ECO 180: Citizens, Energy and Sustainability – Fall 2015

*Tues/Thurs 12:30-1:45pm*

*Estabrooke 130 (“Flipped” Classroom)*

**INSTRUCTOR**

**Dr. Sharon Klein**

School of Economics

**Email**: Please use the Blackboard (BB) email system

207-581-3174

**Office Hours:** By appointment

305 Winslow Hall

**TEACHING ASSISTANT**

**Abby Sennick**

School of Economics

Winslow Hall

**Email**: Please use the Blackboard email system

**Office Hours**: MW 11-1 in the Econ Lab.

For more information about the Econ Lab, including location, see:  [http://umaine.edu/soe/student-campus-links/economics-lab/.](http://umaine.edu/soe/student-campus-links/economics-lab/%22%20%5Co%20%22Econ%20Lab%20info%22%20%5Ct%20%22_blank)

#### READINGS & VIDEOS (****FREE!****)

Readings and videos will be posted on Blackboard free of charge. All required readings and videos must be read/viewed **prior** to each class in order to participate and earn credit for in-class activities. Exams will include questions from required readings and videos. Optional readings and videos are for your enjoyment and may be included in assignments as you see fit, but are not required.

**TOP HAT COURSE MANAGEMENT TOOL**

Although readings and videos are free, you are required to purchase access to a course management tool called Top Hat (for more information see: <http://www.umaine.edu/it/software/tutorials/TopHat/>). During the first week of classes, **I will send you an invitation through BB email to register for Top Hat**. When you receive my email, click on the link to complete your registration. You will need to pay $20 for the semester or $38 for 5 years. Please make sure you are registered and have access by the start of the second day of class. Top Hat will allow us to engage more readily in in-class active learning activities (see below for information on the “flipped” classroom), and it is required in order to participate in class activities that earn course credit.

**COURSE DESCRIPTION**

This course introduces the technical, economic, environmental, and social implications of energy production and use. This course is intended to provide students with a broad understanding of energy issues by focusing upon the current U.S. and global energy systems 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. This course uses a “flipped” classroom approach in which students watch most lectures online and engage in active learning activities during class time. Students may be required to participate in field trips.

**COURSE LEARNING OBJECTIVES**

**The main learning objective of this course is to:**

Expand your understanding of the current energy system, sustainable energy alternatives, and the citizen's role in achieving a sustainable energy future.

This course meets the University of Maine’s **general education requirement** for the areas of Population and the Environment, and Social Context and Institutions, which include the following additional objectives:

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.

**COURSE LEARNING OUTCOMES**

**By the end of the semester you will be able to:**

1. **Describe energy production and consumption systems using the 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.**
4. **Discuss the role of the citizen in local, state and national energy policy**.
5. **Discuss the tradeoffs inherent in the selection of energy options and policy support for these options.**
6. **Evaluate the overall sustainability of energy options.**

#### We will work to measure these learning outcomes throughout the semester through ****in-class activities, exams,** and a **final project****.

#### “FLIPPED” CLASSROOM

#### Implicit to every learning experience you engage in is a goal to develop professionally and personally. Every college course you take is a professional learning/development experience. You are not just learning a topic, you are learning to learn. Mastering communication and participation skills, collaborative learning skills, and professional academic discourse, are requirements of every profession in every field. More than ever before, the ability to collaborate and learn with others is fundamental to your ongoing professional and academic success.

#### In keeping with this implicit goal, this course will follow a “flipped” classroom approach to increase opportunities for collaborative and active learning. A flipped classroom is different from the traditional lecture-style approach in several ways. First, instead of sitting and listening to me lecture to you for 75 minutes, you will be actively engaging in problem solving, discussions, debates and other in-class assignments usually in small groups (but sometimes individually) while I listen to you and provide guidance, feedback and mini-lectures on topics that help you be successful in the activities. You will access most of my lecture content online *before* you come to class, and lectures will be delivered in shorter chunks than traditional lectures. That way, you can watch them at your speed, pause, rewind, take notes, and make note of questions you have before coming to class. In class, you will apply what you have learned under my guidance so if you are struggling with understanding some concepts introduced in video lectures or readings, I will be there to help you understand. Sometimes, I may teach directly to the whole class for a few minutes if it is clear there is a concept that most people are struggling with, but most of the class time will involve you doing the work while I roam the classroom, providing guidance, answering questions, teaching small groups, and listening.

#### Because you will be doing so much work in class, these in-class assignments will comprise the largest percentage of your final grade. This may or may not sound like an easy way to get a good grade. On the one hand, it is easier if you do the work because you have more opportunities to make mistakes and correct those mistakes than if you are only graded on a few in-class exams. However, you may find it is more challenging than more traditional approaches because you can’t just come to class, sit back and half listen. To earn full credit, you must be engaged in class activities and come prepared, having done the readings and watched the videos.

#### Also, it may seem like I am not giving you a direct answer to some questions but rather encouraging you to find the answer on your own. This may seem frustrating and inefficient at times, but this type of inquiry-based learning should help you understand concepts at a deeper level and retain information better. Rest assured that I will give you direct answers when necessary, and I will tell you when I am being indirect and why.

