Course Objectives

- Understand the origins and significance of the global debates on sustainable development.
- Develop a working definition of sustainability that can be used to assess water resources projects, policies and strategies.
- Examine how cultural, economic, social, political, and organizational factors interact with technical factors to yield projects and policies that are unsustainable (or sustainable).
- Become familiar with key contemporary water management issues, such as those linked to drought management, mountaintop removal in mining for coal and hydraulic fracturing.
- Review environmental impact assessments (EIA), benefit-cost analyses and other approaches and tools used in planning and managing water resources.
- Analyze actions that governments, donor and lending agencies, private sector companies, nongovernmental organizations, community groups and other stakeholders can take to promote sustainable water resources development and management.
- Gain experience in writing short essays and a substantial term paper and in making oral presentations and leading group discussions.

Class Meetings and Assignments

The class meets on Thursdays from 4:15 to 6:05 in Building 540, Room103. There will be occasional extra class meetings among groups of students and times will be arranged among those who are meeting. There will also be several meetings with writing tutors (both tutors from the School of Engineering Technical Communication Program and peer reviewers).

Each student will meet once with Professor Ortolano as part of a small group that plans and leads the discussion of one class session. These meetings will generally be for an
hour on a Tuesday at a time to be arranged. Substantial preparation and communication among group members is expected before (and to a lesser extent after) these meetings.

**Grading for Course**

Course grades will be based on:

- Term paper (written and oral presentation) – 60%
- Response to weekly assignments and active participation in class discussions on a week-to-week basis – 25%
- Group leadership of a class session (preparation and implementation) – 10 %
- Work with writing tutors and peer reviewers – 5%
**Laptops and Cell Phones**

CEE 265A is a seminar class that is built around student engagement in discussion. Based on past experience, cellphone and laptop usage can be major distractions to class participants. The format of the class relies heavily on discussion and other activities and there is no need for wireless devices. Under the circumstances, please observe the following basic guidelines.

**Cellphones** -- During CEE 265A, cellphones should be **turned off**.

In the event that a student anticipates an emergency call, please tell Professor Ortolano in advance, sit near the exit, and place the phone on vibrate. If the student receives the emergency call, the procedure is simply to exit the class to take the call in a place that will not disturb other students in CEE 265A or nearby classrooms.

**Texting** at any time is **prohibited** in this class.

**Laptops**: Laptops are **not to be used** during CEE 265A and they should have lids down. If a student feels that the inability to use a laptop will interfere with learning the CEE 265A material, he or she should discuss the matter in advance of class with Professor Ortolano so that suitable arrangements can be made.

**Session Topics and Readings**

Below is the *initial* list of readings for the course. Please note that the list of weekly readings below may be revised throughout the quarter. The revised readings will be listed in Word files containing weekly assignments; these will be on the CEE 265A Coursework for each week.

**Week 1 – April 4**

*Introduction to course*

**Week 2 – April 11**

*Alternative Conceptualizations of Sustainable Development*


Week 3 – April 18

Hydro-Politics (Part One): the Aswan High Dam on the Nile


Week 4 – April 25

Hydro-Politics (Part Two): Grand Coulee – The Decision Processes Leading to the Columbia River Basin Project


Ortolano, L. et al., 2000, Grand Coulee Dam and Columbia Basin Project, USA.
Final Report, Chapter 6, “Options Assessments and Decision Making Processes.”

Pitzer, P., 2000, Shift from Low Dam to high Dam at Grand Coulee, Annex 15 in Ortolano, L. et al., 2000, Grand Coulee Dam and Columbia Basin Project, USA.


Week 5 – May 2

International Development Assistance Agencies with an emphasis on The World Bank.

World Bank home page (for more on how the World Bank operates)

In addition to skimming the home page, take a look at the links to operations. Examine the link called investment loans and development policy loans on the operations page. Note that investment lending is new Bank terminology for “project-based lending,” and development policy lending is new Bank terminology for “policy-based lending.” Terminology at the World Bank changes often.

“Bretton Woods Project” website page on “Who pays for the Fund and the Bank?” at:
http://www.brettonwoodsproject.org/art-563643
Concentrate on IBRD and IDF sections of this webpage. It explains how the Bank and IDF are funded.

The two selections from the Gilbert and Vines book supplement the information on the web pages above and provide an introduction to some of the turmoil associated with the World Bank's ongoing redefinition of its purpose.


**Week 6 – May 9**

*Hydro-Politics (Part Three): Sardar Sarovar Project with Emphasis on the Role of Non-governmental Organizations*


**Week 7 – May 16**

*Corporate Water Stewardship*


Week 8 – May 23

Drought management in the context of climate change


Botterill, L.C., and M.J. Hayes, 2012, Drought triggers and declarations: science and policy considerations for drought risk management, Natural Hazards, 64:139–151

Week 9 – May 30

Water-Energy Nexus

The Readings below are required of all students. For this week, we will be splitting the class into 3 groups to focus on different topics within the water-energy nexus. Please note there will be additional short readings assigned to separate groups of the class, to be determined week 8.


EPA, The Hydraulic Fracturing Water Cycle, 
http://www.epa.gov/hfstudy/hfwatercycle.html

Hydraulic Fracturing FAQs from the website of “gaslandthemovie”
http://www.gaslandthemovie.com/whats-fracking

Apland Hitz, J. 2011, What are the Keystone XL Pipeline Risks to Water Resources? 

Additional readings will be assigned for each of three student groups with specialized topics: coal mining, hydraulic fracturing, and the Keystone XL pipeline.

Week 10 – June 6

Student Presentations