

ESPM 1011: Issues in the Environment

MWF, 12:50 - 1:40 pm
MW, 110 Green Hall

3 credits
Fall 2009

Instructors

Charlie Blinn, Dept. of Forest Resources
330B Green Hall
Email: cblinn@umn.edu
Phone: 612-624-3788
Office Hours: Mon. 9 – 11 am; Tue. 9 – 11 am

Kaycie Billmark, Dept. of Soil, Water, & Climate
325S Soil Science Bldg. (adjacent to Borlaug Hall)
Email: kaycie@umn.edu
Phone: 612-624-1645
Office Hours: Wed. 3 – 4 pm; Fri. 9 – 11 am

Discussion Leaders

Chaïna Bapikée, Dept. of Forest Resources
14 Green Hall
Email: bapik001@umn.edu
Phone: 612-625-2706
Office Hours: Mon. 11:30 am–12:30 pm; Wed. 2–3 pm

Natalie Schultz, Dept. of Soil, Water, and Climate
325S Soils Building
Email: schul929@umn.edu
Phone: 612-624-1645
Office Hours: Thur. 1 – 3 pm

Friday Discussion Sections

Section 2 (Natalie): Borlaug Hall 375
Section 3 (Chaïna): Green Hall 203

Section 4 (Kaycie): Soil Science S415
Section 5 (Charlie): Green Hall 110

Course Description

This course is an interdisciplinary survey of environmental issues that focuses on scientific principles, the interrelationships between the environment and human society, and the roles of science, technology, and policy in shaping societal response to environmental challenges. Through active lecture and group discussion students evaluate social, ethical, political, and economic factors involved in environmental decision-making. On Mondays and Wednesdays, the instructors and a variety of guest speakers introduce key environmental issues. On Fridays, small group discussions allow students to critically examine environmental problems and proposed solutions. Lectures and discussions stress the importance of understanding uncertainty in environmental data so that students may assess inputs to key scientific tools such as global climate models. The course is intended for students majoring in Environmental Sciences, Policy, and Management (ESPM), and students who are interested in the environment and wish to satisfy the Environment liberal education theme. The course has no prerequisites.

Course web site: WebVista

Class time: 70% lecture, 30% discussion

Work load: 15 pages of reading per week, ~10 pages of writing per semester, 5 quizzes

Grade: ~ 40% quizzes, 20% jigsaws, 30% assignments, 10% participation

Quiz format: Combination of multiple choice, fill-in-the-blank, short answer, and short essay questions.

Text

Required text: Enger, E. D. and B. F. Smith. 2009. Environmental Science: A Study of Interrelationships. Twelfth Edition. McGraw Hill: Boston. ISBN: 13 9780073383200.

Additional readings will be available online on WebVista.

Assigned Readings: Please read the assigned pages before coming to class. Although the instructors and guest speakers may not always discuss those materials directly, the lectures and readings will complement one another, and you will get more out of the class if you read the material in advance.

Objectives

By the end of this course, you should be able to:

- understand how to identify, locate and evaluate credible scientific information and the basic facts and concepts involved in the study of environmental issues
- connect the diverse areas of interest involved in environmental decision-making, including science, ethics, and economics
- evaluate your own position on environmental issues through examination of scientific theories, values, and attitudes regarding environmental change
- collaborate with others to find common ground in the search for sustainable solutions to controversial environmental issues
- apply appropriate tools for understanding and addressing environmental issues
- communicate your ideas effectively in writing and in speaking to small and large groups
- demonstrate effective use of information to solve environmental issues in a manner that is consistent with the current scientific understanding, ethics, and values of society

Course Organization and Requirements

ESPM 1011 is presented in five parts, each with a general thematic focus. The parts and some of the specific topics we will explore include: a) Setting the stage – sustainability, scientific methods, ecosystem principles, and human population; b) Energy - policy and renewable sources; c) Climate change – atmosphere and air pollution, modeling climate change, and risk management; d) Biodiversity – threats to biodiversity, wildlife, forests, and endangered species; e) Food, water and waste – Agriculture, waste management, fisheries, , and water quality and quantity. Within each theme, students are introduced to the scientific principles behind the issue being examined and then apply those principles to identify and evaluate credible information and possible solutions to environmental problems discussed. For example, within the climate change theme, students will explore the environmental drivers and feedback mechanisms that contribute to climate instability.

