

## Environmental Studies 2: Introduction to Environmental Science

Fall 2013 / 006 Steele Hall

MWF: 12:30 p.m.-1:35 p.m.; X-Hour: Tu 1:00p.m.-1:50p.m.

Instructor: Professor Andy Friedland 111 Steele Hall; 6-3609; andy.friedland@dartmouth.edu  
Office Hours: M 2-3 PM, Th 1:30-2:30 PM & by appointment

TA office hours by appointment:

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### Required Readings

Essentials of Environmental Science, 1<sup>st</sup> edition, by Friedland, Relyea and Courard-Hauri.

WH Freeman, 2012. Two copies on reserve in Kresge Library.

Occasional readings as posted on syllabus and available on Blackboard.

### 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, chemical and other natural sciences at a moderate level of intensity. 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

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

Due dates for problem sets and the energy audit are on the following page. **Problem Sets and the Energy Audit 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. Problem Set help sessions will be held on the night before each due date from 5-6 PM in 101 Fairchild. 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 a copy of the syllabus are posted on the course Blackboard site.**

## ENVS 2, Fall 2013: Lecture and Reading Schedule

Ch or p. = Chapters or pages in Essentials of Environmental Science (text). Other readings are Clickable Links and can also be downloaded from the ENVS 2 Blackboard site.

<u>Date</u>	<u>Description</u>	<u>Reading</u>
09/16	Environmental Science & Sustainability	Ch 1
09/18	Matter and Conservation of Energy	Ch 2 through p. 39
09/20	Global Change and Global Systems	Ch 2 from p. 40 to end
09/23	Energy and Ecosystems	Ch 3
09/25	Organisms, Evolution and Adaptation	Ch 4
<b>09/27</b>	Biodiversity	Ch 13 <b>PS #1 Due at 3 PM</b>
09/30	Invasive Species	<a href="#">Europe Biodiversity</a> & <a href="#">Honeybee</a>
10/02	Human Populations	Ch 5
10/04	Population Pyramids and Doubling Times	<a href="#">What If Wrong?</a> & <a href="#">ChinaAgeGracefully?</a>
10/07	Population and Justice	<a href="#">Robert Bullard video clip</a>
<b>10/09</b>	<b><u>FIRST HOUR EXAM</u></b>	
10/11	No class	
10/14	Water	Ch 9 through p. 226
<b>10/15 x-hour</b>	Conducting An Energy Audit	<a href="#">Int'l Footprint Calculator</a>
10/16	Earth Processes and The Soil Ecosystem	Ch 6
10/18	Land and Agriculture	Ch 7
10/21	Energy Supply and Sources	Ch 8 through p. 186
10/23	Non-renewable Energy Systems	Ch 8 from p. 186 to end
<b>10/25</b>	Renewable Energy Systems	<a href="#">NREL Energy Primer</a> <b>PS #2 Due at 3 PM</b>
10/28	Water Pollution	Ch 9 p. 226 through end
<b>10/30</b>	Air Pollution	Ch 10 <b>Energy Audit Due at 3 pm</b>
11/01	Energy Choices at Dartmouth <b>Guest:</b> Dartmouth Sustainability Director Rosi Kerr	<a href="#">How Dart Works-Energy</a>
11/04	Solid Waste and Recycling	Ch 11
<b>11/06</b>	<b><u>SECOND HOUR EXAM</u></b>	
11/08	Human Health	Ch 12
11/11	Global Change Mechanisms	Ch 14
11/13	Global Change Impacts	<a href="#">IPCC Fifth Assessment</a>
11/15	Global Change and the Polar Regions <b>Guest:</b> Professor Ross Virginia	<a href="#">Nature Arctic Change</a> & <a href="#">NYTimes Op-Ed</a>
11/18	Towards Sustainability	Ch 15

**The Final Exam will be given on Tuesday, November 26, 2012 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 will have a conflict, speak to me in person by Friday, September 20.**