

University of Waterloo
Department of Environment and Resource Studies
Environmental Analysis and Solutions II: Experiential Approaches (W'16)

This syllabus is a contract between students and the professor. If you have any questions, please speak with me by January 15th, 2016.

1. INFORMATION

Professor:	Sarah Wolfe (ES2 2011; sewolfe@uwaterloo.ca) <i>I am not always available to respond to course-related emails between 5pm - 9am the next day. I will respond asap or please come to office hours to discuss.</i>																		
Lecture:	Fridays 10:30-12:20pm in DWE 2527																		
Office Hours:	Fridays 1-2pm in EV2 2011																		
D2L	Available; class announcements; unless otherwise requested for hardcopies, all assignments submitted as e-copies to D2L																		
Contact:	Please contact your TA for routine inquiries. If you need to reach me, email is the best way: sewolfe@uwaterloo.ca																		
Tutorials:	Tutorials start in Week 2 (Wed Jan 13). Teaching Assistants' names are in parenthesis. <table><tr><td>Tutorial 1</td><td>Wed 1 - 2:20</td><td>ML 216 (Andrews)</td></tr><tr><td>Tutorial 2</td><td>Wed 1 - 2:20</td><td>ML 212 (David)</td></tr><tr><td>Tutorial 3</td><td>Wed 9 - 10:20</td><td>AL 210 (Andrews)</td></tr><tr><td>Tutorial 4</td><td>Wed 9 - 10:20</td><td>AL 209 (Revilla)</td></tr><tr><td>Tutorial 5</td><td>Wed 11 - 12:20</td><td>ML 212 (David)</td></tr><tr><td>Tutorial 6</td><td>Wed 11 - 12:20</td><td>EV1 225 (Revilla)</td></tr></table>	Tutorial 1	Wed 1 - 2:20	ML 216 (Andrews)	Tutorial 2	Wed 1 - 2:20	ML 212 (David)	Tutorial 3	Wed 9 - 10:20	AL 210 (Andrews)	Tutorial 4	Wed 9 - 10:20	AL 209 (Revilla)	Tutorial 5	Wed 11 - 12:20	ML 212 (David)	Tutorial 6	Wed 11 - 12:20	EV1 225 (Revilla)
Tutorial 1	Wed 1 - 2:20	ML 216 (Andrews)																	
Tutorial 2	Wed 1 - 2:20	ML 212 (David)																	
Tutorial 3	Wed 9 - 10:20	AL 210 (Andrews)																	
Tutorial 4	Wed 9 - 10:20	AL 209 (Revilla)																	
Tutorial 5	Wed 11 - 12:20	ML 212 (David)																	
Tutorial 6	Wed 11 - 12:20	EV1 225 (Revilla)																	

**** Please note the revised start for each tutorial session **** *Tutorials are normally two hours per week. We will only be meeting for one hour; however, the 'extra' hour is still included in my workload calculations for students' time in this class. I strongly recommend that you use that 'extra' hour for group meetings and for individual study, readings in advance of lecture, assignments etc.*

2. TEACHING APPROACH

My teaching approach is one of 'solutions-based education'. It's easy to describe all the problems in the world – there are many – but much more difficult for all of us to engage and to make significant contributions. That everyone has a problem-solving role is not starry-eyed optimism but rather a pragmatic philosophy that gives meaning to my teaching and research.

I also used a modified 'flipped classroom'. This means that I expect that everyone will have already read the foundation materials (e.g., textbook chapters or articles) *before* the Friday lecture. This frees us to use the classroom time to extend or expand upon the readings, try new activities, debate, apply conceptual knowledge to case studies, ask questions etc. On the positive side, this approach is hugely beneficial for students' experiential learning and knowledge retention. On the negative side, if you don't do the readings in advance, you'll be scrambling to keep up and you definitely won't learn as much, or as deeply, from what's going on during class.

Finally, in this course, I use the broad theme of 'water' to explore some of the challenges we face as engaged citizens and the various roles we might play to address those challenges. Even if water isn't your primary interest – which is completely fine – the knowledge and skills you develop in this course can be applied across many different future contexts. By this I mean everything from other courses, co-op placements, negotiations with family, friends and potential employers.

