Environmental Studies 2: Introduction to Environmental Science
Winter 2019 / 006 Steele
MWF: 12:50 – 1:55 pm; X-Hour: Tu 1:20 –2:10 pm

Instructor: Professor Andy Friedland 111 Steele Hall; 6-3609; andy.friedland@dartmouth.edu
Office Hours: M, W 2:15-3:15 PM & by appointment

TA office hours by appointment:
Kate Miller, Grad EEES/Anthropology, Catherine.K.Miller.GR@dartmouth.edu

Required Readings

Essentials of Environmental Science, Second edition, by Friedland and Relyea. 2016. (Perfectly fine to use the First Edition which costs less) WH Freeman. Copy on reserve in Kresge Library.
Video and reading as identified on Canvas.

Description of Course

The main objective of this course is to provide an introduction to environmental science, which is a study of the natural world and how it is influenced by, and influences, people. We will examine the physical, biological and chemical world at a moderate level of detail. This is an *introduction* to a wide variety of environmental topics, many of which you can explore in greater depth in other courses. There will be two 65-minute exams during class time and a final exam. Two environmental problem sets will be assigned to give hands-on experience in examining environmental issues, making calculations, and reaching conclusions. The completion of an audit of your residential and transportation energy use will help you gain a greater understanding of energy dynamics in human systems.

Grading

		Total Points
2 Problem Sets	10 pts each	20 Pts
1 Energy Audit	30 pts	30
2 Hour Exams	100 pts each	200
1 Final Exam		150
		400 Pts

Due dates for problem sets and the energy audit are on the following page. **Problem Sets and the Energy Audit (hard copies, because you will be doing calculations by hand) are due at 3 PM in 113 Steele Hall** on their respective due dates. One point will be subtracted for every hour that an assignment is late. The Energy Audit will require personal energy-use data (home+ food + transportation) for a recent one-year period in your life.

- *The **Academic Honor Principle** applies to all Dartmouth students at all times. I recognize the importance of the Honor Principle and expect you to do so as well.*
- *I encourage students with **disabilities**, including "invisible" disabilities like chronic diseases, learning disabilities, and psychiatric disabilities to discuss with me after class or during office hours appropriate accommodations that might be helpful to them.*
- *I realize that some students may wish to take part in **religious observances** that occur during this academic term. Should a religious observance conflict with your participation in the course, please come speak with me before the end of the first week of the term to discuss appropriate accommodations.*

All course material, including exams from previous years, and the syllabus are posted on the course Canvas site. Click on "Files" on left side of page.

ENVS 2, Winter 2019: Lecture and Reading Schedule

Ch or p. = Chapters or pages in Essentials of Environmental Science (text). Other items are Clickable Links from within Canvas. Ideally, you will complete a reading or video before class on the day listed.

Date	Description	Reading
01/04	Environmental Science & Sustainability	Ch 1, Video
01/07	Matter and Conservation of Energy	Ch 2 through p. 39, Video
01/09	Global Change and Global Systems	Ch 2 from p. 40 to end, Video
01/11	Energy and Ecosystems	Ch 3, Video
01/14	Organisms, Evolution and Adaptation	Ch 4
01/16	Biodiversity	Ch 13, Video, **PS #1 Due at 3 PM**
01/18	Invasive and Charismatic Species	p. 323-324, Video
01/21	No Class: Martin Luther King Jr. Day	
01/23	Human Populations	Ch 5, Video
01/25	Population Pyramids and Doubling Times	2 Readings, Video
01/28	Population and Justice	2 Videos
01/30	**FIRST HOUR EXAM** (during class period)	
02/01	The Water Cycle	Ch 9 through p. 226
02/04	Earth Processes and The Soil Ecosystem	Ch 6, 2 Videos
02/06	Agricultural Systems	Ch 7, Reading, Video, **PS #2 Due at 3 PM**
02/08	Understanding Personal Energy Use	2 videos
02/11	Energy Supply and Sources	Ch 8 through p. 186, 2 Videos
02/12	**X-hour:** Non-renewable Energy Systems	Ch 8 from p. 186 to end, 1 video
02/13	Renewable Energy Systems	Reading; **Energy Audit Due at 3 PM**
02/15	Water Pollution	Ch 9 p. 226 through end, Reading
02/18	Air Pollution	Ch 10
02/19	**X-hour:** Environment and Human Health	Ch 12
02/20	**SECOND HOUR EXAM** (during class period)	
02/22	No class	
02/25	Dartmouth Energy Systems **Guest:** Dartmouth Sustainability Director Rosi Kerr	Video
02/27	Global Change Mechanisms	Ch 14, 2 Videos
03/01	Global Change and the Polar Regions **Guest:** Professor Caitlin Hicks-Pries	Reading
03/04	Solid Waste and Recycling	Ch 11, Reading
03/06	Towards Sustainability	Ch 15
03/10	**Final Exam 8 AM**	

The Final Exam will be given on Sunday, March 10 at 8 AM. Location TBA. ***Please note: It may not be possible for me to allow hour exams or the final exam to be taken at times other than the scheduled day and time; if you suspect you might possibly have a conflict, speak to me in person by Monday, January 7.***