

Envs 305 — Environmental Hydrology Syllabus

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Office Hours (AG 111)
10:00–11:00 M,W,F

Class Meets: Lecture Mon, Wed, Friday 9:00 to 9:50, AGIT 233
 Lab Monday 1:00–2:50 Sci 123 (???)

Required Text: Manning, J. C. (1997) Applied Principles of Hydrology, 3rd ed. Upper Saddle River, NJ: Prentice Hall ISBN: 0-13-565532-3

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	60
	Lab	40
	Total	400 Points

Evaluation of paper: 60 points (Do not use a report cover)

Paper in on time, Proper format (10 page minimum, typed, etc) (12 points)
Properly referenced and/or Adequate Field Work (12 points)
Ability to communicate clearly (12 points)
Looks like a "Semester" Project or not an overnight (12 points)
Presentation (12 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 6, not the full 12 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 reasonable 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

Caveats Box

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@tamuc.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.