Envs 305 — Environmental Hydrology Syllabus

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Office Hours (SCI Rm 262)
10:00–11:00 M,W,F

Class Meets:
Lecture Mon, Wed, Friday 9:00 to 9:50, Sci 135
Lab Monday 1:00–2:50 Sci 136

Required Text:

Catalog Description:
Hydrology Essentials of fluid mechanics. Flowing rivers, streams, and diverse surfaces; motions in lakes and reservoirs and ground water movement of various contaminants. Properties of rocks and soils as related to ground water diffusion and problems of concern to water resources.

Practical Description:
This course will present an overview of nearly all aspects of the field of hydrology, including the hydrologic cycle, surface water (rivers and glaciers) and groundwater. The bulk of the course will concern groundwater and will focus on practical methods for ascertaining aquifer characteristics, the understanding of which is paramount to evaluating groundwater supplies and groundwater contamination problems and remediation.

Expectations:
Attend all sessions. More than four unexcused absences may result in a drop of one letter grade. Five or more absences may result in being dropped from the course. Actively participate in and complete all lab assignments and exercises and all homework assignments. Successfully pass two mid-term exams and a comprehensive final. Complete an individual research project on some aspect of hydrology. The project is to consist of a 10 page (minimum), well referenced paper and an approx. 15 minute oral presentation.

Evaluation:
2 Mid-term Exams 200 Points
Comprehensive Final Exam 100
Paper and Oral Presentation 100

Total 400 Points
Evaluation of paper: 100 points (Do not use a report cover)

Paper in on time, Proper format (10 page minimum, typed, etc) (20 points)
Properly referenced and/or Adequate Field Work (20 points)
Ability to communicate clearly (20 points)
Looks like a “Semester” Project or not an overnight (20 points)
Presentation (20 points)

Projects are expected to involve active research, not simply an Internet or library study. You will have a hard time making a project look like a semester project if it is only an Internet or library study (although I have seen some that do look like a semester project), and the most you can get in this category for this type of project in the "semester project" category is 10, not the full 20 points

Topical Syllabus:

Week

1  The Hydrologic cycle and properties of water  (Chapters 1 & 2)
2  Evapotranspiration and condensation  (Chapters 3 & 6)
3  Precipitation  (Chapters 4)
4  Runoff and Streams  (Chapter 8)
5  Infiltration  (Chapter 5)
6  Darcy’s law (of groundwater flow) and Soil seive tests  EXAM I
7  Groundwater basics  (Chapter 7)
8  Watertable Contour Maps
9  Well Design
10  Determining drawdown from estimated aquifer characteristics
11  Pump tests
12  Groundwater velocity and practice problems  EXAM II
13  Water Constituents & Contaminants
14  Groundwater Modeling
15  Student Presentations
Presentation Rubric

Exemplary
Speaks extemporaneously, perhaps relying on, but not reading notes or slides
Knows the material
Develops good rapport with the audience.
Explanations are clear and at appropriate level for the audience
Talks clearly and distinctly
Material is well organized
Slides are simple, clear, easy to read, and enough time is given to read or view each
Presentation of appropriate length

Good
Speaks extemporaneously, perhaps relying on, but not reading notes or slides
Knows the material reasonably well
Develops a fair rapport with the audience.
Explanations are clear, but not completely appropriate for the level of the audience
Talks clearly and distinctly
Material is well organized in a logical manner
Slides are simple, clear, easy to read, and enough time is given to read or view each
Presentation of appropriate length

Satisfactory
Relies too heavily on notes or material in the slides, speaks both
extemporaneously, and reads material
Does not know the material as well as should be
Speaks at the audience, not to them
Explanations are somewhat hard to follow, or not at appropriate level for the audience
Talks clearly and distinctly
Material organization is O.K., but could be better
Slides are readable, but too complex
Presentation not completely within appropriate time constraints

Unsatisfactory
Reads notes or slides to the audience
Does not know the material
Does not appear to be speaking with the audience
Explanations are unclear and cannot be followed
Cannot be heard plainly
Material shows little thought to organization
Slides are too complex and difficult to read. Not enough time is given to read or view each
Does not adhere to appropriate time constraints for presentation
Disabilities — Students with Disabilities: The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact: Office of Student Disability Resources and Services, Texas A&M University-Commerce, Gee Library, Room 132 Phone (903) 886-5150 or (903) 886-5835, Fax (903) 468-8148, StudentDisabilityServices@tamu-commerce.edu

Behavior — All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. Students who are disruptive to class activities will be dropped from the class and may face further disciplinary action.

Plagiarism — Plagiarism is a criminal activity. You must cite all sources of information. Unreferenced copying of material, whether parts of sentences, whole sentences, paragraphs, or entire articles can result in a score of zero for your assignment and may result in further disciplinary action.

Early Intervention for First Year Students — Early intervention for freshmen is designed to communicate the University’s interest in their success and a willingness to participate fully to help students accomplish their academic objectives. The university through faculty advisors and mentors will assist students who may be experiencing difficulty to focus on improvement and course completion. This process will allow students to be knowledgeable about their academic progress early in the semester and will provide faculty and staff with useful data for assisting students and enhancing retention. Grade reports will be mailed by the end of the sixth week of the semester.