ESRM 463: Water Resource Management
California State University Channel Islands
Spring 2005

Section I - Wednesday 1:00pm – 3:50pm
Instructor: Dr. Don Rodriguez
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Office Hours: TTH 9:00 am – 10:00 am

Texts: Cech, Thomas V. (2005). Principles of Water Resources: History, Development, Management, and Policy 2nd Edition. John Wiley and Sons, NJ.
Glennon, Robert (2002). Water Follies: Groundwater Pumping and the Fate of America's Freshwater. Island Press, Washington, D.C.

COURSE ELEMENTS:

- Traditional lectures
- Water Quality Monitoring
- Field Measurements
- Data base Management
- Introduction to Public Process through Local Water Agencies
    - Association of Water Agencies (AWA) Meetings
    - Attendance at Calleguas Watershed Public Meetings

COURSE CONTENT:

- Historical Perspective of Water Use and Development
- Hydrologic Cycle, Climate, Weather
- Surface Water Hydrology
- Ground Water Hydrology
- Municipal and Irrigation Water Development

COURSE OUTCOMES: At the end of this course, students should be able to:

- Understand the concepts and principles of water and watershed management and how land use affects streamflow, soil loss, water quality, and habitats.
- Specify and quantify the important components of water management systems
- Describe the effects of alternative practices on system behavior, particularly BMP's
- Predict the external effects of water management practices

LEARNING OBJECTIVES: During this course students:

* Will be exposed to the diversity of watershed management issues in: Ventura County, the Southern California Region, the State of California, and the nation.
* Will know how the principles of watershed management can be applied to mitigate the effects of different land uses
* Will become fluent with the diversity of applied and empirical research in the area of water management and its' impact on developing best management practices among local water users
* Will be able to articulate the major local and global watershed issues of the day, and the current agency responses to them.

TESTING AND GRADING (400 points possible)

- *2 UNIT EXAMS* @ 100 pts. each. Due to limited class meetings this semester exams will consist of take home reviews. These reviews are designed to reinforce the material covered in the course. They may be submitted individually or as a small group.
- *CALLEGUAS CREEK WATERSHED MONITORING PROJECT*. @50 points
- *PUBLIC INVOLVEMENT PROCESS ASSIGNMENT*. @50 points
- *SEMESTER PROJECT* @ 100 pts. Concerning a local water management issue (see below)
- *CLASS ASSIGNMENTS* 10 in class/field exercises @10 pts each

ACADEMIC INTEGRITY:

All work that students submit as their own work must, in fact, be their own work. For example, if a paper presents ideas of others, it must clearly indicate the source. Word-for-word language taken from other sources – books, papers, web sites, people, etc. – must be placed in quotation marks and the source identified. Likewise, work on tests and exams must be the student's own work, not copied or taken from other students' work, and students must comply with instructions regarding use of books, notes, and other materials.

In accordance with the CSU Channel Islands policy on academic dishonesty, students in this course who submit the work of others as their own (plagiarize), cheat on tests and examinations, help other students cheat or plagiarize, or commit other acts of academic dishonesty will receive appropriate academic penalties, up to and including failing the course.

Papers with plagiarized ideas or language will be graded "F" and must be rewritten with proper use of quotations and referencing. The grade of "F" will remain the recorded grade on that assignment.

Plagiarism or cheating on tests and exams will result in an "F" on the test or exam, very likely resulting in a lower or possibly a failing final grade in the course. To complete course requirements, students must retake the test or exam during the instructor's scheduled office hours.

ACADEMIC INTEGRITY (cont.):

In cases where the cheating or plagiarism was premeditated or planned, students may receive an "F" for the course.

Students are encouraged to consult with the instructor on when and how to document sources if they have questions about what might constitute an act of plagiarism or cheating.

DISRUPTIVE CLASSROOM BEHAVIOR:

The classroom is a special environment in which students and faculty come together to promote learning and growth. It is essential to this learning environment that respect for the rights of others seeking to learn, respect for the professionalism of the instructor, and the general goals of academic freedom are maintained. Differences of viewpoint or concerns should be expressed in terms which are supportive of the learning process, creating an environment in which students and faculty may learn to reason with clarity and compassion, to share of themselves without losing their identities,

and to develop an understanding of the community in which they live. Student conduct which disrupts the learning process shall not be tolerated and may lead to disciplinary action and/or removal from class.

PROFESSIONAL QUALITY:

Anything you submit to me is your own personal representative. Its appearance represents you. I encourage each of you to word process your assignments, liberal use of graphics and tables, illustrations or copies of examples from other sources will enhance your presentation. It is expected that all sources be cited using standard APA (American Psychological Association) format.

GRADE SCALE:

89.5% and above	=	A
79.5% - 89.4%	=	B
69.5% - 79.4%	=	C
59.5% - 69.4%	=	D
69.4% and below	=	F

All grades are subject to review. You have the option to redo any assignment to improve your grade. I will evaluate your assignments on three criteria: 1) the demonstration of your knowledge and grasp of course material, 2) the professional quality of your work; 3) the date you turn your assignment in.

