

NRME 3218 Water Resources Assessment, Development and Management

Catalog Description: An introduction to surface and ground water resource assessment, and management.

Objective: Developing and maintaining a sustainable surface or ground water supply requires the integration of scientific, legal, environmental and human factors. This course examines the interplay amongst these factors and provides a comprehensive foundation for students interested in the field of water resources.

Instructor:

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Office hours: M 11-12, T 10-11, by arrangement

Instruction:

3 hours of lecture per week
2 field trips—(surface water treatment facility, municipal ground water well field, ground water remediation system)

Readings: As assigned (see website)

Homeworks: As assigned (see website)

Grading: final grade = 30% two exams + 20% final +20% team project + 20% Homework+10% class participation

Class web site: www.water.uconn.edu/n3218/watresindex.html

Team project: At the beginning of the semester the class will be divided into teams to perform a research project on some issue in water resources. The teams will develop a draft and final report of findings and give a power point presentation.

Week	Topic
1 (1/21,23)	Historical Perspective on Water Use Hydrologic Cycle
2 (1/26,28,30)	Surface Water Hydrology Overview Reservoir Assessment and Development Team Assignments
3 (2/2,4,6)	Ground Water Hydrology Overview
4 (2/9,11,13)	Water Quality Overview
5 (2/16,18E,20)	Nature of Surface Water and Ground Water Pollution
6 (2/23,25,27)	Surface and Ground Water Development and Management Water Treatment Processes
7 (3/2,4TF,6)	Legal Aspects of Water Resources Development Water Allocation Law Federal Law
8 (3/9,11,13)	NO CLASSES
9 (3/16,18,20)	Local Water Jurisdiction (state and city level)
10 (3/23,25E,27)	Water, Fish and Wildlife
11 (3/30,4/1TF,4/3)	Water Use Conflict Resolution Team Draft Report Due
12 (4/6,8,10F)	Economics of Water Use
13 (4/13,15,17)	Emerging Water Issues Regional, US, World Wide
14 (4/20,22,24)	Guest Speakers Week (1) --Federal or State Environmental Regulatory Agency --Environmental Consultant --Water Supply Management
15FR,OP (4/27,29,5/1)	Team oral presentations and final reports due
Final	May 6, Wed 8:00 – 10:00 tentative

T = topic, E = exam; F = field trip, D= Draft report due, FR= final report due; OP = oral presentation

Team Project

General guidelines—the project must include: an interview with at least one expert, analyses of some type (technical, or economic, or legal), and a literature search and review.

Reports Outline

Abstract

Introduction to problem including background

Methodology to evaluate problem, include what you did, when and how.

Results

Conclusion (bulleted key points)

10 written page tops (without figures)

Potential Topics

How water figured into the advancement or extinction of some civilization.

Water Wars (use conflict)

Water issues in developing countries

Resolution of a water utilization controversy

Water balance for state of Connecticut or some location

Assessment of potential and actual impacts to the non-human environment resulting from water utilization

Future of water bottling and its impact on water prices and availability and ownership

Environmental impacts of dams

Issues surrounding the modification of water allocation law

Waste water utilization

Artificial recharge issues

Surface and ground water contamination issues