



# Water and Sustainability

BIS 392

Autumn 2011



Class Schedule: MW, 1:15-3:30pm

Location: UW1-030

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*Whiskey's for drinking,  
water's for fighting over.*  
--- attributed to Mark Twain

Office Hours: MW 3:30-4:30pm, or by appointment

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## Course Description

It is no secret that water is *the* most critical substance for the sustenance of life. And yet the prognosis for the quality and supply of both local and global water resources is somewhere between troubling and dire. What gives? This course provides a framework for students to learn about our water future and ways we might envision sustainability in water management. It also provides a framework for exploring the underlying principles and controversies of sustainability. Just what do we mean by this loaded term and why is it so difficult to achieve?

Given the focus on water in the environment, the course will fulfill a Natural World requirement. Given the focus on sustainability as a cultural ideal and point of contention, we shall delve well past natural science perspectives on water and wrestle with matters of ethics, culture, economics, and politics. Accordingly, the course also fulfills an Individual and Society requirement.

With regard to pedagogical approach, Water and Sustainability is a seminar-style course where student contribution in the classroom is a primary goal and lectures are a minor component. The learning objectives and activities of the course are *facilitated* by the professor. This course does *not* emphasize the memorization of facts and disciplinary concepts. Instead, the course focuses on analyzing and synthesizing ideas and reflecting on issues as they might impact you or others. Students are encouraged to be active learners via thoughtful reading, critical writing, class discussion, debates, and a collaborative group project.

*Water mingles with every kind of natural phenomenon; and more than one might imagine, it has also mingled with the particular destiny of mankind. --- Fernand Braudel*

## Course Objectives

The primary course objective is to empower you by enhancing your abilities to evaluate the sustainability of different aspects of our civilization and assess why pursuing sustainability as both a water resource management and human enterprise goal is such a challenge for us. Are we on an unsustainable course with respect to water? How are aquatic systems and water quality changing in response to what we do? How vulnerable are we to water resource limitations and ecosystem degradation? What philosophies underlie our actions and how compatible are they with the ideals of sustainability? If you know the answers to these questions, you will be in a much stronger position to address the problems associated with them.

Additional specific objectives for student learning and skill development are listed below. By the end of the quarter, each student should be able to:

- Articulate a personal philosophy on sustainability and discuss the challenges and opportunities associated with pursuing it.
- Demonstrate advancement in ethical reasoning.
- Explain how current (or future) water use and management practices threaten ecological integrity, human health, and security.
- Discuss how pursuing different sustainable development ideals can affect our future with regard to water resources, human equity and other social factors.
- Use a journal to enhance the value of course readings and discussions.

In a larger sense, this course serves to help you advance in your pursuit of the IAS Learning Objectives. Accordingly, it will give you the opportunity to make strides in Critical Thinking, Collaboration and Shared Leadership, Writing and Presentation, and Interdisciplinary Research. You can learn more about the Learning Objectives here: <http://www.uwb.edu/ias/portfolio/learningobjectives>. Some specific course objectives related to the IAS learning objectives are listed below. By the end of the quarter, each student should be able to:

- Demonstrate facility in working with partners in an *equitable* research collaboration by producing quality work on time in a professional manner.
- Articulate how they have improved in their abilities to: tolerate ambiguity in readings and assignments; facilitate intellectual conversations; anticipate and resolve conflict in group situations; and take advantage of diverse skills and perspectives in group work.
- Document how they have improved in their abilities to: compare, synthesize, and assess multiple perspectives; and present, support, and evaluate positions and conclusions (their own and those of others) in their writing.

Given that the IAS program is portfolio-based, there will be multiple assignments in this course that are appropriate for inclusion in your portfolio. You are also *strongly* encouraged to identify and pursue your own learning objectives!

*Hope is not prognostication. It is an orientation of the spirit, an orientation of the heart; it transcends the world that is immediately experienced, and is anchored somewhere beyond its horizons... Hope, in this deep and powerful sense, is not the same as joy that things are going well... but, rather, an ability to work for something because it is good. --- Vaclav Havel*

# Course Ground Rules and Support

## Academic Support Centers

There are three academic support centers on campus. The QSC supports students in any area of inquiry that requires quantitative reasoning.

QSC: UW2-131 [www.uwb.edu/qsc](http://www.uwb.edu/qsc) 425-352-3170

The Writing Center supports UWB students with any aspect of the reading and writing process.

Writing Center: UW2-124 [www.uwb.edu/writingcenter](http://www.uwb.edu/writingcenter) 425-352-5253

Accommodation for disabled students is a campus priority. If you believe that you have a disability and would like academic accommodations, please contact Disability Support Services at 425.352.5307, 425.352.5303 TDD or at [dss@uwb.edu](mailto:dss@uwb.edu). <http://www.uwb.edu/student-services/dss>.

