if they have one. This is not required, but may make some in-class activities easier.

#### True to the spirit of inquiry-based learning, I may not always give a direct answer to a question but rather encourage students to find the answers on their own. This may seem frustrating and inefficient at times, but finding answers on their own helps students understand concepts at a deeper level and retain information better. I will provide direct answers when necessary, and I will be open about when I am being indirect and why.

**COURSE GOAL**

The main goal of this course is to expand student understanding of the current energy system, sustainable energy alternatives, and the citizen’s role in achieving a sustainable energy future.

**INSTRUCTIONAL OBJECTIVES**

1. **Describe energy production and consumption systems using appropriate units and vocabulary.**
2. **Identify existing patterns, policies and targets associated with energy consumption and production.**
3. **Identify options and constraints associated with various methods of alternative energy production, transportation, and use.**
4. **Discuss the role of the citizen in local, state and national energy policy and other sustainable energy action**.
5. **Discuss tradeoffs inherent in the selection of energy options.**
6. **Evaluate the overall sustainability of energy options.**

**STUDENT LEARNING OUTCOMES**

*Upon successful completion of this course, students will be able to*:

1. Explain, to an audience of mixed energy knowledge, the most pressing sustainable energy-related problems and potential solutions.
2. Evaluate technical, economic, environmental, and social advantages and disadvantages of different energy solutions.
3. Formulate sustainable energy solutions that citizens can help implement and identify specific actions citizens can take to effect these solutions.
4. Find, develop, and/or participate in local sustainable energy solutions.

#### We will measure these learning outcomes throughout the semester through homework, ****in-class activities, and exams****.

**GRADING AND COURSE EXPECTATIONS**

#### Components of Final Grade:

|  |  |
| --- | --- |
| Homework Assignments | 35% |
| In-Class Assignments | 35% |
| Exams | 30% |

#### The final semester grade will be the sum of the weighted total of Homework Assignments, In-Class Assignments, and Exams and will be assigned as follows:

|  |  |  |  |
| --- | --- | --- | --- |
| A (93 or above) | A- (90-92.9) | B+ (87-89.9) | B (82-86.9) |
| B- (80-81.9) | C+ (77-79.9) | C (72-76.9) | C- (70-71.9) |
| D+ (67-69.9) | D (62-66.9) | D- (60-61.9) | F (59.9 or less) |

#### Homework Assignments (35%)

It is very important for students to come to class ready to actively participate and learn. In many ways, the rest of the class depends on each student doing his/her part in this way. Weekly homework assignments are essential to being prepared. Homework assignments will consist of reading and/or watching videos and writing a reflection; answering specific questions about course material; and/or conducting independent research. Homework assignments will be submitted through Google Classroom or through Google Forms*.* The 1 lowest homework assignment grade will be dropped at the end of the semester.

#### In-Class Assignments (35%)

All students are expected to attend class each day and be prepared with a **calculator** (phone, tablet or computer are acceptable substitutes)**, paper, pen** and/or **pencil, and** a **device** for use with **Google Forms, Docs, Sheets, Drive, and Classroom** (cell phone, tablet or computer). To take advantage of the active learning classroom, it is recommended (but NOT required) that you bring a **computer** with **HDMI hookup** capability. Students are welcome to take notes on a computer or tablet, but they must also bring paper and pen/pencil.

Students are expected to attend ALL scheduled class meetings and participate in ALL learning activities during class times, which may include group discussions, reflections, debates, games, problem-solving (sometimes involving math – hence the calculator, paper and pencil), individual writing, quizzes, etc. For many of these assignments, you will work collaboratively with people at yourlearning table to answer questions in Google Docs, Forms, Sheets, or to collaboratively prepare a presentation in Google Slides. In-class assignments will build off of Homework assignments and help students build knowledge to work toward future assignments and exams. Students will earn one in-class activity grade of up to 10 pts for each class meeting. On some days, this grade may be assigned based purely on attendance (e.g., 10 pts for attending, 0 pts for not). On some days, there may be more specific assignments with more specific grading criteria (e.g., writing answers to 5 questions worth 2 pts each, group work based on a rubric handed out ahead of time, etc). If there are more than one specific assignment in one class period, the in-class activity grade for that class period will be the average of all of the scores for that class period, for a score out of 10 pts max. At the end of the semester, the in-class activity grades for all class periods will be added up; the lowest in-class activity grade will be dropped (subtracted); the total divided by the total points possible and multiplied by the component weight shown in the table above.

