



**ENVS 305-01E Environmental Hydrology**

COURSE SYLLABUS: Spring, 2026

<b>Instructor: Dr. Emmanuella Anang</b>	<b>Office: STC 241</b>
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Class Meets	Tue, Thurs 9:30am-10:45am
Class Location	Campus: Main Building: <u>Business Administration, McDowell (BA)</u> Room: 346
Required Text	Manning, J. C. (1997) Applied Principles of Hydrology, 3rd ed. Upper Saddle River, NJ: Prentice Hall ISBN: 0-13 565532-3  Andy D. Ward, Stanley W. Trimble, Suzette R. Burckhard, John G. Lyon (2016) Environmental Hydrology, 3rd ed. 9781498723756
Catalog Description	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.
Instructional Method	Face-to-face Conducting lectures, using visual presentations, solving math problems and facilitating discussions.

Software	MS Word, ArcGIS
Expectations	<p>Attend <u>all</u> sessions.  More than three 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 assignments and quizzes.  Successfully pass two mid-term exams and a comprehensive final.  <b>Complete an individual research project on an aspect of hydrology.</b>  <b>The project is to consist of a 10 page (minimum), well referenced paper and an approx. 15-minute oral presentation.</b></p>
Evaluation	<p>Weekly assignments – 10%  Due by Sunday each week.</p> <p>Attendance – 10%  Attendance will be taken by roll sheet – your signature signifies your attendance</p> <p>2 Mid-term quizzes – 20% (10% each)</p> <p>2 Mid-term exams – 20% (10% each)</p> <p>Individual project/paper and presentation – 10%</p> <p>Final Comprehensive Exam – 30%</p>
Evaluation of project/paper	<p>Paper in on time, Proper format (10 page minimum, typed, etc)  Properly referenced and/or Adequate Field Work  Ability to communicate clearly  Looks like a “Semester” Project not an overnight project  Presentation</p> <p>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 a quarter the point.</p>

## COURSE OUTLINE/CALENDAR

### Topical Syllabus

Weeks – Subject to change dependent on class progress

Date	Week	Chapter	Topic	Assessment
01/13	1	1&2	The Hydrologic Cycle, Structure and Properties of Water, Water Resources and Society	Quiz 1 Assignment 1
01/20	2	3&6	Evapo-transpiration and Condensation	Quiz 2 Assignment 2
01/27	3	4	Precipitation	Quiz 3 Assignment 3
02/03	4	5	Infiltration and Soil Water	Quiz 4 Assignment 4
02/10	5	8	Runoff, Streamflow and Drainage	Quiz 5 Assignment 5
02/17	6		Darcy's law and soil sieve tests	Quiz 6 Assignment 6
02/24	7	Exam 1	Exam 1	Exam 1
03/03	8	7	Groundwater	Quiz 7 Assignment 7
03/10	9 – Spring Break	Spring Break	Spring Break	Spring Break
03/17	10		Well Design	Quiz 8 Assignment 8
03/24	11		Aquifers, Hydrogeology, Determining Drawdown	Quiz 9 Assignment 9
03/31	12		Pump tests	Quiz 10 Assignment 10
04/07	13	Exam 2	Exam 2	Exam 2
04/14	14		Groundwater velocity and maps	Quiz 11 Assignment 11
04/21	15	10	Human Impacts on Water Resources, Prevention and Treatment Strategies	Quiz 12 Assignment 12
04/28	16	Student Presentations	Student Presentations	Student Presentations
05/05	17	Final Exam	Finals Exam	Final Exam

### 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

### **Course Requirements and Evaluation Methods:**

1. Attendance and punctuality are required and non-negotiable.
2. Homework, quizzes, exams, and project (presentation) are required. Late submissions are not acceptable. Missed homework, quizzes, exam and project are not acceptable. **This course moves very fast and there is not enough time to catch up.**
3. Activities that distract surrounding people are inconsiderate and disrespectful. Activities such as texting, emailing, browsing or using cellular phones are prohibited during Lecture.
4. We encourage student contribution to the overall progress of the group. We encourage interactive participation. It is necessary that students have a professional and ethical behavior through the entire course. Lectures are a group activity, and so it requires social consideration and respect amongst members of the group, teachers and professors.

5. Students are expected to be of their best behavior in class. No walking out of class, putting legs on table, OR chit-chatting while class is ongoing.
6. Penalty enforcement (I reserve the right to adjust your grade for violation of the minimum expectations).
7. Punctuality is important for this class. **Lateness after 5 min will not be tolerated.**
8. Make-up exams will only be given if arrangements are made with the instructor before missing the scheduled exam. A documented excuse will be required. **Otherwise, missing academic work will be counted as zeroes (0) in the overall grade computation.**
9. Research Written Report and Oral Presentation: The guidelines for the Written Report and Oral Presentation are on “D2L”

**NOTE:** Please email your presentation to the Professor, before your Presentation Day.

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@tamu-commerce.edu](mailto: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.