

Syllabus
SNR 540 Global Environmental Change
Credits: 3

Instructor: David Turner

Instructor's email and phone: david.turner@oregonstate.edu (541-737-5043)

Link to instructor's on-line bio/website: <http://www.forestry.oregonstate.edu/cof/fs/people/faculty/turner.php>

OSU catalog course description:

Prerequisites: Enforced: Graduate standing. Highly recommended: Basic ecology course. This course is a component of the 18-credit Graduate Certificate Program in Sustainable Natural Resources (SNR), and it is also open to other graduate students. There are no required prerequisites for non-degree-seeking students other than graduate standing.

Recommended: Students should have a bachelor's degree in the arts, humanities, or science and preferably at least two years experience working in a natural resources-related field. Students seeking the SNR Graduate Certificate should take SNR 511 their first term because it explains overall Certificate Program goals. Taking SNR 530 (Ecological Principles of Sustainable Natural Resources) before SNR 540 is the preferred sequence.

Co-requisites: Students seeking admission to the SNR Graduate Certificate Program must apply before completing more than 6 credits of SNR course work. More information, including international admissions requirements, can be found at <http://ecampus.oregonstate.edu/online-degrees/graduate/sustainability>.

Course content:

Designing a sustainable world will require understanding how the Earth system functions, as well as how the Earth system is being altered by human influences. This course will survey topics in both the biophysical sciences and social sciences that underlie contemporary global change issues. We will review the history of the biosphere, the global biogeochemical cycles, and the global climate system. From that base, we will examine issues including stratospheric ozone depletion, acidic deposition, climate change, and threats to biodiversity. On the human dimensions side of global change, we will consider various aspects of globalization. Special attention will be given to land cover and land use change. Discussion topics will include the origin of life, Gaia, and the prospects for global environmental governance. Current global management tools including satellite remote sensing and Earth system modeling will be introduced.

Learning resources:

Course Text: The Earth's Biosphere. Vaclav Smil. The MIT Press. 2003.

Course Outline:

Week 1	Introduction to the Global Scale
Week 2	Earth History
Week 3	Gaia Theory
Week 4	The Global Carbon and Water Cycles
Week 5	Other Global Biogeochemical Cycles
Week 6	Human Impacts on the Atmosphere and Climate
Week 7	Human Impacts on Biodiversity
Week 8	Globalization
Week 9	Global Environmental Governance
Week 10	Earth System Management
Week 11	Term paper

Course Format:

Two weekly lectures will include text, figures, images, and Internet links relevant to the lecture topic. A list of 3-5 journal articles or book chapters and additional web sites related to the weekly theme will be provided. The discussion forum for the week will include contributions and responses, focused on the weekly discussion question(s).

This course will be delivered via Blackboard, the online learning community, where students will interact with classmates and with the instructor. Within the course Blackboard site students will access the learning materials, tutorials, and syllabus; discuss issues; submit assignments; email other students and the instructor; participate in online activities; and display course projects. To preview how an online course works, visit the [Ecampus Course Demo](#). For technical assistance, Blackboard and otherwise, see <http://ecampus.oregonstate.edu/services/technical-help.htm>.

Measurable student learning outcomes:

Upon completion of the course, the student will be able to:

1. Understand and give examples of basic physical, chemical, and biological processes associated with the major global change issues.
2. Comprehend and explain the operation of the Earth system in terms of energy flows and materials cycling.
3. Compare and differentiate the relative magnitudes of human and biospheric influences on the global biogeochemical cycles.
4. Synthesize and apply biophysical and social science concepts to analyze current events in terms of economic, political, and cultural globalization.
5. Predict and evaluate outcomes of increased globalization and changes in land use and land cover.
6. Analyze on-going efforts to develop systems of environmental governance at local to global scales.

Evaluation of student performance:

1) Weekly discussion. Substantive participation in the weekly discussion means sending in an initial response to the topic question by Wednesday with continued monitoring and responses to fellow students' postings through Friday.

2) Weekly essay. After finishing the associated lectures and reading assignments, the student will compose an essay (400-800 words plus appropriate citations) that addresses an issue or question of their own choosing related to the weekly topic. The essay is due Sunday midnight.

3) Course paper. The paper (3000 – 4000 words plus appropriate citations) will be based on a topic mutually agreed upon with the instructor within the first 6 weeks of the course.

Course Requirements and Grading

1) Participation in the weekly discussion (50 points, 5 points per week for 10 weeks).

2) Weekly essays (50 points, 5 points per week for 10 weeks).

3) A course paper (50 points).

90% of total points or higher = A, 80% or higher = B, 70% or higher = C, 60% or higher = D,
< 60% = F (with breakouts for + and -)

Each week, students are expected to:

1) review two lectures, 2) read the assigned journal articles or book chapters, and delve into the recommended readings and web sites, 3) participate in the discussion, and 4) prepare an essay.

Course Policies:

Incompletes — I give Incomplete (I) grades only in emergency cases (usually only for a death in the family, major illness or injury, or birth of your child), **and** if the student has turned in 80% of the points possible (in other words, usually everything but the final paper). If you are having any difficulty that might prevent you completing the coursework, please don't wait until the end of the term; let me know right away.

Plagiarism — You are expected to submit your own work in all your assignments, postings to the discussion board, and other communications, and to clearly give credit to the work of others when you use it. Academic dishonesty will result in a grade of "F."

