Instructor: Dr. Tania Schusler  
Office: BVM 425  
Phone: 773-508-8954  
Email: tschusler@luc.edu  
Office hours: Tue 2:30-3:30 p.m. and by appointment

Class meets: Tuesday, 1-2:15 pm  
Thursday, 1:00-3:45 pm  
Classroom: IES 217  
Credits: 4  
Sakai site: https://sakai.luc.edu/portal/site/ENVS_350A_01E_5741_1152

Contributing instructors  
Faculty and staff from across LUC as well as local community members contribute to this course, including:  
Daniel Amick, Anthropology  
Louis Cain, Quinlan School of Business  
Mine Cinar, Quinlan School Business  
Aaron Durnbaugh, Institute of Environmental Sustainability  
John Frendreis, Political Science  
Justin Harbison, Stritch School of Medicine  
Rachel Hart-Winter, LUC Theology and Dominican University  
Mark Hauser, Friends of Chicago River  
Ping Jing, Institute of Environmental Sustainability  
Marilyn Krogh, Sociology  
Kevin Lookis, Evanston Water Treatment Plant  
Tom Murphy, Edgewater Environmental Sustainability Project and DePaul University  
Bill Schleizer, Delta Institute  
David Treering, Institute of Environmental Sustainability

Course Overview

STEP is an interdisciplinary and hands-on course in which students develop and implement practical, local solutions to pressing and complex global problems. Because of our foci on community engagement and leadership in sustainability, this course satisfies Loyola’s Engaged Learning core requirement.

IDEA Objectives

1. Learning to apply course material (to improve thinking, problem solving, and decisions)  
2. Acquiring skills in working with others as a member of a team  
3. Developing specific skills, competencies, and points of view needed by professionals in the sustainability field

Course Objectives

The goals of this course relate to both the course topic (Water) and Loyola’s Engaged Learning area of the core curriculum. By the end of the semester, students should be able to:  

- Articulate a multi-disciplinary understanding of water resources and their use and management.  
- Apply analytical and reflective tools to examine problems related to water resources, identify root causes, and actualize practical solutions through collective action at a local scale.  
- Demonstrate skills essential for working in the sustainability field: critical and creative thinking, communication, 

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1 This syllabus draws upon the course design of prior STEP instructors Lane Vail and Adam Schubel. Thank you!
collaboration, problem solving, project management, and leadership.

- Make water-related choices that align with one’s values.
- Engage in the community to bring about positive change in society and the environment.

**Course Structure**

In this class, we will explore the social, historical, economic, political, and environmental contexts of our water system from local to global scales. We will also focus on the health, environmental, and social consequences of water resource management as students work to address some of these issues on campus and in our local community. The course consists of the following elements:

**Lectures**

Faculty from across the university and other water experts lecture on diverse topics to provide you with a well-rounded understanding of the environmental, social, economic, and political intricacies of our local, national, and global water use and management. **You will be assessed on lecture content through Synthesis Papers.**

**Readings**

Weekly readings will be posted on Sakai and are intended to enrich lecture content. If you cannot access a reading on Sakai, see the citation at the end of this syllabus to locate it online or using Loyola’s library resources. You are expected to complete readings in advance of lectures and be prepared to raise questions and share your insights from the readings in class. **You will be assessed on readings through Synthesis Papers.**

**Class Participation including Field Trips, Laboratories, and Film Discussions**

We will use selected Thursdays for field trips to learn first-hand about specific topics from water professionals, a GIS lab focused on mapping water resources, a decision-making role simulation for urban water use in the face of climate change, and viewing and discussing documentaries highlighting current controversial issues in water management. We also will discuss readings and other course content to explore student and faculty ideas on major concepts of the course. **You will be assessed either by your participation in these activities and discussions.**

**Project-Based Learning**

A **significant** portion of student work in the course will focus on semester-long group projects. Through the projects, you have an opportunity to apply learning toward creating real and lasting solutions on campus and in the local community. **You will be assessed through 1) group presentation of proposed project, 2) project plan, 3) mid-semester check-in, 4) final project poster presentation, and 5) project report.**

**Assignments (500 points total) – All written assignments must be submitted by 11:55 p.m. on the due date**

**Participation (100 points)**

You are expected to be an active participant in this course, which includes not only attending class but coming prepared and engaging in course activities and discussions.