Course Requirements

Students are responsible for all information disseminated in class and all course requirements, including deadlines and examinations. Assignments will only be made available on WebVista. Students are expected to use WebVista on a regular basis.

1. Attendance and Participation (50 points)

Attendance and participation are critical to being successful in this class. *Those who miss class unexcused and/or do not participate will receive lower grades than those students who attend all classes and fully and actively participate.* If a student has a legitimate absence, as defined on Page 5, their total possible number of attendance and participation points will be adjusted accordingly. Because class time is extremely limited and valuable, you should:

- arrive on time and stay the entire class period. You should not expect to pass this course if you habitually miss class.
- turn off your cell phone, pager, and/or watch alarm before coming to class. It is very distracting when these go off during lectures and discussions.
- avoid disrupting those around you. You may bring a drink or snack with you, but please be considerate of those around you.
- avoid using computers for anything other than class material and note-taking. We will monitor the classroom during lectures for web surfing, etc.

Monday and Wednesday -- Note cards (22 points): On eleven (11) random Monday and Wednesday lecture days throughout the semester, we will ask you to submit information or questions relevant to the lecture on a note card. Each note card is worth two possible points; one point for submitting the required information on the card and one point for providing useful content. Note cards will not be distributed after 10 minutes into the class period.

Friday – Discussions (28 points): Discussion sections are so named because we expect you to discuss the subject matter with your fellow students. We seek a wide variety of views and styles of interaction in class, and people from all backgrounds, orientations, and perspectives are encouraged to participate. Although it is more common to be shy and rarely speak, it is sometimes possible to talk too much, so you should try to participate frequently without dominating the discussion. Each of the fourteen discussion sections is worth two possible points; one point for attendance and one for providing useful content.

2. Field Trip (10 points)

The course includes one required field trip, which will provide you with exposure to many of the subjects addressed in this course. The trip will occur on Wednesday, September 30th, from 1 to 4 pm. Round-trip transportation from the St. Paul campus will be provided. Please contact your discussion section leader in advance if you are unable to attend the field trip as you will be assigned an alternate field trip to be completed by October 2nd outside of class. Students must sign and return a Release of Liability form before they will be allowed to participate in the field trip. Additional details will be provided approximately one week prior to the date of the trip.

3. Jigsaws (100 points)

For four of our discussions we will be conducting “Jigsaws,” which are activities designed to promote collaborative learning and the sharing of multiple perspectives. At least two types of Jigsaws will be used: article-based and issue-based. For article-based Jigsaws, we will divide the class into 3 to 4 groups, with each group reading a different article. For issue-based Jigsaws, we will assign you a specific role to play in a controversy. To help you prepare for each Jigsaw, we will require you to write a one-page summary of the key points from your reading (article-based) or an outline of the arguments you will use for your role (issue-based). During class, you will first meet with an “expert group,” consisting of students that have read the same article or are playing the same role, and here you will develop and refine your understanding or arguments. Then you will meet with an “exchange group” consisting of at least one member from each of the expert groups, and there you will share information about your article (article-based) or try to negotiate a resolution to the controversy (issue-based). Near the end of the discussion period, we will ask you to reflect upon the original problem based upon an expanded consideration of all of the perspectives discussed. You will write out a response to this question on the back of your summary paper. Additional information will be provided on Web Vista before each Jigsaw.

