GEO 5334 – APPLIED WATER RESOURCES MANAGEMENT
TEXAS STATE UNIVERSITY, FALL 2003

Instructor: Mark A. Fonstad
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Office Hours: 4:30 PM – 6:30 PM Wednesdays or by appointment
Class Time: 6:30 PM – 9:15 PM Wednesdays
Classroom: Evans Liberal Arts (ELA) Building, Room 312
Course Line Number: 255809

COURSE DESCRIPTION

Application of techniques employed in water management including flood hazards, water supply assessment, and water management strategies. Students will apply principles to specific watersheds and water problems including the analysis of various physical, land use, and legal parameters.

Water resources are among the most important and most disputed issues that affect the public today. This critical role is the result of the fact that water is absolutely necessary for almost all economic activities, is the habitat for legally protected species, and is one of the most valuable and desirable aesthetic resources. In this course we will study water resources from both the natural science and human management perspectives. On account of the importance of water resources and the fact that a working knowledge of water resources is required for many environmental professional positions, this will be a rigorous course that will provide you with professional experience in water resources. You will access professional water resources data, analyze these data, and then generate professional-type reports on these data.

LEARNING OUTCOMES

Knowledge outcomes.

1. Students will explain how water is managed in the United States from both the physical hydrology perspective and the societal management perspectives.
2. Students compile and integrate information about watershed processes, water legal systems, water use, and public policies for water management.

Skills outcomes.

1. Students will apply skills learned in lecture to understand and predict the behavior of different parts of the hydrological cycle.
2. Students will analyze patterns and processes of cultural institutions that affect water supply, distribution, and use.

COURSE MATERIALS

Readings for this class will be from two required texts, both of which are available at the SWT Bookstore:

Cech, Thomas V., 2003, *Principles of Water Resources: History, Development, Management, and Policy*
Getches, David H., 1997, Water Law in a Nutshell (3rd Edition)

EVALUATION AND GRADING POLICIES

I will evaluate your performance and assign grades based on two major areas of work in this course. First, I will assess your knowledge of the lecture material with two examinations (a midterm and a noncumulative final). Second, students will complete three written class assignments that are parts of student-centered analysis of a watershed of their choice. All students are expected to prepare assignments by the scheduled time.

All students are expected to take exams at the scheduled time. Make up exams will be given to students who have excused absences; however, make up exams will be different than those given at the scheduled time, and all make up exams will be given on the same day as the Final Exam. Exams should be returned to students within one week of the exam date.

There is a maximum of 500 points for all of the lecture exams and lab exercises. The basis for grading will be as follows: 100 points for the midterm examination, 100 points for the final examination, and 100 points for each of three written class assignments. The final grades will be determined based on the following rules:

A	≥90% (≥450 points)
B	≥80% and <90% (400 – 449 points)
C	≥70% and <80% (350 – 399 points)
D	≥60% and <70% (300 – 349 points)
F	<60% (< 300 points)

CLASSROOM AND ATTENDANCE POLICIES

Good attendance in lecture is key to your success in this course. First, the exams will be based on lecture material. Second, the project schedule is rigorous, and you will quickly fall behind if you repeatedly miss lectures where projects skills are taught. If you have an unexcused absence on an exam or assignment due day, you will receive a zero on that exam or assignment.

If you must miss class because of an illness, a personal emergency, or some other extenuating circumstance, please contact me as soon as possible so I can make alternative arrangements for you (this is key). Of course, good attendance means more than just showing up for class. Please read and adhere to the policy on classroom etiquette that appears below. These codes of conduct will allow everyone to participate equally as learners. Thank you for your cooperation.

In the Department of Geography, instructors strive to create an atmosphere of mutual trust and respect in which learning, debate, and intellectual growth can thrive. Creating this atmosphere, however, requires that instructors and students work to achieve a classroom in which learning is not disrupted. At the most basic level, this means that everyone should attend class, be prepared with readings and assignments completed, and that students pay attention. This means no conversations with friends, reading the newspaper, coming late, or leaving early. Such behavior is disruptive to the instructor and to your fellow classmates.

STUDENTS WITH DISABILITIES

Students with special needs (as documented by the Office of Disability Services) that will require compensatory arrangements must contact the instructor no later than the fourth class period to discuss specific arrangements and logistics. Students who have not already done so will be required to contact the Office of Student Disability Services located at LBJ5-5.1 (245.3451). ***SWT is dedicated to providing theses students with necessary academic adjustments and auxiliary aids to facilitate their participation and performance in the classroom.***

SWT ACADEMIC HONESTY POLICY

Learning and teaching take place best in an atmosphere of intellectual fair-minded openness. All members of the academic community are responsible for supporting freedom and openness through rigorous personal standards of honesty and fairness. Plagiarism and other forms of academic dishonesty undermine the very purpose of the university and diminish the value of an education. Specific sanctions for academic dishonesty are outlined in ***SWTexan.***

Schedule by Week	Topics	Readings
Aug 27	Intro & Major Sections of Water Management	
Sep 3	Physical Hydrology	**C: 1, 2**
Sep 10	Physical Hydrology, cont.	**C: 2, 3**
Sep 17	Physical Hydrology, cont.	**C: 3, 4**
Sep 24	Physical Hydrology, cont. ***Assignment 1 Due***	**C: 4, 5**
Oct 1	Water Quality	**C: 10**
Oct 8	Dams, Canals, Wells, and other Structures	**C: 6**
Oct 15	**Midterm Exam (Wed, Oct 15)** & Project Work	
Oct 22	Water Law	**C: 7, G: 1 & 2**
Oct 29	Water Law, cont. ***Assignment 2 Due***	**G: 3, 4, 6**
Nov 5	Federal Water Policy	**C: 8, G: 5, 7, 8**
Nov 12	Federal Water Policy	**C: 9, 10, G: 9, 10**
Nov 19	Water Supply and Planning	**Handouts**
Nov 26	*No Class Wednesday: Thanksgiving*	
Dec 3	Water Supply and Planning ***Assignment 3 Due***	
Dec 10	**Final Exam, Wednesday, Dec 10, 6:30 – 9 pm**	

ABOUT THE INSTRUCTOR

The instructor is Mark A. Fonstad, assistant professor of geography. He is a specialist in spatial and hydrological analysis of river systems, applied remote sensing, and theoretical fluvial geomorphology. Mark received his Ph.D. in Geography from Arizona State University (2000) where he researched mountain fluvial systems and the prediction of channel change in New Mexico. For the past four years, Mark has directed the field research on channel morphology, watershed hydrology, and the remote sensing of rivers in Yellowstone National Park.