Depending on the specific assignment, **problem-solving** assignments usually will be graded on whether the student (or group) obtained the correct answer and/or used the appropriate procedure to arrive at the correct answer. **Discussions, debates, and individual writing assignments** will be graded either based on whether all parts of the assignment were complete or using rubrics posted in Classroom. **Games** will be graded in a similar fashion to a quiz – the grade will depend on getting the correct answer, providing the correct explanation, etc. On average, 1-5 in-class questions each day will require accessing a **Google Form** (see above).

#### Exams (30%)

#### There will be two Exams during the semester and one Final Exam. Exams will be based on homework, lecture material, and in-class assignments. Each exam will be semi-cumulative (i.e., you will be expected to build on the knowledge from the previous unit(s)). You may use any course materials to help you answer exam questions. The two preliminary Exams will be held in-class. The Final Exam will be administered online during Final Exam week. The 1 lowest Exam grade out of the three Exams will be dropped at the end of the semester.

**COURSE POLICIES**

**Classroom Culture**

This class tends to be a mix of students from economics, engineering, environmental science, and other academic backgrounds. In addition to this academic diversity, each student has their own cultural and social backgrounds, lived experiences, family traditions, political leanings, and set of ethics and values. These differences represent valuable opportunities for us to open our minds to new ideas and ways of thinking and respect different perspectives in our class discussions. I encourage students not to shy away from discussions that involve differences in opinion or disagreements but rather practice demonstrating active listening, constructive feedback, and respectful debating. These are not easy skills to master, and we will spend much class time practicing these skills. We will not find sustainable energy solutions by either mindlessly fighting or, on the other extreme, avoiding conflict. We must learn how to listen, learn, respect, and grow.

**Extra Credit**

Several extra credit opportunities are available - more information and specific instructions are located in the “Extra Credit” topic area in Google Classroom.

**Late/Missed Assignments**

I understand that life happens, and I don’t want to waste student time and mine discussing excuses and/or valid reasons for missed assignments. For this reason, I will drop the 1 lowest Homework Assignment, the 1 lowest In-Class Assignment, and the 1 lowest Exam grade at the end of the semester. Students also have the opportunity to earn Extra Credit. Therefore, there will be NO opportunities to makeup missed work, and late assignments will NOT be accepted. The only exception is if the University has granted a student a leave from course duties for some reason - in this case, the proper documentation would be required to makeup missed or late assignments within the appropriate timeframe specified on the University documentation. Students must arrange a meeting with me (outside of class time) as soon as possible in a situation like this, so we can work out the timeline for makeup work. If a student knows in advance s/he will miss an assignment due to sporting events, field trips for other classes, or some other official event, s/he must inform me in writing (i.e., email) as soon as s/he knows of the conflict, and complete assignments prior to the deadlines if possible or meet with me to schedule new deadlines.

**Communication Policy & Extra Help**

Check Google Classroom regularly for announcements, assignments and other communication from me.

If you have a question or need extra help, please do the following **in order**:

1. Review the course materials on Google Classroom (i.e., syllabus, instructions, announcements, readings, videos, etc.) and see if there are already answers available in these materials.
2. Check the discussion threads surrounding the course materials to see if your question has already been asked and answered.
3. If your question has not been asked yet in Classroom, but it may apply to other students, please post your question to the appropriate course material discussion thread and/or ask your question in class so all students can benefit.
4. If your question is more individual in nature and/or you have not found an answer after completing steps 1-3, please email me. There may be time to ask a quick question before or after class, but for some questions – especially where I may need to look something up – email works better. Please send email requests for meetings **at least 48 hours ahead of time** – depending on my travel and research schedule, I may need more time than this.

I expect emails from students to me (and vice versa) to be composed professionally with complete sentences and proper English writing style with no spelling mistakes or cryptic abbreviations (i.e, an email is not a text message), a CLEAR subject line that includes the course designator (e.g., ECO 405 or ECO 505) and a clear, concise question. I reserve the right not to respond to emails that don’t meet these qualifications.