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PUBLIC INVOLVEMENT PROCESS ASSIGNMENT:

Each student will be asked to attend a public meeting during the course of the semester involving water management. Fortunately, as you will soon discover, there is no shortage of water management issues to discuss in this region. Currently the Calleguas Creek Watershed Management Plan is being developed in a public forum. This provides numerous opportunities to attend these public meetings and learn about watershed issues. The meeting calendar for February is as follows:

Feb. 27@ 10:00 am – 12 noon. Calleguas Regional Salinity Management Program City of Port Hueneme Council Chambers 250 N.Ventura Rd.

Flood Protection and Sediment Management Subcommittee of the Calleguas Creek Watershed Management Planning Committee

Land Use Subcommittee of the Calleguas Creek Watershed Management Planning Committee. Camarillo City Hall.

Habitat Natural Resources and Recreation Subcommittee of the Calleguas Creek Watershed Management Planning Committee

Calleguas Creek Watershed Management Planning Committee Meeting. CMWD Headquarters.

While this is not meant to be an exhaustive list of the public meetings involving water issues (think City, County, and State Government Departments), it does provide a starting point for you to consider. Each student will be provided with a template of questions to answer while attending these meetings. A word of warning: **PLEASE DO NOT PROCRASTINATE ON THIS ASSIGNMENT SINCE THESE MEETINGS MAY NOT BE SCHEDULED AT THE END OF THE SEMESTER**.

SEMESTER PROJECT:

The term paper is designed to allow each student to explore a local, regional, state, or national water management issue of his/her choice. Select one issue (i.e. watershed management effect on local fisheries or wildlife, water quality threats from land use practices, recreation and watershed management, etc.), and follow it throughout the semester in the media. After an extensive literature review, students will be required to present their topic using power point software to the class.

Students will prepare a guest editorial that summarizes their research and proposes a possible solution to the issue in question. Guest editorials are 750 words and should be written in a style that makes them suitable for public consumption. Each editorial will be considered for submission to local newspapers that may be involved with the issue.

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COMMUNITY BASED RESEARCH PROJECTS

I am a strong proponent of learning by doing. Each member of the class will be required to contribute to a water quality monitoring projects within the Calleguas Creek Watershed. Students will work in teams under the direction of the instructor and student teaching assistant to monitor water quality in a variety of settings throughout the semester. Students will gain an appreciation for the complexities of environmental monitoring. These projects will also serve to expose students to the range of environmental careers available at the local, regional, and national levels.

CALLEGUAS CREEK WATERSHED PROJECT: Revolon Slough

Students will be engaged in a water monitoring effort to evaluate the water quality in Revolon Slough related to agricultural runoff from local growers throughout the semester. This project will require students to actively manage a database of results, working closely with professional environmental scientists at the West Coast Environmental and Engineering Consulting firm.

CALLEGUAS CREEK WATERSHED PROJECT: 24 hour stream profile

The class will assist in gathering data over a 24 hour period during a storm related event. The purpose of this exercise will be to determine changing water quality stream profiles during storm events in the area.

VENTURA RIVER MONITORING: Stream Team Project

Working with the local stream team from Ventura County students will be engaged in a one day monitoring effort to assist local stream team members in gathering and recording data to monitor bacteria, dissolved oxygen, nutrients, pH, conductivity, and turbidity. March 5, 2005

TENTATIVE COURSE OUTLINE

WEEK	DATE	TOPIC READINGS
1	W 2/2	INTRODUCTIONS/ Logistics Water and Watershed Mgmt Overview. *Readings: Cech Chapters 1 and 2, Glennon Chapters Introduction and Chapter 1*
2	W 2/9	Brief History of Watershed Management. Watershed policy in the U.S., California, and Ventura County, California, and the U.S. Water allocation law.
3	W 2/16	Water Quality: Water pollution, basic parameters, inorganic and organic chemicals, water quality management
4	W 2/23	FIELD Calleguas Creek water monitoring project
5	W 3/2	Surface Water Hydrology
	S 3/5	FIELD: Ventura Stream Team Monitoring Project
6	W 3/9	Ground Water Hydrology
7	W 3/16	EXAM #1
8	W 3/23	Spring Break
9	W 3/30	No Class: Compensation for Saturday project on 3/5
10	W 4/7	Municipal and irrigation water development
11	W 4/14	Water and the Environment: Fish and Wildlife Protection in the 21st century, wetlands and wildlife
12	W 4/21	FIELD Freeman Diversion structure United Water Conservation District
13	W 4/28	Water Wars. Reasons for water conflicts
14	W 5/5	Ecosystems and watershed functions, integrated watershed management
15	W 5/12	EXAM #2
16	W 5/19	STUDENT PRESENTATIONS
17	W 5/26	STUDENT PRESENTATIONS

FINAL EXAM IS SCHEDULED FOR:

DATE: WEDNESDAY MAY 18th
TIME: 1:00 – 3:00 pm
PLACE: Regular Classroom