## Academic Integrity

*The future ain't what it used to be. --- Yogi Berra*

Participation in this course comes with our expectation that your work will be completed in full observance of University of Washington's policy on academic integrity. Accordingly, no cheating or plagiarism will be tolerated. Cheating is the use or attempted use on a quiz, test, or other formal examination of sources of information not specifically permitted by the instructor, or the assistance of another student in such unauthorized use of information. **Plagiarism** is the use of another person's words or ideas misrepresented as one's own original work. Give credit where it is due. All confirmed cases of plagiarism will result, at a minimum, in a failure of the assignment and a letter to the Vice Chancellor. You are encouraged to discuss course assignments with each other, but what you submit must be **your** work. If you have questions about what can be considered cheating, facilitation, or plagiarism, please ask the instructor and visit the following web pages:

[www.uwb.edu/library/guides/research/plagiarism.html](http://www.uwb.edu/library/guides/research/plagiarism.html) [www.uwb.edu/students/policies/integrity.xhtml](http://www.uwb.edu/students/policies/integrity.xhtml)

## Course Workload

The general university expectation is that you spend a minimum of **10** hours per week working on this course. Successful students will likely spend more time than this. These hours include time devoted to course readings, homework assignments, writing assignments, group collaboration, and exam preparation. I strongly encourage you to budget your time wisely. Being present for each class period is only the *first* step to succeeding in this course and is generally insufficient by itself to ensure academic success or much progress on our learning objectives.

*The voyage of discovery lies not in finding new landscapes, but in having new eyes. --- Marcel Proust*

## Participation in Class Discussions and Group Activities

Open discussions and group work will be fundamental to the success of this course. Participation in these activities will have a bearing on your final grade. To ensure maximum benefit for all involved, please adhere to the following guidelines during discussion and group activities:

- Make an effort to foster a positive group dynamic and take advantage of each other outside of the classroom. Your time interacting in groups has the potential to be one of the most stimulating aspects of the course.
- Try not to let your previous ideas or prejudices interfere with your freedom of thinking. Seek out differences in opinion - they enrich discussion.
- Stick to the subject and be concise during discussions. Try to avoid long stories or tangential anecdotes.
- **Do your part** to assist others in your group research project, the debates, and group discussions. Make sure that *everyone* in the group contributes to any deliverables or presentations. Don't rely on that one person to make it gel. Share the load! Collaborate!
- **Come to class prepared for discussion. That means do the readings!**

## Technology in the Classroom

Since technology can greatly enhance education, we will be employing a variety of technologies to gather, produce, and express knowledge. But there are times when technology can be intrusive and disruptive to the education process. Unless you are engaged in group research, **keep your laptops closed during class**. You won't need them to take copious notes, so let's remove that source of distraction. Also, *no texting* during class.

*The greatest problem of the future is civilizing the human race. --- Arthur C. Clarke*

## Course Evaluation

### Grading Scale

Your final decimal point grade will correspond to the letter grade and percent score displayed in the following matrix.

A =	4.0 = 100-99%	B =	3.1 = 86%	C =	2.1 = 76%	D+ =	1.4 = 69%
	3.9 = 98-97%		3.0 = 85%		2.0 = 75%		1.3 = 68%
A- =	3.8 = 96-95%		2.9 = 84%		1.9 = 74%		1.2 = 67%
	3.7 = 94-93%	B- =	2.8 = 83%	C- =	1.8 = 73%	D =	1.1 = 66%
	3.6 = 92-91%		2.7 = 82%		1.7 = 72%		1.0 = 65%
	3.5 = 90%		2.6 = 81%		1.6 = 71%		0.9 = 64-63%
B+ =	3.4 = 89%		2.5 = 80%		1.5 = 70%	D- =	0.8 = 62%
	3.3 = 88%	C+ =	2.4 = 79%				0.7 = 61-60%
	3.2 = 87%		2.3 = 78%				(lowest passing grade)
			2.2 = 77%				

## Evaluation Instruments

Your grade will be determined by your performance on the evaluation instruments shown in the table below with relative values. Descriptions of each evaluation instrument and the professor's expectations follow in the next section.

Homework Assignments (5)	35 points	15.2%
Essays (2)	30 points	13.0%
Debate	30 points	13.0%
Group Project Progress Report (2)	25 points	10.9%
Group Project Final Report	30 points	13.0%
Midterm Exam	25 points	10.9%
Final Exam	25 points	10.9%
Participation		
Class Discussions	5 points	2.2%
Debate Effort	10 points	4.3%
Group Project Effort	<u>15 points</u>	<u>6.5%</u>
Total Points	230 points	100.0%

I do not use a curve. You accumulate points...I add them up...I divide by the total number of possible points. That's it.

If you are disappointed with an essay grade (for one you've actually submitted, that is), you can replace it with another essay. If you blow one off, you take your lumps.

