WR511

Water Resource Development

Credits: 3

Prerequisite: None

Course Developer: Tom Cech

Instructor: Glenn Patterson

Text: Cech, T.V., Principles of Water Resources: History, Development, Management and Policy, 3rd edition, John Wiley & Sons, 2009

Course Description:
This course is for graduate students interested in water resources. We will explore the social, economic, environmental, historical, and technological forces that have led to our current methods of water distribution, management, and policy in Colorado and around the world. A strong historical context will be used throughout the course. Colorado and the West will provide many examples for discussion; however, other areas of the U.S. and the world will be examined when appropriate. To view the course schedule, look for "Course Schedule" on the "Syllabus" page.

Course Objectives:

• Students will understand basic principles of water resources management, including surface and groundwater hydrology, water quality, and water law.

• Students will be competent in discussion of issues regarding water use, management, and development.

• Students will be competent in analyzing regions of water resources conflict, and discussing underlying issues related to conflict.

• Students will be able to write and communicate results of research to both scientific and public audiences across cultures.

Methods of Evaluation:
This course will involve online discussion, journal entries, 2 exams and a research paper. Threaded Questions will be used to guide student discussion and to require critical thinking on various water resources topics. A research paper will be required to apply course concepts to a relationship with a real-world water resources problem. A non-technical summary (brochure, web page, audio or video clip, etc.) of the research topic is also required.
Distribution of grading will be as follows:

Assignments	**Points Possible**	**Percent of Final Grade**
Participation in Online Discussion and Journal Entries (There will be regular Threaded Questions that will require significant student involvement and journal entries that will require significant thought. A grading rubric will be used to score participation on each Threaded Question.)	**150**	**30**
Midterm Exam	**100**	**20**
Final Exam	**100**	**20**
Research Paper Proposal (1-page proposal for Final Research Paper) 2	**25**	**5**
Non-technical Presentation of Research	**25**	**5**
Research Paper (6-10 page paper on selected water resources topic)	**100**	**20**
TOTAL POINTS POSSIBLE	**500**	**100**

Grading Scale:
"A" = 90 – 100%
"B" = 80 – 89%
"C" = 70 – 79%
"D" = 60 – 69%
"F" = Below 60%

Academic Integrity
Colorado State University's Academic Integrity policy is explained in the General Catalog (page 7). The expectations for this course are outlined below:
Exams – all exams in this course are open book, meaning you may refer to the textbook, your notes, or other resources while taking the exam. However, you should not share information about the exams with each other. That is, if you take the exam before your classmates, do not share any questions or answers with them. If you take the exam after your classmates, do not ask them for any information about the exam.
Research Paper – You are expected to work independently on this assignment, submit your own work, and cite your sources. Your research paper must be written for this course and this course alone; it is not acceptable to submit the same or basically the same research paper for more than one course. Also, take care to avoid plagiarism. If you use more than 10 words in a row written by someone else, those words should be enclosed in quotes and attributed to the proper source. If you have questions about the distinction between paraphrasing, appropriate quotations and plagiarism, ask. Ignorance of academic standards is not an excuse for plagiarism, especially in a graduate level course. You are, however, welcome and even encouraged to share sources of information, bounce ideas off each other, or ask for opinions. In fact, you will share a non-technical summary of your research project with your classmates, and are encouraged to consider their feedback before submitting your final paper. If you aren't sure whether a question or request for help crosses the line into cheating, ask.

Discussions – For a productive discussion with your classmates, everyone must make their own *original* contribution. Formal citation of sources is not necessary, but you should mention any outside sources you used (e.g. you might write, “As mentioned in the textbook, …” or “According to a Denver Post article available at www.xyz.net,...”).