

CEE 478: Water Systems Management and Operations

3 units, with W designation added by instructor at the end

Class Meeting Times: Tuesday & Thursday, 10:00 – 11:20 am

Location: More 220

Course Webpage: <https://canvas.uw.edu/courses/1633000>

Instructor: Jessica Lundquist

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Office Hours: right after class, or by appointment

Office Location: Wilcox 165

SUMMARY

This course will provide students an overview of past and future water management and policy issues related to current water resources projects. Through readings, guest speakers, and class discussion, we will consider both technical and social aspects of water resource system management and operations. Topics include federal water policy, regional water planning, expansion of existing water supplies, streamflow forecasting, planning with climate change, and more.

COURSE OBJECTIVES

This is a senior-level reading and writing course designed for students with an interest in understanding and exploring water resources. We will read and discuss recent literature, relevant reports, and book chapters and will interact with experts in the field. Through this you will be given the opportunity to develop numerous skills that will help to prepare you for water resource related jobs and research within and beyond school: reading and writing technical papers, performing a review of literature, highlighting the most relevant information, and writing a persuasive letter.

At the end of the quarter, students will be able to:

- (1) Appreciate current management and operations issues related to water resources projects in today's environment, with an understanding of both social and technical aspects
- (2) Efficiently read and evaluate academic literature and government reports
- (3) Write a clear and concise synthesis of literature that summarizes the most important points, evaluates the author's methodology, determines potential sources of errors, and asks intelligent questions
- (4) Investigate a topic in depth through reviewing the literature, filtering information by assessing the quality of various sources
- (5) Ask relevant, thought-provoking questions, both in writing and analysis and in discussions

WRITING CREDIT

This course is designated as a W course, which means that it includes 10-15 pages of graded, out-of-class writing with required revisions. As part of weekly homework, you will write 3 synthesis papers (2-pages each), plus 3 summary papers (1-page each), for a total of 9 pages). On each of these, you will peer review other papers. You will receive comments on your writing and will need to revise based on those comments before being graded. Additionally, you will have a 2-page final paper, which you will be able to receive peer review before the due date, but you will not be able to revise.

COURSE TEXTS

Readings will be assigned from the scientific literature and government reports (available from the course web page).

COURSE WEBSITE

<https://canvas.uw.edu/courses/1633000>

This website is an archive for all course materials, including the most up-to-date schedule and reading assignments. **All writing assignments will be turned in electronically (PDF) via the website.**

GRADING POLICY

Student understanding of the material is evident in class participation, topic presentation, writing reflections, and the final paper. There will be no examinations.

Grades will not be curved; therefore, it is theoretically possible for everyone to get an A (or an F). Your performance depends on how well you do, not on how everyone in the class does. It is therefore in your best interest to work together to master the subject.

15% Class participation

30% Synthesis Papers: Water systems comparison, revision of water systems comparison, and 2 of your choice (3, each worth 10%)

15% Summary Papers: The first writing assignment for your group (A or B), and then 2 of your choice (3, each worth 5%)

20% Peer review of other students' papers

5% Early draft of final paper, submitted for peer review

15% Final paper

Class participation: Your participation grade will reflect your familiarity with assigned readings, active (but not overwhelming) participation in your colleagues' discussions, and engagement with guest speakers. I will take attendance in class each day. In person attendance is expected. You may miss two classes with penalty to your participation grade. Further missed classes will result in a participation score deduction proportional to the number of classes missed.

Writing Assignments: Over the course of the quarter there will be 6 graded writing assignments, scheduled by group (A or B) and topic (see schedule). Other than the

exceptions noted above, you may choose which format (summary or synthesis) based on your schedule and interest as long as you meet the required number for each format. Please note in your header (with your name, the date, etc.) the format that you have chosen, and please use standard 1" margins, single spacing, and 12-pt font. Also note that the schedule has 8 slots for each group to turn in a writing assignment, but only 6 (3 synthesis, 3 summary) are required (take two weeks off!)

Synthesis Papers: (2 page maximum) You are required to complete 3 synthesis papers, with should include **both synthesis** (purpose of the paper, approach, key points) **and analysis** (possible alternative approaches, criticisms, connections to other key ideas). **On each of these, you will receive comments on your writing and will need to revise based on those comments before being graded.**

Summary Papers: (1 page maximum) You are required to complete 3 summary papers, which should include: 1 paragraph summarizing the main points of the readings, 1 paragraph on your thoughts (connections, reflection), and 1-2 questions you have about the reading or topic.). **On each of these, you will receive comments on your writing and will need to revise based on those comments before being graded.**

Peer review: For each paper you submit, you will be assigned two of your peer's papers to review. Your responsibility is to briefly summarize the most important change the student can make to improve the paper (this is likely not spelling or grammar, unless the paper is unreadable). Only a few sentences will be sufficient, but these should represent a thoughtful change. Your peer review grade will reflect the quality of your feedback. 1.5 points will be awarded for each thoughtful peer review of a synthesis or summary paper, and 2 points will be awarded for a thoughtful peer review of the final paper.

Final paper: (2 page maximum) Reflection on water management and operation issues; see additional hand-outs for details. Due by our scheduled final exam date (Monday, June 5, 12:20 pm). Note that both a first draft and peer-review feedback will be due in the week prior.

DUE DATES, GRACE PERIOD, and LATE WORK

Work is due and should be submitted electronically by 9:00 am on the day before the day of class it will be discussed. This is important to honor the time it takes for peer review feedback and paper revisions. Because sometimes things come up in our life that we cannot control, I will grant a 24-hour grace period on each assignment. If the Canvas late time is less than 24 hours, no grade penalty will be implemented. However, beyond this grace period, late work will be deducted 50% of your score for each day (24-hour period) that it is late. For example, a perfect paper with a score of 10 would receive 5 points if it is 24-48 hours late and 2.5 points if it is 48-72 hours late. Note that you are allowed to take two of the eight slots off, and you may always turn work in early. See the course website for due dates.

Note: It is your responsibility to make sure you know how to use the Canvas page. If there are issues with submission on Canvas, please notify me immediately.

ACADEMIC HONESTY

All members of the University community share responsibility for maintaining and promoting the principles of truth and academic honesty. The University has a policy defining academic dishonesty and procedures to follow when dishonesty occurs. This policy applies to both undergraduate and graduate students. An overview of policy and procedures can be found at:

<https://www.engr.washington.edu/current/policies/academic-integrity-misconduct>

I strongly suggest that you read the description of plagiarism related to this policy. Any form of plagiarism on a written assignment will result in a 0 for that assignment. Two cases of plagiarism are justification for a 0 in the class.

RELIGIOUS ACCOMMODATIONS

Washington state law requires that UW develop a policy for accommodation of student absences or significant hardship due to reasons of faith or conscience, or for organized religious activities. The UW's policy, including more information about how to request an accommodation, is available at [Religious Accommodations Policy \(https://registrar.washington.edu/staffandfaculty/religious-accommodations-policy/\)](https://registrar.washington.edu/staffandfaculty/religious-accommodations-policy/). Accommodations must be requested within the first two weeks of this course using the [Religious Accommodations Request form \(https://registrar.washington.edu/students/religious-accommodations-request/\)](https://registrar.washington.edu/students/religious-accommodations-request/).

SPECIAL NEEDS

Reasonable accommodations are available for students with a documented disability. If you have a disability and may need accommodations to fully participate in this class, please visit the Disability Services Office. For more information see: <http://www.washington.edu/admin/dso/students/index.html>