



**University
of Victoria**

**Department of Geography
Faculty of Social Science**

GEOG 371: Water Resources Management

Spring 2019



Instructor

Dr. Sayed M Nazim Uddin

Department of Geography

Room-DTB, B214

University of Victoria, BC, Canada

Email: suddin@uvic.ca, nazimiwfbuet@gmail.com

Course Information

Calendar Description

A study of water resources management in different parts of the world, examining the influence of various physical, economic, social, political and technological factors. Examines the alternative ways in which such problems as water scarcity, floods, and declining water quality are handled. Examines in detail a number of major water development schemes. Students will be expected to undertake a modest research project and report upon it.

Prerequisite: GEOG 209

Class Schedule: Mon, Thu 11:30-12:50; Jan 7 – April 5, 2019

Location: COR B135

Office Hours: Mon: 9:00-11:00 AM; DTB B204

Coursespaces: coursespaces.uvic.ca

Instructor

Dr. Nazim Uddin is an Assistant Professor in Environmental Sciences at the Asian University for Women (AUW). He also taught summer courses at AUW during the 2017-2018 academic year as a Visiting Assistant Professor. He has been teaching in the Department of Geography at the University of Victoria, Canada since 2016 as a Sessional Lecturer and Specialist Instructor. With an International Research Funding from Action Contre la Faim (ACF) International France, he completed his Ph.D. from the University of Science and Technology Beijing (USTB), China. Moreover, he held Research Project Manager and performed graduate supervision and mentoring during his Ph.D. tenure at USTB. He did his Post-Doctoral Fellowship at the University of Victoria, Canada (2016-2018). He has more than 14 years of experience in research, teaching, scientific supervision and mentoring, development, and implementation. His research interests include water resources management, wastewater/greywater treatment and management, global Water, Sanitation, and Hygiene (WASH) and health, solid waste management, sustainable sanitation, resource and energy recovery, community-based research, disaster/hazards Risks Reduction. Over 40 scientific peer-reviewed journal articles, international conference proceedings, technical reports and guidelines, policy briefs, and compendium have been already published in the above-mentioned fields.

Course Description

This course will explore water resources management (WRM) issues around the world. We will examine a range of factors such as physical, economic, socio-political, and technological factors which greatly influence the global water resources management systems. The course will address the water insecurities, in rural, urban, peri-urban slums, and other informal settlements across the globe including Canada. In addition, the effects of various uncertainties such as climate change, natural disasters (e.g. floods, droughts, cyclones), and human-induced war/conflicts on water resources management systems and services will be examined. Various alternative strategies will be discussed to tackle those uncertainties/challenges. Moreover, the course will examine in detail a number of major water

development schemes in the world. Students will also examine the WRM system, services, and policies in Canadian provinces.

Students in this course will develop an in-depth understanding of the current WRM situation in the world (including Canada), and the challenges that professionals in this field must tackle. Students will listen to lectures and read influential, thought-provoking papers in the field. They will discuss both the lectures and the readings with the instructor and other interested individuals from all around the world (available online). Videos will be used to supplement the lectures and readings. Guest lecturers (based on availability) will be invited from different institutions in Canada and abroad (online lecture). Students are expected to undertake a research project on WRM and write a term-paper on ‘Country WRM issues diagnosis including innovative management approaches.’

Course Objectives

- Provide overview and statistics of the global water resource management related issues.
- Explore various factors that influence on water resource management in the world.
- Examine the alternative strategies to improve water resource management from local to global levels.
- Examine the major water management schemes in Canada and other parts of the world.

Learning Outcomes

By the end of the course, students should be able to:

- Understand concepts of IWRM, ILBM, Adaptive Water Management, Water Security, Transboundary River Basin Management, and Community-based WRM.
- Have diverse knowledge on the global WRM-related problems, challenges, and policies including Canada.
- Identify and explain major factors that influence on the water resource management around the world.
- Understand the impacts of extreme events (e.g. climate change, drought, floods, cyclones) on WRM.
- Increase their problem-solving capacity by bringing novel ideas and thoughts to solve the water resource management issues at local, regional and global level.
- Improve WRM related knowledge and capacity to become global leaders in WRM.
- Improve competency in interpreting scholarly literature in WRM and enhance research communication skills by writing and presenting the academic term-paper.