*The instructor reserves the right to introduce pop quizzes in the event that student reading of assignments is deemed insufficient to generate worthwhile discussions. Pop quizzes would reduce the relative weight of the evaluation instruments above.*

## Missed Work and Lateness Policy

For every day you are late in turning one of the assignments, your grade will be reduced by 5%. However, latitude for late submittal of assignments may be granted for *documented* emergencies and illness.

## Incompletes

University policy states: "An incomplete may be given only when the student has been in attendance, has done satisfactory work to within two weeks of the end of the quarter, and has furnished proof satisfactory to the instructor that the work cannot be completed, because of illness or other circumstances beyond the student's control. To obtain credit for the course, a student must convert an Incomplete into a passing grade no later than the last day of the next quarter." Incompletes are like a ball and chain... they drag you down. Don't go there.

# Course Activities and Evaluation Instruments

## Homework Assignments

There will be five homework assignments, all of which will largely be done online. Most of the questions asked will revolve around the assigned readings.

## Exams

The midterm and final exams will both consist of a combination of short answer and short essay questions that you will “take home” to complete. **You are to work on these exams alone.** Do not discuss the questions with each other.

## Required Reading Assignments

Because there will be very little opportunity for the simple absorption and regurgitation of lecture-delivered facts...because one of the primary course learning objectives is to enhance your skills in reading and evaluating texts...because the majority of our learning and in-class group work will spring from discussions and writing on shared readings... because the course is largely about *ideas* expressed in writing...**it is absolutely essential that you do the assigned readings.**

The reading assignments can be seen on the course schedule, both here and online. All of the readings can be accessed via Blackboard. There is no course textbook. Instead, there are many diverse articles from a wide variety of sources. We will be contrasting multiple perspectives on the course issues. Although there are multiple readings required for each class period, the good news is that most of them are shorter and juicier than a typical textbook chapter. On the challenging side, you will have to expend brain energy to synthesize all of this diverse reading into a coherent learning experience. To help you with this task, and enable you to better contribute to class discussions, and prepare you for the exams, you really, *really* should keep a reading journal.

## Supplemental Reading Assignments:

In addition to the required reading assignments, there are supplemental readings for each class day. These readings invariably dig deeper into the issues discussed in the primary readings and often include conflicting viewpoints, underscoring the controversial nature of these matters. You are, of course, encouraged to read any and all of the supplemental readings. Lots of good stuff there! Sometimes the professor will divide the class up and assign different articles, some from the supplemental readings, to different groups. But mostly the supplemental readings will be of use to students who are preparing for their debate.

*The only way in which a human being can make some approach to knowing the whole of a subject is by hearing what can be said about it by persons of every variety of opinion and studying all the modes in which it can be looked at by every character of mind. No wise man ever acquired his wisdom in any mode but this. --- John Stuart Mill*

## Reading Journal:

As indicated above and in the course schedule, there will be a lot of readings, and discussions based on the readings, in this course. Your head will be swimming unless you take steps to organize, analyze, and summarize this steady influx of new information and ideas. Thus, *you are highly encouraged to keep a reading journal throughout the quarter*. The instructor feels that this is such a worthwhile endeavor, that you will be asked to submit an entry from your reading journal for a grade. You will receive feedback on the entry you submit that will focus on ways you might get more out of your journal.

Just what is a reading journal? Well, it will vary from person to person, but there are some typical characteristics of a good one. As you might expect, it is a notebook that you will write in as you are reacting to assigned articles or course-relevant websites. At a minimum, you will want to summarize the main points of the readings in your journal. But you can do better than that. If you read the articles critically and closely, then you should have lots more to write about. What do you think the instructor will want to talk about? What questions does a given reading bring up for you? Where do the points raised prompt skepticism or outright disagreement in you... and why? Where is the author coming from? What is their agenda? How does an article relate to the other readings of the day, or the previous readings, or the course topic/objectives? What controversies are taking shape as you plow through the readings? How are the readings influencing your thinking on global and local issues? Are you experiencing any “A-ha!” moments? *Why does any of this matter?* These are the kinds of questions you should be addressing in your reading journal. *The goal is to analyze and synthesize the readings, not just track your eyes across them*. You can do this work, in writing, in your reading journal. It is your place to be **meta-reflective** about the readings and the course and our discussions. If you take this seriously, you will be well primed to contribute to juicy discussions, thereby elevating the course for yourself and your classmates.

## Debates:

Each student will participate in one of 10 debates. Debates provide an excellent framework for in-depth learning on a topic, give you a great venue to educate others, and help hone your critical thinking, organization, and presentation abilities. Plus, they tend to be energizing and fun. Passion is encouraged.