4. Ecological Footprint Audit (20 points)

To learn how your individual actions can contribute to environmental problems and their solutions, you will conduct an Ecological Footprint Audit. For the audit, you will keep track of: (a) the food you eat, (b) the energy you use, (c) the products you buy, and (d) the waste you generate over a one-week period. You’ll use these data to help calculate your ecological footprint. A summary of your consumption, waste generation, and calculated footprint is due on October 16th. A portion of the discussion that day will be set aside for you to share your findings with other students.

5. Life cycle assessment (50 points)

All products have some impact on the environment. Life cycle assessment (LCA) is a process of identifying and evaluating the potential environmental effects of a product over its lifetime. For the assessment, you will select a consumer product with the help of your instructor, research that product to understand its life cycle, and then create a poster which is due on November 6th that depicts and documents the principles of LCA for your product. You’ll present your poster during the discussion that day.

6. Current events (60 points)

These assignments will provide an opportunity to examine current environmental issues. Further information on these assignments will be provided during the semester.

7. Quizzes (170 points)

Throughout the semester we will give quizzes that will provide you with an opportunity to demonstrate your knowledge of the topics covered in the readings, lectures, and discussions. The quizzes will typically include a combination of matching, multiple choice, true/false, fill-in-the-blank, and short answer questions. Each quiz will

focus on the material presented in that part of the course. While quizzes 1, 4, and 5 are each worth 40 points, quizzes 2 and 3 are each worth 25 points. There is no comprehensive final exam in the course.

Grades

We will award grades in this course according to the University of Minnesota's Uniform Grading Policy:

- A: achievement that is outstanding relative to the level necessary to meet course requirements
- B: achievement that is significantly above the level necessary to meet course requirements
- C: achievement that meets the course requirements in every respect
- D: achievement that is worthy of credit even though it fails to meet fully the course requirements
- F: represents failure and signifies that the work was either inadequate or incomplete

Incompletes (I) will only be assigned due to extraordinary circumstances, such as prolonged illness. Assignment of an Incomplete first requires completion of the CFANS Agreement for Completion of Incomplete "I" Work between the instructor(s) and student. The instructor will complete that Agreement and provide a copy to the student whenever there is a plan to offer an incomplete grade in a course. The form is available at <http://intranet.cfans.umn.edu/Advising.html>. In no event will any such written agreement allow a period of time which is longer than six months from the end of the course (the date of the final exam) to complete the course requirements.

Students taking this course using S/N grading must complete all assignments and earn a cumulative grade of C- or better to earn an S (Satisfactory); students earning a D+ or worse will receive a grade of N.

Grades will be assigned in terms of a percentage of possible points according to the following standards:

	B+ \geq 87%	C+ \geq 77%	D+ \geq 67%	
A \geq 93%	B \geq 83%	C \geq 73%	D \geq 63%	F < 63%
A- \geq 90%	B- \geq 80%	C- \geq 70%		

As mandated by University Policy, we will issue formal mid-term alerts to any students earning a C- or lower (< 73%) at the end of week 6.

Grade Disputes:

If you wish to dispute the grade assigned to a paper or a question on an exam, you must do so IN WRITING within one week after the exam or paper has been returned. You must state what is to be reevaluated and include a specific rationale for why your answer is correct, or why the paper deserves a higher grade. "I think I deserve a better grade" does NOT constitute an acceptable rationale.

How to Calculate Your Grade:

You can calculate your grade at any time by adding up all the points you received on your assignments to date and dividing that number by all the points you could have received on those assignments. Grades for attendance and participation will not be calculated until the end of the semester. You can view a record of your assignment grades on WebVista. If at any time you have concerns about your grade, please contact your discussion leader.

Credits and Workload Expectations:

This three-credit course will require, for the average University of Minnesota undergraduate student, nine hours of learning effort per week, averaged over the term. Since the course meets for three hours a week, the average student should expect to spend an additional six hours a week on coursework outside the classroom to achieve an average grade in the course.

