GEO 5334 – APPLIED WATER RESOURCES MANAGEMENT
TEXAS STATE UNIVERSITY*, FALL 2006

Instructor: Dr. Mark A. Fonstad
Office: 383 Evans Liberal Arts (ELA) Building
Telephone: (512) 245-7809
Email: mfonstad@txstate.edu
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: 301924

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 Texas State Bookstore:

Dingman, S. Lawrence, 2002, *Physical Hydrology* (2nd Edition)
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 six take-home assignments. Second, students will complete a larger student-centered analysis of a watershed system. All students are expected to prepare assignments by the scheduled time.

All students are expected to prepare assignments by the scheduled time. Late assignments (presentation or project) will have their grade lowered 10 percent of the maximum points for that assignment per class day late. I will endeavor to grade projects within a week of their submission. There are NO exams in this course, and thus NO final exam date. However, the final project will be due to me at the scheduled final exam time for this class, Dec. 6, 6:30pm – 9:00pm.

There is a maximum of 500 points for all of the lecture exams and lab exercises. The basis for grading will be as follows: 50 points for the each of the smaller, take-home assignments, and 150 points for the larger watershed analysis project, and 50 points for in-class participation. 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 the class is key to your success in this course. First, the class lectures will require knowledge from previous weeks. Second, the individual and group projects will require a deep familiarity with class material.

The department of geography typically will not allow more than 2 missed days per semester for graduate level classes, and that standard will hold for this class because it only meets once per week. This maximum can only be exceeded under dire circumstances that I have approved. 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 LBJ 5-5.1 (512.245.3451). Texas State is dedicated to providing these students with necessary academic adjustments and auxiliary aids to facilitate their participation and performance in the classroom.

TEXAS STATE 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 ***Texas State Student Handbook.***

Schedule by Week	Topics	Readings
Aug 23	Intro & Major Segments of Water Management	**D; 1**
Aug 30	Basic Hydrological Concepts	**D: 2**
Sep 6	Climate and the Hydrological Cycle	**D: 3**
Sep 13	Precipitation, **Ex. 1 Due**	**D: 4**
Sep 20	Snow and Snowmelt	**D: 5**
Sep 27	Water in Soils, **Ex. 2 Due**	**D: 6**
Oct 4	Evapotranspiration	**D: 7**
Oct 11	Groundwater, **Ex. 3 Due**	**D: 8**
Oct 18	Streams and River Behavior, **Ex. 4 Due**	**D: 9**
Oct 25	Hydrology and Water Resource Management	**D: 10**
Nov 1	Hydrology and Water Resource Management, **Ex. 5 Due**	**D: 10**
Nov 8	Water Law and Policy	**G: 1 & 2**
Nov 15	Water Law and Policy, **Ex. 6 Due**	**G: 3 & 4**
Nov 22	*No Class Wednesday: Thanksgiving*	
Nov 29	Water Law and Policy	**G: 6, 7, & 9**
Dec 6	**Final "Exam" (Watershed Analysis Due), Wednesday, Dec 6, 6:30 – 9 pm**	

* A member of the Texas State University System