Each debate will be framed by a question with a yes-no answer. Thus there will be affirmative and negative teams in the debate. Each team will consist of 2 (sometimes 3) students. The debate questions (and relevant readings) can be seen in the course schedule. You will be asked to indicate your top 3 choices for a debate on a Blackboard discussion thread. First come, first serve will play a part in the team selections, but so too will convincing lobbying for specific debate assignments. If there is someone you work well with and you wish to be in a debate with them, you can make that case. Also, *be open to taking a side you do not personally believe*

*in*. Invariably, students find that preparing an argument that is at odds with their preconceptions results in a *far* richer learning experience.

The debate will follow a classic, formal format for the first half. Each student will prepare a meaty statement supporting their position, which they will deliver to the class. This is something that must be organized, scholarly, persuasive, and ***practiced***. A representative of the affirmative side will go first, followed by a representative of the negative side. The second member of the affirmative side will then give their statement, again followed by the second member of the negative side. Repeat if each side has 3 members. Each speaker will be expected to take 5-6 minutes to make their case... no more and not much less. Practice your statement and time yourself. After all statements have been delivered, there will be a free-form rebuttal session lasting approximately 15-20 minutes. In this part of the debate, members from a side will point out problems they have with the statements of the other side and can pose questions to their opponents. This will lead to a (sometimes heated) back and forth that will be moderated by the professor. To be ready for the rebuttal part of the debate, *each student should take notes while their opponents are delivering their statements*. After the rebuttal, we will open up the debate for ~10 minutes to questions and input from the audience.

Students on the same team or side will *work together* to build a convincing, multi-faceted argument to support their position. This teamwork is very important. How well you have coordinated your statements will be very apparent and have a bearing on both your performance and grade. Your statements should complement, but not duplicate each other. They should also anticipate the arguments your opponents will be making. It is also expected that all 4 (or 6) students involved in the debate will communicate with each other well in advance to ensure that everyone is on the “same page” with regard to the question and will be arguing about the same thing(s). To help you prepare for your debate, follow the links in the Debate Resources document on Blackboard.

Your grade for the debate will be based on five separate evaluations. One grade for the four-member team, another for the two-member team, and an individual grade, all based on the instructor’s perception of your performances in the debate. Another element of the grade will be determined from a post-debate questionnaire in which your teammates will rank your efforts in contributing to the debate. Finally, your two-member team grade will be influenced by whether or not you won the debate from the audience’s perspective. They get a vote!

As we will be conducting debates *10* times throughout the quarter, this debate thing is clearly a big part of the course. This course will sink or swim in the latter half of the quarter depending on how well these debates go. Also, the debates will be open to people outside of class. Accordingly, the stakes are high and everybody will appreciate it when the students conducting the debate for the day opt to: take it seriously, be energetic, and work well as a group. Aside from your group project final report, the debate carries the most weight of any course assignment in your final grade.

## Essays

There will be 2 short essay assignments. Writing is an excellent way to really engage with the course material, much of which is controversial. Writing these essays will force you to sort through conflicting ideas, make connections, take some positions, and support them. These essays will be your venue to exercise your brain and hone your writing skills. Both essays should be written so you will want to feature them in your IAS portfolio.

The first essay assignment will require you to articulate and support your position in your upcoming debate. This essay will follow the format of an “op-ed” article for a newspaper like the Seattle Times and *will be due the day of your debate*. Writing this editorial will help you prepare a concise and punchy statement for your debate. Additional guidance will be given on how to write an op-ed piece.

Your second essay will be based on your debate experience. You will relate how preparing for the debate expanded your thinking on the general topic and specific debate question. You will also provide a critique of your debate research and performance that is placed within the context of the IAS learning objectives. The professor will provide additional guidance on what should be addressed in your essay and how it will be evaluated. *This reflective essay will be due one week after the class period in which you conducted your debate.*

In the event that you wish to write *another* essay (perhaps to replace a grade on a previous essay), then you will have a choice regarding the subject of your third essay. One choice for the third essay would involve comparing, contrasting, and critiquing the readings assigned from any one of the class periods. In such an essay you can also discuss what you got out of the class discussions or debates on that class period. To help you frame these essays, the professor will provide prompting questions and other guidance relevant to the readings for each class period. In general, you will relate how the various readings and discussions have advanced your thinking on the topic of the day, outline the controversies, and place the take home points in the broader course (water and sustainability) context. Note that *you get to choose which class period’s readings/discussions you will write about for essay 3*, as long as it isn’t from your debate day. Accordingly, there is no strict due date for this essay. Nice! Of course, this is precisely the kind of latitude that can enable procrastination. Some keys to success with this essay assignment are to get in the habit of reading critically and to *generate a thoughtful reading journal* as you work through the readings.

Other choices for a 3<sup>rd</sup> essay include, but are not necessarily limited to, the following:

- A critical analysis of one of 5 films on reserve at the UWB/CCC Library.
- A critical analysis of the book *Troubled Water*, which is also on reserve.
- A reflection on the impact of this course on your attainment of the IAS learning objectives (not to be submitted until the end of the course).

