

# **GEOGRAPHY 3434 – WATER RESOURCES**

## **TEXAS STATE UNIVERSITY\*, FALL 2005**

**Instructor:** Mark A. Fonstad

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**Office Hours:** 9:00 AM – 11:00 AM Tuesdays and Thursdays or by appointment

**Class Time:** 11:00 AM – 12:15 PM Tuesdays and Thursdays

**Classroom:** Evans Liberal Arts (ELA) Building, Room 311

**Course Line Number:** 285151

**Lab Instructor:** Amber McIlwain, am1223@txstate.edu, 245-7931, ELA 113, Office

Hours: Tuesdays 3:00 – 5:00 PM

(there is a separate syllabus for the required lab section)

### **COURSE DESCRIPTION**

This course is an introduction to use, conservation, and management of water resources. Through the use of professional sources, the students will develop a working knowledge of the hydrologic, water quality, legal, economic, political and social factors that determine water availability, hazards, use, demand, and allocation.

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 students with professional experience in water resources.

### **LEARNING OUTCOMES**

#### ***Knowledge outcomes.***

1. Students will compile basic concepts affecting groundwater availability and water quality.
2. Students will discuss the major federal, state, and local laws affecting water resources.

#### ***Skills outcomes.***

1. Students will analyze and utilize basic hydroclimatic relationships from published discharge and precipitation data.
2. Students will demonstrate the use of professional water resource data to critique water management policies.

### **COURSE PREREQUISITES**

GEO 2410, Introduction to Physical Geography

## **REQUIRED COURSE MATERIALS (Available at the University Bookstore)**

Davie, Timothy, 2005, *Fundamentals of Hydrology*, ISBN: 0415220297

Getches, David H., 1997, *Water Law in a Nutshell (3<sup>rd</sup> Edition)*, ISBN: 0314211578

## **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 three examinations (two midterms and a final). Second, your performance in the laboratory section is also used to evaluate your final grade.

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 make up exams for students with unexcused absences will be given on the same day as the Final Exam. Exams should be returned to students within one week of the exam date. No extra credit will be given in the course.

There is a maximum of 400 points for all of the lecture exams and lab exercises. The basis for grading will be as follows: 100 points for each of the two midterm examinations, 100 points for a final examination, and 100 points for the laboratory section grade. The final grades will be determined based on the following rules:

A	≥90% (≥360 points)
B	≥80% and <90% (320 – 359 points)
C	≥70% and <80% (280 – 319 points)
D	≥60% and <70% (240 – 279 points)
F	<60% (< 240 points)

## **CLASSROOM AND ATTENDANCE POLICIES**

Good attendance in lecture and lab is key to your success in this course. First, the exams will be based on lecture material. Second, the lab schedule is rigorous, and you will quickly fall behind if you repeatedly miss labs. If you have an unexcused absence on an assignment due day, or if you fail to take one of the exams, you will receive a zero on that exam or assignment.

If you must miss class or an exam because of an illness, a personal emergency, or some other extenuating circumstance, please contact me as soon as possible (preferably far beforehand) 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.*

## 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 the *Texas State Student Handbook*.

### Schedule by Week

### Topics

Aug 23, 25	<i>No Class Tuesday</i> Introduction to Water Resources
Aug30,Sep 1	Hydrology
Sep 6, 8	Hydrology, Cont.
Sep 13, 15	Hydrology, Cont.
Sep 20, 22	Hydrology, Cont. <b>Exam 1 (Thursday, September 22)</b>
Sep 27, 29	Hydrology and Water Quality
Oct 4, 6	Hydrology and Water Quality Introduction to Water Law
Oct 11, 13	Water Law, Cont
Oct 18, 20	Water Law, Cont
Oct 25, 27	Water Law, Cont <b>Exam 2 (Thursday, October 27)</b>
Nov 1, 3	Federal Water Policy
Nov 8, 10	Federal Water Policy, Cont.

Nov 15, 17      Water Supply and Planning

Nov 22, 24      Floods, *No Class Thursday*

Nov29,Dec 1    Dams, Hydro-electric, etc.

Dec 6, 8        *No Class Tuesday*  
**Final Exam, Dec 8, 11:30 am – 2:00 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, theoretical geomorphology, and applied remote sensing. 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 five years, Mark has directed the field research on watershed hydrology, channel morphology, and the remote sensing of rivers in Yellowstone National Park.



\* A member of the Texas State University System