Assignments:

Assignments are due in typed, hard-copy form at the beginning of class. Late work will be penalized by 25 percent for every day it is late. The weekend counts as one day. Late assignments submitted outside of class can be e-mailed to your discussion section leader to establish the date of completion. However, you are still responsible for providing a typed, hard-copy of the assignment at the beginning of the next class period before it will be graded. Note that we

cannot accept “computer problems” as an excuse for late papers. Please back-up your files and avoid waiting until the last minute to print your papers. Assignments that are not typed will result in a 25 percent penalty. Most assignments will be returned during the Friday discussion sessions.

Extra credit:

There are no extra credit opportunities in this course. Students are not permitted to submit extra work in order to raise their grade.

Absences:

If you know in advance that you are going to be absent for any lecture or discussion section, please let your discussion leader know. You are responsible for documenting the legitimacy of any absence from your discussion section.

Legitimate reasons for absence must be documented and may include:

- illnesses certified by Boynton Health Service or your family physician, or symptoms of H1N1
- emergencies caused by a death or serious illness in your immediate family
- participation in intercollegiate athletic events or other University activities
- subpoenas, jury duty, military service, and religious observances

If you have a legitimate absence, we will allow you to make up missed assignments or quizzes, and we will also try to accommodate other rare scheduling conflicts you might have, provided that you notify your discussion leader of these **in advance**. Normally make-up work should be submitted within one week of the original due date. We will work with you to develop a process and timeline for completing make-up work after an absence has been excused.

University Policies

Plagiarism and Scholastic Dishonesty

Students are responsible for knowing the University of Minnesota Board of Regents' policy on student conduct and scholastic dishonesty, found at http://www1.umn.edu/regents/policies/academic/Student_Conduct_Code.html.

Scholastic dishonesty is defined in the policy and will be reported to the Office of Student Judicial Affairs (<http://www.sja.umn.edu/>) and will result in a grade of "F" or "N" for the entire course.

Plagiarism is an important element of this policy. It is defined as the presentation of another's writing or ideas as your own. Serious, intentional plagiarism will result in a grade of "F" or "N" for the entire course. For more information on this policy and for a helpful discussion of preventing plagiarism, please consult University policies and procedures regarding academic integrity at <http://cisw.cla.umn.edu/plagiarism/uofmpolicies.html>.

Students are urged to be careful that they properly attribute and cite others' work in their own writing. For guidelines for correctly citing sources, go to <http://tutorial.lib.umn.edu/> and click on "Citing Sources." If you have any questions, consult your instructor.

Sexual Harassment

Sexual harassment by or toward a member of the University community is prohibited by Board of Regents policy. Complaints about sexual harassment should be reported to the University's Office of Equal Opportunity and Affirmative Action, 419 Morrill Hall.

Classroom Conduct

All students at the University have the right to a civil, productive, and stimulating learning environment. In turn, instructors have a responsibility to nurture and maintain such an environment. Students who disrupt the educational process because of discourteous, threatening, harassing, or other aggressive behavior will be removed from class.

Accommodations for Students with Disabilities

It is University policy to provide, on a flexible and individualized basis, reasonable accommodations to students who have disabilities that may affect their ability to participate in course activities or to meet course requirements. If you

have a disability, please contact your discussion leader and/or Disability Services (180 McNamara Alumni Center, [612] 626-1333 TTY/voice).

How to Contact Us

We will make time during and directly after class for questions on course material. We encourage you to initiate discussion and ask questions. Further, we strongly encourage you to meet with us during office hours or by appointment. If you encounter difficulty with the course material or format, please ask questions, talk to us, or contact us via e-mail. Our contact information appears at the top of this syllabus. Each person's office hours are open to all students in the course. Because we all have additional research and teaching responsibilities that sometimes require us to be off campus, we may not always be available during posted office hours. If you cannot reach us during office hours, please contact us to arrange an alternate meeting time.