3. LEARNING OBJECTIVES

In ERS 111, you will strengthen and extend the skills you developed in ERS 110. Upon completion of this course, you should be able to:

- Understand and explain the roles of, and challenges associated with, different disciplines in defining, analyzing, and resolving environmental issues (*we focus on water here but the skills can be applied to any environmental issue*);
- Begin to critically analyze and evaluate environmental claims and proposed solutions from different disciplinary and stakeholders’ perspectives using a case study approach;
- Demonstrate your understanding of the conventions and requirements of scholarly research and communication (e.g., academic integrity, adequate referencing, and effective writing);
- Communicate complex environmental (water-focused) ideas in different formats, including political policy briefs, scientific reports and scholarly responses; and,
- Demonstrate your ability to work, and meet deadlines, in a professional team environment.

4. REQUIRED TEXTS AND READINGS

Buch, Andrea and Alan B. Dixon (2009) South Africa’s Working for Water Programme: Searching for Win–Win Outcomes for People and the Environment. *Sustainable Development*. 17, 129–141. (AVAILABLE IN D2L).

Cech, Thomas V. (2005). *Principles of Water Resources: History, Development, Management, and Policy – 3rd Edition (CUSTOM SOFT COVER)*. John Wiley and Sons, Inc. (AVAILABLE IN BOOKSTORE)

Hay, Iain and Philip Giles (2010). *Communicating in Geography and Environmental Sciences: Canadian Edition (Paperback)*. Oxford University Press. (AVAILABLE IN BOOKSTORE.)

deLoe, Rob and Reid Kreutzwiser (2007). Chapter 5: Challenging the Status Quo – the evolution of water governance in Canada. In: Bakker, K. (Ed.), (2007) *Eau Canada: the Future of Canada’s water*. Vancouver: UBC Press. (AVAILABLE IN D2L).

Richards, R. (2011). Working for water: A baseline study on the impact of a South African public works program in improving the quality of life of program beneficiaries. *Community Quality-of-Life Indicators: Best Cases V*, 193-217. (AVAILABLE IN D2L).

5. COURSE ASSIGNMENTS

ASSIGNMENTS	VALUE	DUE DATE
Op-Ed Article #1	10%	January 20 th , 2016 (in tutorial and D2L)
Op-Ed Article #2	10%	February 3 rd , 2016 (in tutorial and D2L)
Mid Term Writing Assignment (ok, yes, it’s a test...but it is a distinct writing style and skill set.)	25%	February 12 th , 2016 (in class)
Team Research Poster	10%	March 11 th , 2016 (in class and D2L)
Team Research Pitch/Report	25%	March 16 th (in tutorial and D2L)
Final Writing Assignment (yup, another test...)	25%	MONDAY April 4, 2016 (in class)

The full assignment descriptions – along with the evaluation rubrics – are available through D2L. The assignments will be discussed (briefly) in lectures but in much more detail during tutorials.

All assignments are to be submitted to D2L dropboxes, as docs, and as hardcopies at the beginning of your tutorial on the due dates listed above. The team poster will be presented during a class “conference”. The poster presentation, midterm and final writing assignments will be completed during class time.