Additional guidance is available for each of these possible essay assignments. If there is something else you are aching to write about, you can float a proposal to the professor. You can write and submit this 3<sup>rd</sup> essay at any point in the course.

Evaluation of the essays will revolve more around evidence of independent thought and how well you've supported your points rather than on form. That means you need to have *your own* points to make.

## **The Group Project**

This course is designed as a framework for active learning. This is why we will be trying to squeeze as much value out of readings. It is also why we will devote a significant amount of energy and time on collaborative group projects. If you throw yourself into these activities, you will certainly get much more out of the course than if the professor were only to lecture to you.

One of the fundamental learning objectives of the IAS program is to enhance your abilities in Collaboration and Shared Leadership. One of the fundamental objectives of this course is to give you an opportunity to actively contribute to water science and/or sustainability initiatives at and around UWB. The group project is your opportunity to make forward progress on these objectives.

On day 2, we will have a discussion of several distinct group projects. The professor will do his best to sell you on the inherent fabulosity of all the projects. Subsequently, you will indicate which projects you would most like to pursue. The professor will assign groups based on student interest rankings, out-of-class work schedule compatibility, and what should constitute a good mixture of backgrounds and working styles. You will be part of a group by October 5.

Project groups will consist of 2-5 students, depending on the scope of the project and student interest. Some projects may have more than one group working toward similar goals. Each project will require independent research, close collaboration, strategic planning, and an equitable division of labor. Class time will be set aside for group work during a few of the class sessions. Make sure to come to these classes prepared to use that time wisely. To facilitate group project progress, each group will have its own collaboration area on the class Blackboard.

The first group project deliverable will be due on November 14. During class, each group will give a short (<5 minute) presentation outlining their group project goals and progress to date. The second group project deliverable will consist of a draft of your group project report's introduction and table of contents. This will be due on December 5.

During finals week, each group will give a brief (<10 minute) presentation of their findings on Monday, December 12. They will also submit their final report on by this date. *Both the presentation and report must be products of group collaboration.* Everyone must contribute equitably.

## Participation

The final exam will include a survey where you will be asked to rate the contribution you and your fellow students each made to the group project and to the debate you were in. I will factor these responses into the grades I give each student for the final deliverable and presentation of their group project, as well as their participation grade. Each student will also receive participation points for speaking up in class and contributing to discussions. Participation counts for 13% of your grade, so your level of engagement will make a big difference to your final grade.

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# Course Schedule and Assignments

*Please note - this schedule is subject to change*

Date	Topics, Activities, and Assignments	Readings (required in top row, supplemental below)
9/28	What Do You See in Your Future?	<u>Study Guides and Strategies</u>
10/03	Just One Little Water Problem Pharmaceutical Waste, Endocrine Disruption, and Biomagnification The Group Project <b>HOMEWORK 1</b> - Requests for debates and online quiz (submitted online by 10/02)	<u>Water Supplies from Coast to Coast Tainted by Drug Residue</u> and <u>Poisoned Waters: The Startling New Contaminants</u> and <u>Pharmaceutical Drug Contamination of Waterways Threatens Life On Our Planet</u> and <u>Reducing Pharmaceutical Waste</u> and <u>Endocrine Disrupting Chemicals Facts</u> <u>Endocrine Disruption Tutorial</u> and <u>Pharmaceuticals, Hormones, and Other Organic Wastewater Contaminants in U.S. Streams</u> and <u>Survey of Endocrine Disruptors in King County Surface Waters</u> and <u>Theo Colborn Award Acceptance Speech</u> (pp. 49-52)
10/05	What's So Special About Water, Anyways? The Water Systems of the Puget Lowlands <b>HOMEWORK 2</b> - Requests for Group Projects and online quiz (submitted online by 10/09)	A Geologist's Perspective on Water and <u>Safe Drinking Water is Essential: Sources - Documentary</u> and Fluid Dynamics: Water, Power and the Reengineering of Seattle's Duwamish River <u>Water Cycle</u> and <u>Seattle's Regional Water System</u> and <u>Land Cover &amp; Shaded Relief Map</u> and <u>Cedar River Lake Washington Watershed</u> and <u>Cedar River Watershed Virtual Tour</u>
10/10	How Bad Can Our Environmental Situation Be? Debating 101 <i>Project Groups Unite</i> <b>HOMEWORK 3</b> - Online Discussions	<u>Population Growth, Resource Consumption, and a Sustainable World</u> and <u>A Burden Too Far</u> and <u>Hope At the End of Our Tether</u> and <u>Group Projects</u> and <i>either...</i> Looking into the Abyss      The World as a Polder
10/12	Is There Really an Environmental Crisis? Class Debate <i>Debate Teams Unite</i> <b>HOMEWORK 4</b> - Debate prep	Untangling the Environmentalist's Paradox and The Good News in Perspective and <i>either...</i> Things Are Getting Better and Where's Waldo? A Review of The Skeptical Environmentalist      Jared Diamond and the Terrible Toos and A Glass Half Empty
10/17	What's the Prognosis For Water? Writing Op-Ed Articles <i>Debate Partners Unite</i> <i>Project Groups Unite</i>	<u>Water Facts</u> and <u>Making Every Drop Count</u> and Introduction (Whose Water Is It?) and <u>Water and Sustainability Webzine</u> The Coming Freshwater Crisis is Already Here or Water Facts and Trends or Running Dry: What Happens When the World No Longer Has Enough Fresh Water? or <u>Sick Water</u> or Troubled Water

