

Physics 105

Fall 2016

Physics for Decision Makers: The Global Energy Crisis

Professor Sarah Eno

Course Description: The aim of this course is for you to learn how science attacks the *most* important societal issue facing our planet.

Specific objectives are:

- To understand the fundamental science of energy and energy usage in the world, and the human impact on the global climate.
- To learn, through the process of discovery, how science formulates questions and addresses them with reasoning, evidence, and argumentation.
- To address specific questions which must be asked and answered in order to understand the important societal questions of energy usage and environmental impact.

This is a *Marquee Science and Technology Course*: At the completion of a Marquee Course you should be able to:

1. Look at complex questions and identify the science in the question and how it impacts and is impacted by political, social, economic, and ethical dimensions
2. Understand the limits of scientific knowledge
3. Critically evaluate science arguments
4. Ask good questions
5. Find information using various sources and evaluate the veracity of the information
6. Communicate scientific ideas effectively
7. Relate science to a personal situation

Canvas software: Our course will utilize Canvas software for grades and assignments. The link to our class is found through <https://elms.umd.edu>

Text: *Energy, Environment, and Climate (Second Edition)* by Richard Wolfson.

Classes:

Lecture: Tuesday, Thursday 12:30 – 1:45 PM (PHYS 1410)

Discussion:

Section 0101 – Monday - 12:00pm- 12:50pm (PHYS 0405)

Section 0102 – Monday - 1:00pm- 1:50pm (PHYS 0405)

Section 0104 – Friday - 12:00pm- 12:50pm (MTH 0102)

Section 0105 – Friday - 2:00pm- 2:50pm (PHYS 1219)

Contact Information: Prof. Sarah Eno

Office: Physical Sciences Complex, Building 415, room 3164

Phone: (301) 405-7179 Email: eno@umd.edu

Office hours: I enjoy helping students. Send me an email and we'll schedule a time that is good for you.

TA: TBA

Homework: There will be a homework assignment most weeks. All assignments will be posted on elms. Late homework will **not** be accepted except in the case of illness verified by a doctor's signature. Due to tie constraints, not all problems will be graded. The grader will randomly select a set to grade. Homework solutions will be available on elms the day after the assignment due date.

Quizzes: There will be a quiz in your recitation each week. Two multiple choice and one problem will be selected from the HW that was due the previous week.

Projects: There will be two group projects during the semester. Please see elms for details on their requirements.

Attendance: Your attendance will be taken in recitation and when there are guest lectures.

Important Dates:

First class	August 30	
Midterm exam 1	October 4	
Midterm exam 2	November 15	
Thanksgiving break	November 24	
Last class	December 8	
Final Exam	December 19	1:30 – 3:30 PM

If you have a reason why you cannot attend class (religious holiday, official University business), see me before the exam! Only medical emergencies will be considered as excuses after the exams. If you miss an exam with a valid excuse, a makeup exam will be given.

Extra Help: I will be available at the end of each lecture to answer questions, or email me to schedule office hours. Please seek help at the first sign of difficulties or confusion.

Grading: Your grade will be based on the following:

Exam 1	20%
Exam 2	20%
Project #1	10%
Project #2	10%
Homework	10%
Weekly recitation quiz	10%
Attendance at recitation and at talks by guest lecturers	5%
Final Exam	15%

Academic Integrity: The University of Maryland, College Park has a nationally recognized Code of Academic Integrity, administered by the Student Honor Council. This Code sets standards for academic integrity at Maryland for all undergraduate and graduate students. As a student you are responsible for upholding these standards for this course. It is very important for you to be aware of the consequences of cheating, fabrication, facilitation, and plagiarism. For more information on the Code of Academic Integrity or the Student Honor Council, please visit <http://www.studenthonorcouncil.umd.edu/whatis.html>.

Disabilities: If you have a documented disability and wish to discuss accommodations, please contact me as soon as possible.