- 3 Field Trips **(10 points each) – 30 points**
- 1 Lab (GIS, **10 points**) – **10 points**
- 3 Film Viewings and Discussion **(10 points each) – 30 points**

Attendance and Participation in Lectures and Project Workdays – **30 points**
Synthesis Papers 1-4 (50 points each; 200 points total) – Due 1/27, 2/17, 3/17, 4/7 Submit via Sakai Assignments

Approximately every three weeks, you will write a paper that reflects upon and synthesizes your understanding of course content from lectures and readings during the specified time period and relates that content to your own professional goals and/or personal life. You can also draw upon from class discussions, labs, and field trips as relevant. An exemplary synthesis paper will:

- Compellingly discuss a central question or theme
- Demonstrate understanding of course content, including accurately and precisely referencing at least 5 course materials (readings, lectures, field trips, discussions) from roughly the prior three weeks, at least 3 of which are readings
- Extend that understanding by connecting course content with other aspects of your life
- Raise novel insights
- Demonstrate original, critical, and/or creative thinking
- Accurately attribute information to sources within the text
- Include complete citations for references at end
- Be logically organized
- Be concisely written
- Use active voice
- Use paragraphs that include a topic sentence followed by supporting sentences
- Be free of typos or grammatical errors
- Be 500-1,000 words long
- Include a photo, diagram, or other relevant figure (optional)

**Blog Option:** If you would like to share your learning in STEP with family and friends, you are welcome to create a blog using WordPress or similar platform for this assignment. Rather than uploading a paper to Sakai Assignments, simply provide the URL that links to your blog post. Be mindful of copyright considerations if you include figures, images, etc. from other sources.

**Group Project (200 total):** Details will be posted on Sakai

**Proposed Project Presentation (40 points)**
You will present your proposed project with your group members in class on 1/29.

**Project Plan (50 points) – Due 2/5** Submit via e-mail
You will work with your group to develop a project proposal.

**Project Check In (10 points) – In class**
You will assess your group’s performance and adjust as needed to improve progress.

Your group will create a poster and present it during Loyola’s Weekend of Excellence at the Undergraduate Research and Community Engagement Symposium (http://www.luc.edu/lurop/undergrad_symposium.shtml) on Saturday, April 18.

**Final Project Report (40 points) Due 4/23** Submit via e-mail
Your group will write and submit a final project report.

**Not all students within your group will necessarily receive the same grade. Achievement will be partially evaluated via self and peer assessments.**
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**Course Policies**

**Late Work** - Late assignments will not be accepted unless arranged with me **IN ADVANCE** or in the case of a documented medical emergency.

**Academic Honesty** - You will be held to the University’s standard of academic integrity described at: [http://www.luc.edu/academics/catalog/undergrad/reg_academicintegrity.shtml](http://www.luc.edu/academics/catalog/undergrad/reg_academicintegrity.shtml). Please read this statement carefully and do not hesitate to ask me for further information about plagiarism and how to appropriately cite the work of others. Also visit [http://www.plagiarism.org/resources/student-materials](http://www.plagiarism.org/resources/student-materials) to understand better what constitutes plagiarism.

**Writing Center** - The Writing Center offers tutors who are available to help you at any point of the writing process, from brainstorming and organizing to putting the final touches on a bibliography. To learn more or schedule a session, visit [http://www.luc.edu/writing/](http://www.luc.edu/writing/).

**Students with Disabilities** - Please let me know as soon as possible if you require accommodation for a disability. I will be happy to work with you. Disabilities must first be registered with the Office of Services for Students with Disabilities. For more information, visit [http://www.luc.edu/sswd/](http://www.luc.edu/sswd/).

**Technology Use** - As a courtesy to your instructors and classmates, your cell phone should be off during all class meetings. You can use your tablet or laptop, but please stay on task!