Text Book

There is no textbook for this course. Weekly readings and reference materials will be posted on CourseSpaces before the classes.

Evaluation

Attendance and Participation (10%): Participation includes class attendance and Q & A sessions. Students are expected to attend and actively participate in all classes and weekly discussions. To achieve full participation marks means that the student engages in the discussion and actively listens, poses questions and provides answers or contributions when possible. This is an easy mark to get, by regularly attending class and coming prepared.

Small-To-Large (STL) Group Discussion (Weekly-20%): STL is a teaching and learning technique where students are divided into several small groups to discuss the contents of the lectures, reading materials, videos, and other online resources for uncovering the water management issues and provide their creative solutions. A large group discussion follows and, in this process, a discussion leader from each group facilitates the small group discussions. Discussion leader will be chosen by the group members through the bottom-up approach. We will organize a debate on 'Global Dams' during this group discussion.

Assignment (20%): Three written assignments (4% + 4% + 2%) and one water concept notes (10%)

Mid-Term Exam (in Class-20%): The mid-term test will consist of Multiple Choice Questions and open questions, and it will cover materials from lectures, readings, STL group discussions, and videos/documentaries. The lectures posted on CourseSpace do not include everything. You are expected to attend lectures and take notes because some information (concepts, ideas, themes) will be discussed in the class that may not be on the lecture slides.

Term-Paper (20%): Each student will select a country without any overlapping for the 'Country Water Issues Diagnosis & Management Solutions' Term-Paper (8-10 pages including references). You will review the existing literature including assigned reading materials on the current water situation of your selected country. Please choose your country by January 24, 2019, to start working on the term paper.

Plenary Style Term Paper Presentation (10%) – Each student will give a presentation on their research and the findings discussed in the term-paper. Students can use PowerPoint or any other related computer software as a visual supplement to the oral presentation. Ideally, we will schedule approximately 10 minutes for each presentation, plus an additional 5 minutes for a plenary style discussion. This may be changed depending on how many students enroll in the course.

Country Water Issue Paper

Each student will select a country without any overlapping for the 'Country Water Issues Diagnosis & Solutions' research paper. You will review the existing literature including assigned reading materials on the current water situation of your selected country. Please choose your country by January 24, 2019, to start working on the term paper. You will need to include the following sections in your term paper:

1. ***Overall Water Management Situation (Max 2 Pages):*** Please review the existing literature and reading materials to write this section. You will need to identify major issues in WRM in the selected country. In this section, you will need to explore a range of existing WRM approaches,

- practices and policies in the country.
2. ***Problem Tree Analysis (Max 2 Pages):*** You will need to draw a WRM problem tree and analyze it based on the class exercise, real-world data, and other available literature. You will also explain the problem tree based on the available evidence.
 3. ***Sustainable Solutions and other Alternative Ways to Tackle these Problems (Max 3 page):*** You are expected to discuss a range of alternative/innovative ways and strategies to improve the country's WRM system. Any successful cases or lessons (e.g. irrigation, rural/urban water supply, navigation) can be included in this section. Please propose some solutions based on the available data and your own ideas to solve the problems. You can also include the IWRM/ILBM/CB-WRM or other approaches which have been discussed in the class.
 4. ***Your Final Discussion and Conclusion (1-2 Pages):*** You will need to discuss the above sections critically and give your final thoughts and ways forwards to solve the problem. You can also include your perspectives (e.g. geography, environmental studies, business, earth science, and others) to propose some innovative ideas to solve global WRM issues and challenges.

Formatting

All works must be word-processed, 1.5-spaced, 11-point font size. Assignments/Term Paper/Concept Notes should be proofread prior to submission to ensure that they are free of grammatical and spelling errors and must include a list of all references cited in the text, using the APA citation style (Please check the coursespace for APA citation- guideline). All assignments/Term Paper should include the student's name and student number, the course's code and name, and that of the instructor, to avoid loss or improper identification. No need to use a cover page. Minimum 10 scientific references are required for your term paper.

Note: Detailed description of other assignments and concept notes will be provided during the class.

Late Policy

Missing or late entries will not be marked. For the assignment and Term Project, 10% will be deducted for every day the assignment is late. Exceptions will only be granted for medical reasons (requiring a written note from a medical practitioner stating your inability to attend class) or other serious personal circumstances.