*Of all our natural resources, water has become the most precious... In an age when man has forgotten his origins and is blind even to his most essential needs for survival, water along with other resources has become the victim of his indifference. --- Rachel Carson*

Date	Topics, Activities, and Assignments	Readings (required in top row, supplemental below)	
10/19	Reaching the Limits of Water Resources  Climate Change and Water	Giving Nature Its Share <i>and</i> River Impossible <i>and</i> Human Reliance on Groundwater <i>and</i> <a href="#">Climate Change, Water, and Risk</a>	
	<i>Debate Partners Unite</i> <i>Project Groups Unite</i>	Is There a Plan for Drought? <i>and</i> How Does a River Go Dry? <i>and</i> From Have to Have-Not: Mounting Water Distress in Asia's Rising Giant	
10/24	What are the Local Water Issues?	<a href="#">Shifting Baselines in the Sound</a> <i>and</i> <a href="#">Why Is Stormwater Runoff a Major New Threat?</a> <i>and</i> <a href="#">How Urbanization Affects the Water Cycle</a> <i>and</i> <a href="#">Controlling Combined Sewer Overflows</a> <i>and</i> <a href="#">A River Lost? Decision Time on the Duwamish</a> <i>and</i> <a href="#">How Can Communities Fight Industrial Pollution?</a> <i>and</i> <a href="#">What Warning Signals Does Nature Give Us?</a>	
	<i>Project Groups Unite</i>	Washington's Environmental Health 2004 (1-25) <i>and</i> Climate Change and It's Effects on Puget Sound <i>and</i> <a href="#">King County Combined Sewer Overflow (CSO) Locations</a> <i>and</i> <a href="#">Combined Sewer Overflow</a>	
10/26	What Are <i>Our</i> Limits?	<a href="#">The Story of Stuff</a> <i>and</i> <a href="#">Ecological Footprint Quiz</a> <i>and</i> A Safe Operating Space for Humanity <i>and</i> Human Carrying Capacity of Earth	
	<b>HOMEWORK 5</b> (footprint quiz)  <b>DEBATE 1</b> - <i>Does the Carrying Capacity Concept Apply to People?</i>	<a href="#">Ecological Footprint Atlas 2010</a> <i>and</i> Population, Sustainability and Earth's Carrying Capacity <i>and</i> Carrying Capacity's New Guise <i>and</i> Allocating Finite Resources on a Finite Planet	
10/31	What's Our Problem and How Did We Get Here?	<a href="#">Understanding Environmental Values</a>	
	<i>Project Groups Unite</i>	Dominion and the Human Claim to Water (Editors' Introduction) <i>and</i> The Boiling Frog	Sacred Water <i>and</i> Women, Water, Energy: An Ecofeminist Approach
		The Historical Roots of Our Ecological Crisis <i>and</i> Environmental Ethics - An Overview	
<i>No snowflake in an avalanche ever felt responsible --- Voltaire</i>			
11/02	What is Our Ethical Status?	<a href="#">The Trial</a> <i>and</i> Our Ecological Footprint: When Consumption Does Violence <i>and</i> Individual Choices	
	<b>DEBATE 2</b> - <i>Is the American Lifestyle Unethical?</i>	<a href="#">What is a Moral Level of Consumption?</a> <i>and</i> Fish First! The Changing Ethics of Environmental Management <i>and</i> Are There Any Natural Resources?	
11/07	What is Sustainability?	Introduction (Principles of Sustainability) <i>and</i> What is Sustainability, Anyway? <i>and</i> <a href="#">The Happy Planet Index</a> <i>and</i> Four Challenges of Sustainability	
	<b>TAKE-HOME MIDTERM EXAM DUE</b>	The Social Psychology of Sustainability <i>and</i> The Rise and Fall of Consumer Cultures <i>and</i> A Framework for Sustainability	
<i>If civilization has risen from the Stone Age, it can rise again from the Wastepaper Age. --- Jacques Barzun</i>			