**Course Calendar**

All activities are subject to change. I will announce any changes in class and on Sakai in advance.
<table>
<thead>
<tr>
<th>Wk</th>
<th>Tues</th>
<th>Lecture</th>
<th>Thur</th>
<th>Lab/Discussion</th>
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</thead>
</table>
| 1  | 1-13 | Welcome to STEP: Water! (Schusler) *Read: Syllabus* | 1-15 | Ancient Human Ecology and Water Appropriation (Amick)  
*Read: Chapters 2 & 11 in Mays 2010, Postel 2000*  
*Project Selection & Team Formation* |
| 2  | 1-20 | Local Water History (Cain)  
*Read: Cain 1972, Cain 1974* | 1-22 | *Project Workday* |
| 3  | 1-27 | Ecosystem Services & Stresses to Aquatic Ecosystems (Schusler)  
*Read: UNEP 2009, Postel 2010*  
*Synthesis Blog #1 Due* | 1-29 | *Proposed Project Presentations* |
| 4  | 2-3  | Water-borne Illnesses (Harbison)  
*Read: Pearce 2006, Smith et al. 2000* | 2-5  | O’Brien Water Reclamation Plant Field Trip (Skokie)  
*Read: EPA 2004, Science special issue 2012*  
*Project Plan Due* |
| 5  | 2-10 | Social Justice & Water Access (Krogh)  
*Read: UN-Water 2005* | 2-12 | Mapping Water Resources with GIS (Trreering)  
*Read: Lab documents* |
| 6  | 2-17 | TOPIC TBA (Murphy)  
*Read: TBA*  
*Synthesis Blog #2 Due* | 2-19 | *Project Work Day* |
| 7  | 2-24 | Climate Change and Water (Jing)  
*Read: TBA* | 2-26 | Climate Change & Urban Water Use Role Simulation  
*Read: Background materials*  
*Project Work (45 minutes)* |
| 8  | 3-3  | *Spring Break* | 3-5  | *Spring Break* |
| 9  | 3-10 | Water Policy (Frendreis)  
*Read: NRDC 2002, EPA 2009* | 3-12 | Damnation Film and Discussion  
*Project Work (45 minutes)*  
*Read: American Rivers 2002* |
| 10 | 3-17 | Water and Economy (Cinar via podcast)  
*Read: Hoekstra & Chapagain 2007*  
*Synthesis Blog #3 Due* | 3-19 | Blue Gold Film and Discussion  
*Project Work (45 minutes)*  
*Read: Articles on water privatization TBA* |
| 11 | 3-24 | *Project Workday* | 3-26 | Stormwater Management (Durnbaugh & Schusler)  
*Read: Articles on stormwater and green infrastructure TBA*  
Draft Poster Due |
| 12 | 3-31 | Water in Religions (Hart Winter)  
*Read: “Common Good”, Chamberlain 2008, French 2005* | 4-2  | *Project Workday*  
Final Poster Due April 4 |
| 13 | 4-7  | Innovations Improving Water Quality (Schleizer)  
*Read: TBA*  
*Synthesis Blog #4 Due* | 4-9  | Stream Quality Field Trip  
w/ Mark Hauser, Friends of Chicago River  
Irene Hernandez Forest Preserve  
*Read: Lab documents* |
| 14 | 4-14 | Practice Poster Presentations | 4-16 | Evanston Water Treatment Plant Field Trip  
w/ Kevin Lookis  
*Read: EPA fact sheets & web page* |
|    |      |                     | 4-16 | Saturday, April 18  
Undergraduate Research & Engagement Symposium  
11-4:30 Mundelein Center |
| 15 | 4-21 | *Project Work Day* | 4-23 | Groundswell Rising Film & Discussion  
*Read: Articles on hydraulic fracturing TBA*  
Final Report Due |
| 16 |      | *Friday, May 1st, 1-3 p.m.*  
Reflection & Synthesis (attendance mandatory) |      |                           |
Readings

Ancient Human Ecology and Water Appropriation (Amick)

Local Water History (Cain)

Ecosystem Services & Stresses to Aquatic Ecosystems (Schusler)

Water-borne Illnesses (Harbison)

Wastewater Treatment (MWRD O’Brien Water Reclamation Plant Field Trip)

Social Justice & Water Access (Krogh)

Mapping Water Resources (Treering)
- Review lab documents in advance

Topic TBA (Murphy)
- TBA

Climate Change and Water (Jing)
- TBA

Climate Change and Urban Water Use (Schusler)
- Read role simulation background materials in advance

Water Policy (Frendreis)
Dams and Dam Removal (Schusler)

Water and Economy (Cinar)

Water Privatization (Schusler)
- TBA

Stormwater Management & Green Infrastructure (Durnbaugh)
- TBA

Water in Religions (Hart Winter)

Innovations Improving Water Quality (Schleizer)
- TBA

Stream Quality Monitoring (Friends of Chicago River Field Trip)
- Read lab documents in advance

Water Treatment (Evanston Water Treatment Plant Field Trip)

Hydraulic Fracturing & Water (Schusler)
- TBA