6. COURSE PLAN, READINGS & DUE DATES

DATE	TOPIC & READINGS <i>("problems, perspectives and possible solutions")</i>
Week 1 (Jan 8)	Course Intro and Admin details <ul style="list-style-type: none"> • Bring a paper or electronic copy of syllabus to first class Video Fieldtrip: Watermark
Week 2 (Jan 15)	Guest: Dr. Brent Wolfe (WLU); Video: Footprints in the Delta Climate Change and Hydrologic Cycle (technical context overview) <ul style="list-style-type: none"> • Chapter 2: The hydrologic cycle, climate and weather
Week 3 (Jan 22)	“Video Fieldtrip”: The Future of Water: Part 2 Lecture: Uncertainty and the social context of water <ul style="list-style-type: none"> • Chapter 1: Historical perspectives on water use and development Research Participation (<i>optional</i>): survey for graduate student Hanna Ross (details in Week 1 and syllabus below)
Week 4 (Jan 29)	“Video Fieldtrip”: The Future of Water: Part 3 Lecture: Interdisciplinary perspectives on water <i>quantity</i> <ul style="list-style-type: none"> • Chapter 3: Surface Water Hydrology Chapter 4: Groundwater Hydrology
Week 5 (Feb 5)	Guest: Dr. Michelle VanDyke (Interdisciplinary perspectives on water <i>quality</i>) <ul style="list-style-type: none"> • Chapter: 5: Water Quality • Chapter 8 (268-276; 279-294): Drinking water and wastewater treatment • “Video Fieldtrip”: Save my lake
Week 6 (Feb 12)	In Class Writing Assignment (Weeks 2-5)
READING WEEK (FEB 15-19, 2016)	
Week 7 (Feb 26)	“Video Fieldtrip”: Liquid Assets Lecture: Municipal Drinking Water Supply and Demand <ul style="list-style-type: none"> • Chapter 10: The Economics of water, conservation and efficiency • Chapter 6: Municipal and Irrigation Water Development
Week 8 (March 4)	Case Study (social): Urban and rural water, gender, poverty, invasive species and South Africa’s “Working-For-Water” program <ul style="list-style-type: none"> • Article: Buch and Dixon (2009) • Article: Richards (2011) Guest: Ms. Jespal Panesar (Gender and water)
Week 9 (Mar 11)	In Class Research Pitches and Poster ‘Conference’
Week 10 (Mar 18)	Guest: Dr. Rob deLoe Issues in Contemporary Canadian Water Governance <ul style="list-style-type: none"> • Article: deLoe and Kreutzwiser (2007) “Video Fieldtrip”: Waterlife
No class on Friday, February 25 (‘Good Friday’)	
Week 11 (April 1)	“Video Fieldtrip”: The Future of Water: Part 1 Lecture: Emerging Water Issues, Opportunities to Influence the World and New Research Directions <ul style="list-style-type: none"> • Chapter 11: Water Use Conflicts • Chapter 12: Emerging Water Issues Exam Prep Activity and Course Evaluations
Week 12 (Monday April 4)	In Class Writing Assignment (Weeks 7, 8, 10, 11)
April 8	Lectures End.

- Tutorials will begin on Wednesday January 13th, 2016. During this session, you will identify your team and major paper topic. This topic and the team partners are final and can only be changed under exceptional circumstances.
- Guest speakers’ and video content may be included in the test questions.

7. The Writing Centre

The Writing Centre works across all faculties to help students clarify their ideas, develop their voices, and write in the style appropriate to their disciplines. Writing Centre staff offer one-on-one support in planning assignments and presentations, using and documenting research, organizing and structuring papers, and revising for clarity and coherence.

You can make multiple appointments throughout the term, or drop in at the Library for quick questions or feedback. To book a 50-minute appointment and to see drop-in hours, visit www.uwaterloo.ca/writing-centre. Group appointments for team-based projects, presentations, and papers are also available.

Please note that writing specialists guide you to see your work as readers would. They can teach you revising skills and strategies, but will not proof-read or edit for you. Please bring hard copies of your assignment instructions and any notes or drafts to your appointment.

8. THE STUDENT'S RESPONSIBILITIES

As a student at the University of Waterloo, you have the following responsibilities. Contact me to discuss any concern you have regarding your responsibilities as outlined below.

Communication: It is your responsibility to check the course web page for information and updates. Also, as per university regulations, e-mail is the official route of communication between the University and its students. You are required to check your uwaterloo.ca e-mail account regularly (at least once per day). If you use another e-mail service, it's your responsibility to ensure that mail sent to your university account is forwarded.

When You Cannot Meet a Course Requirement: If you cannot make an in-course requirement because of medical, psychological or compassionate reasons, please advise me in writing (preferably by e-mail), with your name, student ID number, and e-mail contact information. Where possible, this should be done in advance of the assignment due date, but otherwise as soon as possible after the due date. As a rule, you must provide appropriate documentation, for example, a note from your doctor indicating the dates during which you were ill, and describing the severity of your illness. You are required to attend (and participate in) all of the class meetings and field trips. Assignments must be submitted in UW-D2L on the designated day and time.

Manage your time carefully: Pressure of work alone is not an acceptable reason for seeking an extension without penalty. See the undergraduate calendar for additional information on regulations and procedures for Academic Consideration.

Laptop policy: Developing an ability to listen attentively is an important aspect of your university education and, for that matter it is an important life skill. **Laptops undermine that learning objective.** If it is absolutely necessary for you to use a laptop then please use one only for taking course-related notes. Please refrain from surfing, chatting, downloading video on your laptops, smartphones, iPads etc. as it distracts your classmates and detracts from everyone's learning process.

