

THE PENNSYLVANIA STATE UNIVERSITY
MONT ALTO CAMPUS
Spring 2019

HONOR 297 – Special Topics: Our Energy Future

Course Title: HONOR 297 "Special Topics: Our Energy Future"

Section: 001

Credits: 1

Class Meeting: Fridays 2:30 – 3:20, Room 204 General Studies Building

Text and Material: There is no textbook for this course, readings will be provided through canvas.

Instructor: Dr. Jacob Moore, Assistant Professor of Engineering

E-mail: jmoore@psu.edu

Phone: (717) 749-6209

Office Location: 7 Bookstore Building

Office Hours: Mondays 8 AM - 10 AM, Thursdays 10 AM – 12PM, or by appointment.

Course Goals:

The goal of this course is to provide students the background they need to intelligently discuss the future of energy production, distribution, storage, and use in America and the world.

Course Learning Objectives:

Upon successfully completing this course students will be able to...

- Understand the basics of how energy is produced, distributed, and used in society.
- Read and critically evaluate articles related to energy production, energy distribution, and energy use in society.
- Discuss energy topics with others in a respectful and intelligent fashion, backing up claims with evidence.

Course Policies:

Attendance:

- Students are expected to attend all classes except in cases of extenuating circumstances.
- Class will begin promptly at 2:30 and students are expected to be present and ready to begin class at that time.
- Students should contact the instructor before class for any pre-scheduled absences, or in the case of an illness or another unexpected reason for absence, the student should contact the instructor as soon as possible. In general, the earlier you contact me the better.

- It is the responsibility of the student to contact the instructor in the case of any missed classes or significant tardiness to determine what activities and assignments were missed. Not all assignments may be made up in the case of non-university sanctioned excuses for absence.

Assignments:

- Students are responsible for checking Canvas for all readings, assignments, and due dates.
- Students are responsible for completing all readings and the accompanying quizzes before the beginning of the class.
- Students will be responsible for leading at least two class discussions with a pro or con position. Students who complete more than two discussions will have the highest two discussion grades count towards their grade.

General Conduct:

- Students are expected to act professionally during all class related activities and meetings. Inappropriate behavior or language during any class activities will not be tolerated.

Services for Students with Disabilities

In order to receive consideration for reasonable accommodations, you must contact the Disability Coordinator, Kendra Sites, located on the first floor of the General Studies Building in the Student Success Center. She can be reached at 749-6045 or kmw24@psu.edu, Students must participate in an intake interview and provide documentation: <http://equity.psu.edu/sdr/guidelines>. If the documentation supports your request for reasonable accommodations, the disability services office will provide you with an accommodation letter. Please share this letter with your instructors and discuss the accommodations with them as early in your courses as possible. You must follow this process for every semester that you request accommodations.

Counseling and Psychological Services:

Many students at Penn State face personal challenges or have psychological needs that may interfere with their academic progress, social development, or emotional wellbeing. The university offers a variety of confidential services to help you through difficult times, including individual and group counseling, crisis intervention, consultations, online chats, and mental health screenings. These services are provided by staff who welcome all students and embrace a philosophy respectful of clients' cultural and religious backgrounds, and sensitive to differences in race, ability, gender identity and sexual orientation.

Counseling Services
209 Conklin Hall
Phone: 717-749-6094

Penn State Crisis Line (24 hours/7 days/week): 877-229-6400
Crisis Text Line (24 hours/7 days/week): Text LIONS to 741741

Academic Support Center:

The Academic Support Center provides academic and skill building support for all students. If you are having difficulty in any of your classes, or with academic skills, contact the Academic Support Center.

E-mail: ASC-Helps@psu.edu

Call: [\(717\) 749-6046](tel:(717)749-6046)

Schedule a Tutoring Appointment: <http://www.psu.mywconline.com>

Stop by: 1st floor of the General Studies Building

Academic Integrity:

All students are expected to act with civility, personal integrity; respect other students' dignity, rights and property; and help create and maintain an environment in which all can succeed through the fruits of their own efforts. An environment of academic integrity is requisite to respect for self and others and a civil community.

Academic integrity includes a commitment to not engage in or tolerate acts of falsification, misrepresentation or deception. Such acts of dishonesty include cheating or copying, plagiarizing, submitting another persons' work as one's own, using Internet sources without citation, fabricating field data or citations, "ghosting" (taking or having another student take an exam), stealing examinations, tampering with the academic work of another student, facilitating other students' acts of academic dishonesty, etc.

Students charged with a breach of academic integrity will receive due process and, if the charge is found valid, academic sanctions may range, depending on the severity of the offense, from F for the assignment to F for the course.

The University's statement on academic integrity, from which the above statement is drawn, is available at <http://www.psu.edu/dept/oue/aappm/G-9.html>

Grading Policy:

There are no exams in this course. Your grade will depend on quizzes, class presentations, attendance, and participation. Grades will be distributed as follows:

- Class presentations 60%
- Reading quizzes 20%
- Attendance and participation 20%

Final letter grade will be assigned as follows:

93 - 100	A
90 – 92.99	A-
87 – 89.99	B+
83 – 86.99	B

80 – 82.99	B-
77 – 79.99	C+
70 – 76.99	C
60 – 69.99	D
below 60	F

Tentative Schedule:

Day	Topic	Discussion Prompt
1/11	Course Introduction and the basics of generating, storing, and distributing energy	None
1/18	Power Generation (Coal Power Plants)	We need to actively work to shut down coal power plants now vs. We should let them shut down based on natural financial pressure
1/25	Power Generation (Natural Gas Power Plants)	Natural gas is an important middle step to a greener future vs. We should skip over natural gas and go right to truly renewable energy
2/1	Power Generation (Nuclear Power Plants)	Nuclear energy is an important middle step to a greener future vs. We should skip over nuclear energy and go right to truly renewable energy
2/8	Power Generation (Hydro Power Plants)	We should increase our hydro power capacity vs. We should hold capacity steady or even decrease it.
2/15	Power Generation (Wind Power Plants)	Wind energy should be the bulk of a truly renewable energy future vs. Wind energy should be second to other sources.
2/22	Power Generation (Solar Power Plants)	Solar energy should be the bulk of a truly renewable energy future vs. Solar energy should be second to other sources.
3/1	Utility Level Energy Storage Systems	We have the technology to make wind and solar energy reliable vs. Wind and solar are always going to be unreliable forms of energy.
3/8	Spring Break (no classes)	
3/15	Energy Distribution and "The Grid"	We need to massively update our energy grid to accommodate renewable energy vs. The grid will be fine, it will adapt as needed.
3/22	Transportation (Gas and Diesel Vehicles)	The regular internal combustion engine is dead, all hail electric cars vs. Internal combustion engines can still be made more fuel efficient leave room for innovation.
3/29	Transportation (Electric and Hybrid Vehicles)	We need to push hard to increase EV adoption rates vs. We should let people move to EVs as it makes sense economically.
4/5	Transportation (Planes, Trains, and Other Transit Systems)	Public Transportation is key to greater sustainability vs. we should focus on making personal transportation more sustainable.
4/12	Academic Festival (no class)	
4/19	Home Heating and Home Cooling	Everyone should be getting heat pumps vs. We shouldn't push heat pumps on everyone, just let economics drive choice.
4/26	Course wrap-up	None
4/30 – 5/3	Finals Week (no class)	