

Syllabus for UGS303: Sustaining a Planet, Fall 2013

For the most up to date information, visit the class website on Blackboard:

<https://courses.utexas.edu/>

Meeting Times: Lectures MWF 11-noon, room JGB 2.324, plus one 1.5-hr discussion section per week (room varies by discussion section – see course schedule) in room JGB2.308; a separate course unique number is assigned to each discussion section.

Instructors: David Allen allen@che.utexas.edu (DA), Jay Banner banner@mail.utexas.edu (JB)

Office Hours: David Allen: MWF 10-11 AM in CPE 3.462 on DA lecture days and by appointment; Jay Banner: MW 1:30-2:30; JGB 5.210 on JB lecture days and by appointment

Teaching Assistants: See class website for office hours and contact information

Readings: Readings will be on either Blackboard or on library reserve.

Class Policies & Requirements:

- Bring two index cards to class each day, these should be 3x5”
- Attendance is required, both in lecture and discussion section
- No laptops or other portable electronic devices; turn off your phone. If you do not follow this policy, you will be marked absent and asked to leave class.
- If you need to come late or leave early, contact your instructor via email prior to class
- If you arrive late, enter through the rear doors outside of the building

Lecture notes: Lecture notes and readings can be found on the course web site on Blackboard.

Grading: Attendance in lectures and discussion section is required. Three Lecture Exams (45% of total grade) + comprehensive Final Exam (15 %) + Engagement (5%) + Homework (17 %) + Portfolio (18%) = 100 %. There are no make-up exams given. If you miss a lecture exam for an instructor-approved reason, then the lowest grade of your other two exams will substitute for the missing score. Only one missed exam can be substituted for in this manner. If there are special extenuating circumstances presented within 24 hours, exceptions to this policy will be considered. Extra credit opportunities will be described on the course web site. There will be a group extra credit exercise in class that can result in positive or negative points to your grade, depending on the group dynamics of the class. Extra credit points may also be provided for attendance at specified university-wide public lectures (particularly Hot Science – Cool Talks presentations <http://www.esi.utexas.edu/k-12-a-the-community/hot-science-cool-talks>). Details about the Portfolio, which includes the course writing requirements, are given in the portfolio section of the course web site on Blackboard. Grades will be assigned using the plus/minus system.

Falsification of attendance records, cheating, and plagiarism are three forms of academic dishonesty. All forms of academic dishonesty will be dealt with seriously. You are responsible for knowing the definitions of plagiarism and other forms of academic dishonesty. Review University policies at <http://deanofstudents.utexas.edu/sjs/> and http://deanofstudents.utexas.edu/sjs/acadint_plagiarism.php

See the class website for more information on policies on academic dishonesty, students with disabilities, information on instructors, and other matters. Note that completing an on-line quiz on plagiarism will be required. Details will be announced in class.

Students are encouraged to make use of University resources such as the Undergraduate Writing Center (<http://uwc.utexas.edu>) and the Sanger Learning and Career Center (<http://lifelearning.utexas.edu>)

The University Honor Code: "The core values of The University of Texas at Austin are learning, discovery, freedom, leadership, individual opportunity, and responsibility. Each member of the University is expected to uphold these values through integrity, honesty, trust, fairness, and respect toward peers and community."

Religious Holidays: A student who misses classes or other required activities, including examinations, for the observance of a religious holy day should inform the instructor as far in advance of the absence as possible, so that arrangements can be made to complete an assignment within a reasonable time after the absence.

Course Schedule 2011

Section 1: Introduction, concepts and tools

Date	Topic #	Topic	Instructor
Aug. 28	1A	Problems facing Planet Earth and modern society; course logistics	DA, JB
Aug. 30	1B	Signature course concept; Expectations for Discussion Section; The concept of Sustainability: Social equity, economy, and environment	DA, JB
Sept. 2		Labor Day Holiday	
Sept. 4	2	Drivers of Sustainability: Population, affluence and technology	DA
Sept. 6	3	The Scientific Method	JB
Sept. 9	4	Tragedy of the Commons I: The history of civilizations and sustainability	JB

Sept. 11	4	Tragedy of the Commons II	JB
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Section 2: Natural cycles: How the Earth works

Sept. 13	5	Plate tectonics and the rock cycle	JB
Sept. 16	7A	Atmospheric circulation and climate	JB
Sept. 18	7B	Atmospheric structure and composition	DA
Sept. 20	7C	Atmospheric circulation and climate	JB
Sept. 23	7D	Atmospheric circulation and climate	JB
Sept. 25	8	Climate change through time	JB
Sept. 27		Exam I	
Sept. 30	9	Hydrosphere and the oceans: Structure, composition and circulation	JB
Oct. 2	10	Ocean-atmosphere interactions & Abrupt climate change	JB
Oct. 4	11	Human Impact on the water cycle	JB
Oct. 7	12	Sustainability of Freshwater Resources -1	JB

Section 3: Human perturbation of natural cycles and sustainability

Oct. 9	13	Sustainability of Freshwater Resources - 2	JB
Oct. 11	14	Sustainability of the Oceans	JB
Oct. 14	15	Grand Cycles and the Anthropocene	DA
Oct. 16	16	Cycles of life - Carbon	DA
Oct. 18	17	Cycles of life – Nitrogen	DA
Oct. 21	18	Energy I	DA
Oct. 23	19	Energy II	DA
Oct. 25	20	Links between systems: Energy and Water	DA
Oct. 28		Exam II	

Section 4: Societies, economies, technologies, ecologies, and paths to sustainable solutions

Oct. 30	22	Human impact on the atmosphere I	DA
Nov. 1	23	Human impact on the atmosphere II	DA
Nov. 4		Guest Lecture	
Nov. 6	24	Energy, Water and the Atmosphere	DA
Nov. 8	25	Energy, Water and the Atmosphere: Biofuels	DA
Nov. 11	26	Industrial Ecology I	DA
Nov. 13	27	Industrial Ecology II	DA
Nov. 15	28	Green Products	DA
Nov. 18	31	Environmental Change, Policy and Society I	DA
Nov. 20		Exam III	
Nov. 22	29	Environmental Music Symposium	JB, DA
Nov. 25	30	Environment, science and the media	JB
Nov. 27	30	Environment, science and the media	DA
Nov. 28		Thanksgiving Holiday	
Dec. 2	32	Environmental Change, Policy and Society II	JB
Dec. 4	32	Environmental Change, Policy and Society III	JB
Dec.6		Final thoughts and final exam review	DA, JB

Final Exam: Saturday, December 14, 2-5