9. ASSIGNMENT SUBMISSION AND LATE PENALTIES

All assignments must be submitted on the UW-D2L website before class time on the day they are due. Unless you have made advance arrangements with me – based on medical or family emergencies – late assignments will be penalized at **5 percent (5%) of the value of the assignment per day, including Saturday and Sunday.** I will not accept assignments more than 5 days after the due date unless there are exceptional circumstances and with advance notice.

Copies of Assignments: Please keep copies of all out-of-class assignments and evaluation forms. You may be asked to resubmit work at any time, including after the end of the course.

10. ACADEMIC INTEGRITY

Academic Integrity: In order to maintain a culture of academic integrity, members of the University of Waterloo community are expected to promote honesty, trust, fairness, respect and responsibility. www.uwaterloo.ca/academicintegrity/. Students who are unsure what constitutes an academic offence are requested to visit the on-line tutorial at: <http://www.lib.uwaterloo.ca/ait/>

Research Ethics: Please also note that the 'University of Waterloo requires all research conducted by its students, staff, and faculty which involves humans as participants to undergo prior ethics review and clearance through the Director, Office of Human Research and Animal Care (Office). The ethics review and clearance processes are intended to ensure that projects comply with the Office's Guidelines for Research with Human Participants (Guidelines) as well as those of provincial and federal agencies, and that the safety, rights and welfare of participants are adequately protected. The Guidelines inform researchers about ethical issues and procedures which are of concern when conducting research with humans (e.g. confidentiality, risks and benefits, informed consent process, etc.). If the development of your research proposal consists of research that involves humans as participants, the please contact the course instructor for guidance and see: www.research.uwaterloo.ca/ethics/human/

Categories other than plagiarism (defined as varieties of cheating):

- Submission of work not written and prepared by you.
- Copying or stealing the work of another student.
- Paying for the creation of work by a commercial service or by an acquaintance to be submitted by you.
- Purchasing already existing written work.
- Using an essay for submission by you, which was found, on one of the free internet essay sites.
- Writing a paper for course submission by another student.
- 'Recycling' and submitting an essay, report, or assignment when a major portion has been previously submitted or is being submitted for another course without the expressed permission of all instructors involved.

Note for students with disabilities: The Office for Persons with Disabilities (OPD), located in Needles Hall, Room 1132, collaborates with all academic departments to arrange appropriate accommodations for students with disabilities without compromising the academic integrity of the curriculum. If you require academic accommodations to lessen the impact of your disability, please register with the OPD at the beginning of each academic term.

Religious Observances: Please inform the instructor at the beginning of term if special accommodation needs to be made for religious observances that are not otherwise accounted for in the scheduling of classes and assignments.

Grievance: A student who believes that a decision affecting some aspect of his/her university life has been unfair or unreasonable may have grounds for initiating a grievance. Read Policy 70 - Student Petitions and Grievances, Section 4, www.adm.uwaterloo.ca/infosec/Policies/policy70.htm. When in doubt, please contact your Undergraduate Advisor for details.

Discipline: A student is expected to know what constitutes academic integrity, to avoid committing academic offence, and to take responsibility for his/her actions. A student who is unsure whether an action constitutes an offense, or who needs help in learning how to avoid offenses (e.g., plagiarism, cheating) or about "rules" for group work/collaboration should seek guidance from the course professor, academic advisor, or the Undergraduate Associate Dean. For information on categories of offences and types of penalties, students should refer to Policy 71, Student Discipline, www.adm.uwaterloo.ca/infosec/Policies/policy71.htm. For typical penalties, check Guidelines for Assessment of Penalties, www.adm.uwaterloo.ca/infosec/guidelines/penaltyguidelines.htm

Appeals: A decision made or penalty imposed under Policy 70 - Student Petitions and Grievances (other than a petition) or Policy 71 – (Student Discipline) may be appealed if there is a ground. A student who believes he/she has a ground for an appeal should refer to Policy 72 (Student Appeals). See: www.adm.uwaterloo.ca/infosec/Policies/policy72.htm

Consequences of Academic Offences: ENV students are strongly encouraged to review the material provided by the university's Academic Integrity office (<http://uwaterloo.ca/academicintegrity/Students/index.html>). **Turnitin:** Plagiarism detection software (Turnitin) may be used to screen assignments in this course.