During the weekdays, I will try to respond to emails within a 36-hour turnaround time. I will try to respond to emails sent on weekends/holidays within 60 hours.  I teach other courses, do research, and have a personal life, so please be patient and respectful.

**UNIVERSITY POLICIES**

**Academic Honesty Statement:** Academic honesty is very important. It is dishonest to cheat on exams, to copy term papers, to submit papers written by another person, to fake experimental results, or to copy or reword parts of books or articles into your own papers without appropriately citing the source. Students committing or aiding in any of these violations may be given failing grades for an assignment or for an entire course, at the discretion of the instructor. In addition to any academic action taken by an instructor, these violations are also subject to action under the University of Maine Student Conduct Code. The maximum possible sanction under the student conduct code is dismissal from the University.

**Students Accessibility Service Statement**: If you have a disability for which you may be requesting an accommodation, please contact Student Accessibility Services, 121 East Annex, 581.2319, as early as possible in the term. Students who have already been approved for accommodations by SAS and have a current accommodation letter should meet with me privately as soon as possible.

**Course Schedule Disclaimer (Disruption Clause):** In the event of an extended disruption of normal classroom activities, the format for this course may be modified to enable its completion within its programmed time frame. In that event, you will be provided an addendum to the syllabus that will supersede this version.

**Observance of Religious Holidays/Events:** The University of Maine recognizes that when students are observing significant religious holidays, some may be unable to attend classes or labs, study, take tests, or work on other assignments. If they provide adequate notice (at least one week and longer if at all possible), these students are allowed to make up course requirements as long as this effort does not create an unreasonable burden upon the instructor, department or University. At the discretion of the instructor, such coursework could be due before or after the examination or assignment. No adverse or prejudicial effects shall result to a student’s grade for the examination, study, or course requirement on the day of religious observance. The student shall not be marked absent from the class due to observing a significant religious holiday. In the case of an internship or clinical, students should refer to the applicable policy in place by the employer or site.

**University Sexual Discrimination Reporting Policy**

The University of Maine is committed to making campus a safe place for students. Because of this commitment, if you tell a teacher about an experience of **sexual assault, sexual harassment, stalking, relationship abuse (dating violence and domestic violence), sexual misconduct or any form of gender discrimination** involving members of the campus, **your teacher is required to report** this information to the campus Office of Sexual Assault & Violence Prevention or the Office of Equal Opportunity.

**If you want to talk** **in confidence** to someone about an experience of sexual discrimination, please contact these resources:

For *confidential resources on campus*: **Counseling Center: 207-581-1392** or **Cutler Health Center: at 207-581-4000**.

For *confidential resources off campus*: **Rape Response Services:** 1-800-310-0000 or **Spruce Run**: 1-800-863-9909.

**Other resources:** The resources listed below can offer support but may have to report the incident to others who can help:

For *support services on campus*: **Office of Sexual Assault & Violence Prevention: 207-581-1406**, **Office of Community Standards: 207-581-1409**, **University of Maine Police: 207-581-4040 or 911**. Or see the OSAVP website for a complete list of services at <http://www.umaine.edu/osavp/>

**COURSE SCHEDULE**

Please access the most updated Course Schedule on Google Classroom.

1. Population and the Environment: help students to understand how humankind interacts with our finite physical and biological environment by addressing:

   * The role of both local and global environmental change on the quality of human life
   * The pervasive role of human population growth on environmental quality and the quality of life, both in industrial and developing countries
   * The influence of cultural, religious, economic, educational and political factors on population growth and environmental quality
   * Possible solutions to the population/environmental problems, which may include the role of technological advancements, a re-examination of educational and political institutions, enlightened reassessment of traditional religious and economic conceptions, and rethinking contemporary Western conception of “the good life”

   Social Context and Institutions: focus upon the ways in which social contexts shape and limit human institutions.  The specific focus may be upon ways in which social contexts and institutions interact with human values, the role of institutions in expressing cultural values, or the social and ethical dimensions attendant upon particular academic disciplines. [↑](#endnote-ref-1)