Date	Topics, Activities, and Assignments	Readings (required in top row, supplemental below)	
11/09	<p>How Do We Set a Course for Sustainable Development?</p> <p><b>DEBATE 3 - Does Sustainability Require Global Equity?</b></p>	<p>What is Sustainable Development? <i>or</i> What Does Sustainable Development Mean? <i>and</i> <a href="#">People First: The Human Development Reports</a> <i>and</i> <a href="#">Transition Town United States</a> <i>and</i> <a href="#">Transition 101</a></p> <p><a href="#">Sustainable Development: Conventional Versus Emergent Alternative Wisdom</a> <i>and</i> <a href="#">Transition Whidbey</a> <i>and</i> <a href="#">The Happy Planet Index 2.0</a> <i>and</i> Understanding Sustainable Communities <i>and</i> <a href="#">Indicators of Sustainable Development</a></p>	
<p><i>The continued poverty of the majority of the planet's inhabitants and excessive consumption by the minority are the two major causes of environmental degradation.</i></p> <p>--- UN Environment Programme</p>			
11/14	<p>Are Capitalism and Sustainable Development Compatible?</p> <p><b>DEBATE 4 - Does Sustainability Require a Radical Change in Culture?</b></p> <p><b>PROJECT PROGRESS REPORT 1</b></p>	<p>Modern Capitalism: Out of Control <i>and</i> American Football</p>	<p><b>Economics and Sustainability: Conflict or Convergence?</b> <i>and</i> Against Civilization, For Reconnection to Life!</p>
		<p>Sustainable Development - A Dubious Solution in Search of a Problem</p>	
		<p>Wilting Greens <i>and</i> Fables About Economics and the Environment <i>and</i> Fables About Nonliving Resources <i>and</i> What is Sustainability?</p>	
11/16	<p>Can We Make Capitalism Sustainable?</p> <p><b>DEBATE 5 - Should We Ditch Free Market Globalization and GDP?</b></p>	<p>Economics Perspective on the Precautionary Principle <i>and</i> Eco-localism and Sustainability <i>and</i> Natural Capitalism <i>and</i> <a href="#">Measures of Well Being</a></p> <p><a href="#">The Limits of Eco-Localism</a> <i>and</i> Editing Out Unsustainable Behavior <i>and</i> Relocalizing Business <i>and</i> Inspiring People to See that Less is More <i>and</i> Adapting Institutions for Life in a Full World <i>and</i> Ecovillages and the Transformation of Values</p>	
<p><i>Plans to protect air and water, wilderness and wildlife are in fact plans to protect man.</i></p> <p>--- Stewart Udall</p>			
11/21	<p>Water Footprints and Water Inequities</p> <p><b>DEBATE 6 - Should More of the World Rely on Virtual Water?</b></p>	<p><a href="#">Virtual Water</a> <i>and</i> <a href="#">Individual Water Footprint</a> <i>and</i> Water Footprint of Nations <i>and</i> Ending the Crisis in Water and Sanitation</p> <p>Water Scarcity is Creating a Global Food Crisis <i>and</i> <a href="#">Water, Poverty and Equity</a> <i>and</i> The Water Footprint of Cotton Consumption <i>and</i> Water Saving Through International Trade in Agricultural Products</p>	
11/23	<p>Water Conflicts</p> <p><b>DEBATE 7 - Is the Diversion of Water and People from Rural Areas to Cities a Good Thing?</b></p>	<p>Water Wars I - Farms Versus Cities and Nature <i>and</i> Thicker than Blood: The Water-Famished Middle East <i>and</i> Water, Conflict and Cooperation</p> <p>The Impacts of Water Transfer on Rural Communities Must Be Considered <i>and</i> Transferring Water from Agricultural to Urban Use is Beneficial <i>and</i> Urban Ecological Citizenship <i>and</i> <a href="#">Resilience and Ruggedness: Why Faster, Bigger and More Complex May Be Better</a> <i>and</i> <a href="#">Why I'm Not Bright Green</a></p>	