Overview of the SNR Graduate Certificate Program structure:

SNR 511 is the introductory overview course, and SNR 506 is the capstone project course for the Certificate Program. In SNR 511, students are presented an overview of the social, economic, and ecological aspects of sustainable natural resource management. You will synthesize and apply these basic interdisciplinary principles in the creation of an outline for your project. This is the skeleton of the program. The three core courses (SNR 520, 521 and 530) provide more in-depth theory and

principles of these three aspects of sustainable natural resources. The other SNR courses provide additional breadth in the nontimber aspects of SNR management, sustainable silvicultural practices and certification, reduced impact timber harvest methods, ethical aspects of NR management, and issues associated with global environmental change. This is the 'meat' of the program, which you are expected to synthesize and apply in your capstone project in SNR 506. Each course is intended to add to your knowledge base and tool kit, which you will apply to your defined certificate project step by step as you work your way through the courses. SNR 506 is the finale, where you bring together everything you have learned in each course into an interdisciplinary approach to solving a complex natural resource management problem. There is no double-counting of any of the course assignments for any of the SNR courses.

Statement Regarding Students with Disabilities:

Accommodations are collaborative efforts between students, faculty and [Services for Students with Disabilities \(SSD\)](#). Students with accommodations approved through SSD are responsible for contacting the faculty member in charge of the course prior to or during the first week of the term to discuss accommodations. Students who believe they are eligible for accommodations but who have not yet obtained approval through SSD should contact SSD immediately at 541-737-4098.

Expectations for Student Conduct:

Student conduct is governed by the university's policies, as explained in the [Office of Student Conduct: information and regulations](#).

In an academic community, students and faculty, and staff each have responsibility for maintaining an appropriate learning environment, whether online or in the classroom. Students, faculty, and staff have the responsibility to treat each other with understanding, dignity and respect. Disruption of teaching, administration, research, and other institutional activities is prohibited by [Oregon Administrative Rule 576-015-0015 \(1\) and \(2\)](#) and is subject to sanctions under university policies, [OSU Office of Student Conduct](#).

Academic Integrity — Students are expected to comply with all regulations pertaining to academic honesty, defined as: *An intentional act of deception in which a student seeks to claim credit for the work or effort of another person or uses unauthorized materials or fabricated information in any academic work.* For further information, visit [Avoiding Academic Dishonesty](#), or contact the office of Student Conduct and Mediation at 541-737-3656.

Conduct in this online classroom — Students are expected to conduct themselves in the course (e.g., on discussion boards, email postings) in compliance with the [university's regulations regarding civility](#). Students will be expected to treat all others with the same respect as they would want afforded themselves. Disrespectful behavior to others (such as harassing behavior, personal insults, inappropriate language) or disruptive behaviors in the course (such as persistent and unreasonable demands for time and attention both in and out of the classroom) is unacceptable and can result in sanctions as defined by Oregon Administrative Rules [Division 015 Student Conduct Regulations](#).

Communications:

Ground Rules for Online Communication & Participation:

- *Online threaded discussions* are public messages, and all writings in this area will be viewable by the entire class or assigned group members. If you prefer that only the instructor sees your communication, send it to me by email, and be sure to identify yourself and the class.
- Posting of personal contact information is discouraged (e.g. telephone numbers, address, personal website address).
- *Online Instructor Response Policy*: I will check email frequently and will respond to course-related questions within 24 hours.
- *Observation of "Netiquette"*: All your online communications need to be composed with fairness, honesty and tact. Spelling and grammar are very important in an online course. What you put into an online course reflects on your level of professionalism. Here are a couple of references that discuss
 - writing online: <http://goto.intwg.com/>
 - netiquette: <http://www.albion.com/netiquette/corerules.html>.
- Please check the Announcements area and the course syllabus before you ask general course "housekeeping" questions (i.e. how do I submit assignment 3?). If you don't see your answer there, then please contact me.

Guidelines for a productive and effective online classroom

- The discussion board is your space to interact with your colleagues related to current topics or responses to your colleague's statements. It is expected that each student will participate in a mature and respectful fashion.
- Participate actively in the discussions, having completed the readings and thought about the issues.
- Pay close attention to what your classmates write in their online comments. Ask clarifying questions, when appropriate. These questions are meant to probe and shed new light, not to minimize or devalue comments.
- Think through and reread your comments before you post them.
- Assume the best of others in the class and expect the best from them.
- Value the diversity of the class. Recognize and value the experiences, abilities, and knowledge each person brings to class.
- Disagree with ideas, but do not make personal attacks. Do not demean or embarrass others. Do not make sexist, racist, homophobic, or victim-blaming comments at all.
- Be open to be challenged or confronted on your ideas or prejudices.

Student Assistance:

Contacting the instructor — I can be contacted directly by email or phone.

Technical Assistance — If you experience computer difficulties, need help downloading a browser or plug-in, assistance logging into the course, or if you experience any errors or problems while in

your online course, contact the OSU Help Desk for assistance. You can call (541) 737-3474, email osuhelpdesk@oregonstate.edu or visit the [OSU Computer Helpdesk](#) online.

Course Evaluation:

OSU Student Evaluation of Teaching — Course evaluation results are extremely important and are used to help me improve this course and the learning experience of future students. Results from the 19 multiple choice questions are tabulated anonymously and go directly to instructors and department heads. Student comments on the open-ended questions are compiled and confidentially forwarded to each instructor, per OSU procedures. The online Student Evaluation of Teaching form will be available toward the end of each term, and you will be sent instructions by Ecampus. You will login to “Student Online Services” to respond to the online questionnaire. The results on the form are anonymous and are not tabulated until after grades are posted.