

Geography/Environmental Sciences 501
Grand Challenges in Environmental Sciences
Two or Three Credits
Wednesday 3:30-5:20 pm
TLC 144

In this class, we will survey the eight Grand Challenges in Environmental Sciences identified by the National Research Council (NRC) as well as additional grand challenges we deem important enough to study. The readings and discussion will center on chapters from the 2001 NRC report, executive summaries from regional/global assessments, synthesis/review journal papers, and journal papers.

Students will be responsible for leading the discussion of the papers. I will help you in your selection of the papers you will present.

I. Course Information

Instructor

Dr. Jeffrey Hicke
McClure Hall 305D
208-885-6240
jhicke@uidaho.edu
Office hours: Tuesdays, 2-3; Wednesdays, 9:30-10:30; or by appointment.

Readings

National Research Council. 2001. Grand Challenges in Environmental Sciences. National Academies Press, Washington, D.C. 96 pp. Available at UI Bookstore. You can also read it online at <http://newton.nap.edu/catalog/9975.html#toc>.

Additional readings will be available through the course Blackboard web site.

Goals of this course

The course goals are:

- i) To familiarize you with the environmental issues leading scientists think are important.
- ii) To appreciate the breadth and depth of these issues as well as the interactions among challenges. This is a survey course, and as such, we will not go into much depth in any one issue in class.
- iii) To show you how these issues vary globally. The importance and effects of Grand Challenges change depending on the region. To illustrate this, we will contrast issues related to each Grand Challenge in the Inland Northwest with issues elsewhere.

Prerequisites: None.

Class format

Class will be for two hours, 3:30-5:20 pm.

During the first hour, we will discuss the NRC chapter as well as an additional review or synthesis of the topic. This section will be led by one student. We will use questions turned in by all students (see "Homework" below) as a guide for subsequent discussion. In the second hour, a second student will lead a discussion of a peer-reviewed journal paper related to current events of the grand challenge of interest. See separate document for more information about classes.

Class communication

I will be emailing the class regularly. Please ensure you check your uidaho email account.

II. Grading

Grades will be assigned based on the following:

Homework	20%
Leading class discussion	30%
Active participation in class (through asking questions, offering comments)	20%
Class project	30%
Total	100%

Homework

Homework will consist of turning in three questions before each class on the reading to be discussed that day. These questions are those that came to you while reading the assignments, and will be used in class to enhance the discussion. These will be worth 3 points each. Missed classes will be excused for good reason (and with proper documentation), though you still have to turn in three questions for that class.

To "turn in" homework, please post your questions on the appropriate folder (one per Challenge) in the Discussion section of the Blackboard site; please do so before class. Unless I return your email, you may assume that you received a '3'.

Leading two classes

You will lead two classes of your choice: one as the primary/review lead and one as the current topics lead. We will assign topics during the first class.

Because there are only eight NRC Grand Challenges, we will select 2-4 more to discuss in the later weeks of the semester. Depending on enrollment, we may have "left-over" Challenges that need students as leads. I will ask for volunteers; do not feel pressure to volunteer, as you will not be penalized if you do not. Requirements of leads for these weeks will be relaxed.

Class Project (for those taking the 2-credit option)

Those students taking the class for two credits will turn in an 8-10 page *review-style* paper (double-spaced; figures and references extra) and give an in-class presentation on a comparison of grand challenges at two different locations. Select one location in the United States, such as in the Pacific Northwest, your hometown, a vacation spot, etc. Select another location on the other side of the world, literally or figuratively, that has different challenges. Make it an interesting location for you personally

(e.g., someplace you've visited or would like to visit, or where you have family/friends). Compare the environmental issues at each location. Which grand challenges are in both locations? One location? Are there other environmental issues that are of more importance than the NRC Eight?

Email me a summary of the selected project that describes the two locations by March 11 (2-3 paragraphs).

The paper will be due Wednesday of finals week (May 13) and will be graded on content, appropriate grammar, syntax, spelling, clarity of writing, inclusion of relevant sections (introduction, location descriptions, challenges of each, conclusions, references).

Presentations will be roughly 20 minutes long and will occur in the final two weeks of class.

Note: each day you are late in turning in the paper will result in a reduction of 25% of your final paper grade. If there is a good reason for lateness, I will accept the paper with documentation.

Summary of weekly class responsibilities for each student:

- If you are responsible for the first hour of lecture, you need to
 - choose one paper for me to post by the Friday before your class
 - summarize the selected Grand Challenge and lead a class discussion based on the selected chapters/papers
- If you are responsible for the second hour of lecture, you need to
 - choose one paper for me to post by the Friday before your class
 - lead a class discussion on the paper
- Otherwise, you need to "turn in" three questions on the reading by entering them into the Discussion section of the Blackboard web site (before class begins)

Class Project (for those taking the 3-credit option)

See me if you are taking the class for 3 credits.

III. Tentative schedule (subject to change based on progress)

See additional Excel spreadsheet.

IV. Course policies

Academic dishonesty

Cheating or plagiarism will not be tolerated. Your work must be your own. Do not copy or plagiarize the work of others. If you are caught, you will receive no credit for that work, whether it is a homework assignment or a project, and you will be referred to the Dean of Students for further disciplinary action. Depending on the seriousness of the plagiarism or cheating offense, you could be expelled from the university. I encourage you to discuss homeworks and projects, but you must do your own work. The University of Idaho's policy on cheating is described in Article II of the UI Student Handbook or at <http://www.students.uidaho.edu/default.aspx?pid=56186>.

Additional information

Reasonable accommodations are available for students who have a documented disability. Please notify the instructor during the first week of class of any accommodation(s) needed for the course. Late

notification may mean that requested accommodations might not be available. All accommodations must be approved through Disability Support Services located in the Idaho Commons Building, Room 333. Disability Support services can be contacted at 885-7200, email at dss@uidaho.edu, and via their website at www.access.uidaho.edu or www.webs.uidaho.edu/aap.