Date	Topics, Activities, and Assignments	Readings (required in top row, supplemental below)
11/28	What are the Watery Consequences of Food?  <b>DEBATE 8</b> - <i>Should we Turn Our Backs on "Conventional" Agriculture and Meat?</i>	To Feed the World - Food Supply and the Water Cycle <i>and</i> <a href="#">What Is the Biggest Polluter of Water?</a> <i>and</i> <a href="#">The Cheeseburger Footprint</a> <i>and</i> <a href="#">Meat Eater's Guide to Climate Change + Health</a> <i>and</i> <a href="#">Eating Up the Earth</a>
		The Effect of Emerging Water Shortages on the World's Food <i>and</i> <a href="#">The Meatrix</a> <i>and</i> Livestock's Role in Water Degradation <i>and</i> The Origin and Hazard of Inputs to Crop Protection in Organic Farming Systems <i>and</i> <a href="#">Food Web 2020</a> <i>and</i> <a href="#">The Sustainable Table</a>
11/30	Water Controversies  <b>DEBATE 9</b> - <i>Should We Support Water Privatization and Commodification?</i>	<a href="#">The Story of Bottled Water</a> <i>and</i> The World's Water: A Human Right or a Corporate Good? <i>and</i> The Case for Private Investment and Management in Developing Country Water Systems
		Water Privatization is a Good Idea <i>and</i> Markets for Water - Time to Put the Myth to Rest <i>and</i> Water Corruption Prevents Progress <i>and</i> <a href="#">Cochabamba Protests of 2000</a> <i>and</i> Bottling a Birthright?
<p><i>Children of a culture born in a water-rich environment, we have never really learned how important water is to us. We understand it, but we do not respect it. --- William Ashworth</i></p>		
12/05	Water Sustainability - What Will it Take?  <b>PROJECT PROGRESS REPORT 2</b>  <i>Project groups unite</i>	<a href="#">Solutions</a> <i>and</i> <a href="#">How to Avert a Water Crisis</a> <i>and</i> <a href="#">Health, Dignity and Development</a> <i>and</i> Acequias: A Model for Local Governance of Water <i>and</i> Efficient, Sustainable, and Equitable Water Use in a Globalized World <i>and</i> <a href="#">Water Security and Climate Change</a> <i>and</i> <a href="#">Farewell to Flush and Forget</a>
		On Developing "Water Consciousness": Eight Movement Building Principles <i>and</i> Water Sustainability: Science or Science Fiction? <i>and</i> Water Supply and Sanitation in a Water Short World (108-126) <i>and</i> Can We Conserve Our Way Out of This? <i>and</i> Sustainable Development of Water Resources <i>and</i> <a href="#">Integrated Water Resources Management</a> <i>and</i> <a href="#">Clearing the Waters (50-60)</a> <i>and</i> Water Governance, Water Security and Water Sustainability (1-12)
12/07	Sustainability Summit  <b>DEBATE 10</b> – <i>Will Human Civilization Achieve Sustainability?</i>	<a href="#">The Possibility of Hope</a> <i>and</i> Millennial Hope <i>and</i> <a href="#">RSA Animate - The Empathic Civilisation</a> <i>and</i> Sustainability's Slow-motion Revolution <i>and</i> ...
		<table border="1" data-bbox="867 1612 1437 1690"> <tr> <td data-bbox="867 1612 1203 1690"> <b>The Century Ahead:</b>  <a href="#">Searching for Sustainability</a> </td> <td data-bbox="1203 1612 1437 1690"> <a href="#">In Search of a Global Ethic</a> </td> </tr> </table> Do Global Attitudes and Behaviors Support Sustainable Development? <i>and</i> A Child's Reminder <i>and</i> Great Transitions <i>and</i> <a href="#">The Hour Before the Dawn</a> <i>and</i> New Visions for Addressing Sustainability <i>and</i> True Patriotism: A Manifesto
<b>The Century Ahead:</b> <a href="#">Searching for Sustainability</a>	<a href="#">In Search of a Global Ethic</a>	
<p><i>If stupidity got us into this mess, why can't it get us out of it? --- Will Rogers</i></p>		

Date	Topics, Activities, and Assignments	Readings (required in top row, supplemental below)
12/12	<b>FINAL PROJECT REPORTS</b>	
12/14	<b>TAKE-HOME FINAL DUE</b>	<a href="#">Business in the World of Water: WBSCD Water Scenarios to 2025</a> and <i>Where Has All the Water Gone?</i> and <i>A Field Guide to Sustainability</i> and <i>Sustainability at Home: A Toolkit</i> and <a href="#">The Earth Charter</a>

*A human being is part of the whole, called by us the universe. A part limited in time and space. He experiences himself, his thoughts and feelings, as something separate from the rest, a kind of optical delusion of his consciousness. This delusion is a kind of prison for us, restricting us to our personal desires and to affection for a few persons nearest to us. Our task must be to free ourselves from this prison by widening our circle of compassion to embrace all living creatures. --- Albert Einstein*

*What we can do and want to do is projected in our imagination, quite outside ourselves, and into the future. We are attracted to what is already ours in secret. Thus passionate anticipation transforms what is indeed possible into dreamt-for reality. --- Johann Wolfgang von Goethe*

*Perspective-taking—the ability to engage and learn from perspectives and experiences different from one’s own—is a crucial catalyst for intellectual and moral growth. Enhancing one’s knowledge by attending seriously to differing perspectives and developing respect and empathy for others’ views even in the face of disagreement must, therefore, remain a bedrock element of any college education. Indeed, one might argue that perspective-taking, with all it implies for educational practice, is one of the foundational distinctions between a horizon-expanding education—a liberal education—and narrow training. The first involves opening the mind so that the learner can form his or her own grounded positions; the second requires that the mind follows expected patterns and procedures. --- Carol Geary Schneider*