#### Research shows that “flipped” classrooms, inquiry-based learning, and other active and collaborative learning approaches improve learning outcomes, problem-solving and critical thinking skills, student confidence, retention of information, group collaboration, and many other important aspects of learning. These approaches are especially appropriate in a course focusing on citizens, energy and sustainability because the main goal is for you to understand *your* role in achieving a sustainable energy future.

#### Watch the following video (also posted on Blackboard) for more information about the benefits of these approaches and why I have chosen to use them: <https://www.youtube.com/watch?v=MdymI61hLPY&list=PLE8C54256779B374D&index=3&feature=plpp_video>

#### GRADING

#### Graded Activities & Percentages:

|  |  |
| --- | --- |
| Homework | 40% |
| In-Class Assignments | 40% |
| Exams | 20% |

#### In-Class Assignments (40%)

All students are expected to **attend class each day** and be prepared with a **calculator (**phone, tablet or computer are acceptable substitutes), **paper, pen/pencil,** and a **device** for use with **Top Hat** (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 or a tablet with Air Play.

Each day in class, there will be at least one **in-class assignment**, consisting of group discussions, debates, games, problem-solving (sometimes involving simple math – hence the calculator), individual writing, quizzes, etc. For some of these assignments, you will work collaboratively in with people at your **learning table**, which will be identified at the beginning of the semester and will likely change each month.

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 using the rubrics presented on blackboard. **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 (except for possibly guest lecture days) will require the use of a classroom response program called **Top Hat (for more information, see:** <http://www.umaine.edu/it/software/tutorials/TopHat/>). **I will send you an email invitation to join Top Hat during the first week of classes**.

#### Homework Assignments (40%)

Students are expected to be prepared each day for active learning. Often, this will require a homework assignment, due at the beginning of the week, consisting of reading and/or watching videos and writing a reflection and/or answering specific questions about the material. These HW assignments will prepare you for in-class activities and help you meet learning outcomes. Assignments will be posted on Blackboard at least 4 days in advance (but I will usually try for 1-2 weeks in advance).

#### Exams (20%)

#### There will be two Exams during the semester. Exams will be based on readings, videos, 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 mid-term exams will be available online beginning on **Thursday morning at 8am until the exam deadline on Monday night at 11:59 pm**. However, you will be required to finish the exam **within 1.5 hour**, so it is advisable that you study the Unit material before starting the exam - i.e., there won't be time during the exam to sift through all of the material if you haven't prepared ahead of time. The final exam will be administered during the scheduled final exam period in person.

#### Final Semester Grade

#### Your final semester grade will be the sum of the weighted total component grades described above and will be assigned as follows:

|  |  |  |  |
| --- | --- | --- | --- |
| A (90 or above) | 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- (60-69.9) | F (59.9 or less) |   |

**Extra Credit**

Throughout the semester, you can earn a maximum of 10 points extra credit to be applied your lowest exam grade. Please see “Extra Credit” in BB for instructions and a list of acceptable ideas. In addition to the Exam Grade extra credit, there may be opportunities in class to earn extra credit on in-class assignments from time to time.

**Late/Missed Assignments**

I understand that life happens, and I don’t want to waste your time and mine discussing excuses and/or valid reasons for missed assignments. For this reason, I will drop the 2 lowest Homework assignments and the 2 lowest class days worth of in-class assignments (e.g., if we average 3 in-class assignments per class day, I will drop 6 in-class assignment grades) at the end of the semester. Due to this policy and the many opportunities for Extra Credit, there will be NO opportunities to makeup missed work, and late assignments will NOT be accepted. The only exception to this rule is if the University has granted you a leave from course duties for some reason and you supply proper documentation (e.g., mandatory field trip for another class with official form signed by instructor, extended absence due to injury with official signed form from physician, etc). In this case, you will be required to makeup missed or late assignments within the appropriate timeframe specified on the University documentation.

**Communication Policy & Extra Help**

**Check BB regularly** for announcements, assignments and other communication from me and the TA. To access BB, go to: [www.courses.maine.edu](http://www.courses.maine.edu). Enter your Mainestreet username and password. Select this course from the list on the welcome page.

If you have a question, please do the following **in order**:

1. Review the course materials on BB (i.e., syllabus, instructions on BB, announcements, etc.) and see if there are already answers available in these materials.
2. Check the Question Forum to see if your question has already been asked and answered.
3. If your question has not been asked yet in the forum, but it may apply to other students, please post your question to the Question Forum 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 the Instructor AND TA **through BB email**. There may be time to ask a quick question before or after class, but for some questions – especially where we 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 the TA (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 (ECO 180) and a clear, concise question. We reserve the right not to respond to emails that don’t meet these qualifications. Please see Netiquette Guidelines in BB for more information. During the weekdays, the TA and I will try to respond to emails within a **36-hour** turnaround time. We will try to respond to emails sent on weekends/holidays within 60 hours.  We each have different work schedules and personal lives as well.

**Disabilities Policy**

If you have a disability for which you may be requesting an accommodation, please contact Disabilities Services, 121 East Annex, 581-2319 ((TTY) 581-2325) as early as possible in the term.

**Academic Integrity Policy**

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.

**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 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.

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