

Lakehead University: Department of Geography and the Environment

Geography/Environmental Studies 4411: Water Sustainability and Water Resources Management

Seminars: Tuesday and Thursday (23-01-10 to 23-04-06)
Time: 10:00-11:30am
RC 1002

Instructors: Nathan Wilson, PhD Candidate
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Course content Session: Winter 2023

The objectives of this course are to explore the fundamental principles of water resources management and to introduce students to emerging water security problems and the application of sustainable approaches to water resource management in Canada. The student will gain an understanding of modern principles for water resource management, contemplate the role of science in making sound environmental decisions, and explore Integrated Water Resource Management strategies through a range of case studies that draw from readings, seminars, group exercises and student presentations. The course attempts to integrate resource science contexts with historic-, development-, management-, and policy-related contexts of water. Adaptive management and the ecosystem approach provide preliminary theoretical foundations for the understanding of socio-ecological dimensions of water resource use and water security.

Course Evaluation

Assignments	30%
Participation	10%
Independent Course Project	40%
● Research Statement	
● Research Proposal (10%)	
● Research Report (20%)	
● Research Presentation (10%)	
Final Exam	20%

Schedule of Seminars and Due Dates:

Week/Date	Topic	Additional info
Week 1 Jan 10 th	Water Security and the Global Water Crisis	Assignment #1 (personal bio – Jan. 13th)
Week 2 Jan 17 th	Integrated Watershed Management and Climate Change Impacts	
Week 3 Jan 24 th	Water Privatization	Debate - Research Topics and Assignment #2 (privatization – Jan 23rd)
Week 4 Jan 31 st	Hydro Dams and other River Barriers	Tim Hollinger, Research Statement – Feb. 3rd
Week 5 Feb 7 th	History of Management of the Great Lakes Basin	
Week 6 Feb 14 th	Remedial Action Planning and Lakewide Management	Tim Hollinger, Research Proposal – Feb. 17th
Week 7 Feb 21 st	READING WEEK – NO CLASS	READING WEEK – NO CLASS
Week 8 Feb 28 th	Floodplain management	Dr. Rob Stewart, Lakehead Regional Conservation Authority
Week 9 March 7 th	Water Quality treatment	Field trip to waster water facility – Assignment #3 (Walkerton – March 6th)
Week 10 March 14 th	Lake Eutrophication	Rebecca Gasman, Field Trip (TBD)
Week 11 March 21 st	Stormwater Management	Brant Muir Assignment #4 (Issues in Management – March 20th)
Week 12 March 28 th	Citizen Science and Monitoring	Dr. Dan Duckert, Research Reports (March 31st)
Week 13 April 4 th	Research Presentations	Research Presentations

Participation (10% of Final Mark)

Policy Briefings (30% of Final Mark)

1. Introduction
2. Privatization
3. Walkerton Incident
4. Issues in Water Management

Independent Course Project (40% of Final Mark)

- Research Statement
- Research Proposal (10%)
- Final Paper (20%)
- Research Presentation (10%)

Final Exam (20% of Final Mark)