Accessibility

Students with diverse learning styles and needs are welcome in this course. In particular, if you have a disability/health consideration that may require accommodations, please feel free to approach me and/or the Resource Centre for Students with a Disability (RCSd) as soon as possible. For more information see: <http://rcsd.uvic.ca/>. Please notify me immediately if any date proposed for assignments or papers conflicts with dates of special significance in your religion/culture. I will arrange alternative dates to accommodate these individual needs.

Academic Integrity

Plagiarism in writing Term Papers will not be tolerated. Plagiarism Detection Software will be used in case of doubt. Please check the following website for the UVic's policy on academic integrity and plagiarism.

<http://www.uvic.ca/learningandteaching/students/resources/expectations/>

Grading Scale

A+	A	A-	B+	B	B-	C+	C	D	F
90-100%	85-89%	80-84%	77-79%	73-76%	70-72%	65-69%	60-64%	50-59%	49% less

Please check the following link for the UVic's official grading system:

<https://web.uvic.ca/calendar2017-09/undergrad/info/regulations/grading.html>

List of Topics for Lectures (Tentative)

Week	Date	Topics for Lecture	Readings* and Assignments
1	Jan 7-11	Introduction: Course Outline, Instructor Global Water Management Issues	
2	Jan 14-18	Factors that influence WRM system and Services	
3	Jan 21-25	Water Management Infrastructure & Development	Assignment# 1 Due (Jan 17)-Problem Tree Final Country Selection for Term Paper: Due (Jan 24)
4	Jan 28-Feb 1	Water Quality	Debate (Dams)
5	Feb 4-8	Drinking water and sanitation	Assignment# 2 Due (Feb 18)
6	Feb 11-15	Uncertainties/extreme events/water conflicts Water Security	Mid-Term Exam (Feb 14-In Class)
7	Feb 18-22	Reading Break	
8	Feb 25- March 1	Integrated Water Resources Management (IWRM)	Concept Notes- (Feb 28)
9	March 4-8	Global Lakes and Integrated Lake Basin Management (ILBM),	

1 0	March 11-15	Wastewater Management and Reuse	Assignment #3 (Collaborative Poster on World Water Day 2018)
1 1	March 18-22	Water Policy	Paper Presentation – Group 1 Country Water Issues Diagnosis and Solutions
1 2	March 25-29		Paper Presentation – Group 2 & 3 Country Water Issues Diagnosis and Solutions
1 3	April 1-5		Paper Presentation – Group 4 Country Water Issues Diagnosis and Solutions Course wrap-up Final Term Paper Due: April 1 (Note: Hard copies of all assignments, concept notes, and term-paper should be submitted in class and soft copies to email (suddin@uvic.ca) by the deadlines)

***Readings posted on Coursespaces.**

Note: The schedule may be subject to change in order to include current and relevant events as they unfold.

Sexualized Violence Prevention and Response at UVic

UVic takes sexualized violence seriously and has raised the bar for what is considered acceptable behaviour. We encourage students to learn more about how the university defines sexualized violence and its overall approach by visiting www.uvic.ca/svp. If you or someone you know has been impacted by sexualized violence and needs information, advice, and/or support please contact the sexualized violence resource office in Equity and Human Rights (EQHR). Whether or not you have been directly impacted, if you want to take part in the important prevention work taking place on campus, you can also reach out:

Where: Sexualized violence resource office in EQHR, Sedgewick C119
 Phone: 250.721.8021
 Email: svpcoordinator@uvic.ca
 Web: www.uvic.ca/svp

Course Experience Survey (CES)

I value your feedback on this course. Towards the end of term, you will have the opportunity to complete a confidential course experience survey (CES) regarding your learning experience. The survey is vital to providing feedback to me regarding the course and my teaching, as well as to help the department improve the overall program for students in the future. When it is time for you to complete

the survey, you will receive an email inviting you to do so. If you do not receive an email invitation, you can go directly to <http://ces.uvic.ca>. You will need to use your UVic NetLink ID to access the survey, which can be done on your laptop, tablet or mobile device. I will remind you nearer the time, but please be thinking about this important activity.

The University of Victoria is committed to promoting, providing and protecting a positive and safe learning and working environment for all its members.