

GEO3280/6938: Principles of Geographic Hydrology (Fall 2025)

I. General Information

Class Meetings

- Tuesday 10:40-11:30, Thursday 10:40-12:35
- Classroom: TBA

Instructor

- Dr. Johanna Engström
- Office: Geography Department, Turlington Hall 3206
- Phone: 352 392 0494
- Office hours: Tuesdays 1:30-3:30 pm, Thursdays 2-3 pm, and by appointment
- Email: joem@ufl.edu

Course Description

Examines the effects of physical geography on the land-based portion of the hydrologic cycle at the regional and basin scales. Includes discussion of precipitation, infiltration, and runoff.

Preferred prerequisites

Students are reminded of the description provided in the course catalog, which states:

"Credits: 4; Prereq: GEO 2200 or instructor permission; Coreq: GEO 3162C."

a) The four course credits reflect the slightly higher expectations in terms of the amount of assignment work than a usual 3 credit course.

b) Introductory Physical Geography (GEO2200) is the preferred prerequisite, however I am prepared to work individually with students with an interest in hydrology to fill gaps in knowledge.

c) The assignments involve the statistical manipulation of actual data sets from the real world. Courses in introductory statistics (such as GEO3162C, Introductory Quantitative Analysis) would be helpful

d) Some GIS knowledge is helpful, as many of the exercises will be completed in ArcGIS.

Course Objectives

This introductory course will not attempt to review all the major topics in hydrology. Instead, it is structured to meet the following objectives:

1. To review the major components of the hydrologic cycle,
2. To study the spatial and temporal variations of the hydrologic phenomena,
3. To study hydrologic systems on the scale of drainage basins.
4. Do hydrologic calculations using map algebra in a GIS;
5. Analyze a digital elevation model of land surface terrain to derive watersheds, stream networks, and flood zones.

Recommended Readings

All readings and materials will be posted in Canvas.

Instructional materials for this course consist of only those materials specifically reviewed, selected, and assigned by the instructor. The instructor is only responsible for these instructional materials.

Weekly Course Schedule

Week	Topics, Homework, and Assignments
Week 1	<ul style="list-style-type: none">• Topic: Course Introduction
Week 2	<ul style="list-style-type: none">• Topic: The Hydrologic Cycle and Water Balance• Assignment: Exercise 1
Week 3	<ul style="list-style-type: none">• Topic: Mass curves, interception and infiltration.• Assignment: N/A
Week 4	<ul style="list-style-type: none">• Topic: Hydrographs• Assignment: Exercise 2
Week 5	<i>Catch-up, Review and Exam 1 (Sept 18th)</i>
Week 6	<ul style="list-style-type: none">• Topic: Water Data sources, Project introduction• Assignment: N/A
Week 7	<ul style="list-style-type: none">• Topic: Spatial Analysis in Hydrology• Assignment: Exercise 3
Week 8	<ul style="list-style-type: none">• Topic: Digital Elevation Model Watershed and Stream Network Delineation 1• Assignment: Project outline due
Week 9	<ul style="list-style-type: none">• Topic: Digital Elevation Model Watershed and Stream Network Delineation 2• Assignment: Exercise 4
Week 10	<ul style="list-style-type: none">• Topic: National Water Model• Assignment: Exercise 5
Week 11	<ul style="list-style-type: none">• Topic: Flood mapping• Assignment: Exercise 6
Week 12	<i>Catch-up, Review and Exam 2 (Nov 6th)</i>
Week 13	<ul style="list-style-type: none">• Tuesday: HOLIDAY (VETERANS DAY)• Thursday: Project work (instructor available)
Week 14	<ul style="list-style-type: none">• Tuesday: Project work (instructor available)• Thursday: Project presentations 1
Week 15	THANKSGIVING HOLIDAY
Week 16	<ul style="list-style-type: none">• Tuesday: Project presentations 2 (last day of class)

II. Graded Work

Description of Graded Work

- Exercises: 50%
- Project: 20%
- Exams: 30%
 - Exam 1: Sept 18th
 - Exam 2: Nov 6th

In-class exercises

Six exercises are to be completed during the semester. Students are given time to work on the exercises during the class meeting time. Students are encouraged to collaborate with their peers when completing the exercises, but every student needs to submit their individual answers. Exercise due dates will be communicated when the exercise is distributed.

Project

The students will complete a project during the semester. The project will be presented as a report as well as orally at the end of the semester.

Exams

The two exams are completed during the normal class meeting time and constitute 30% of the final grade. Students cannot be more than 10 min late to the exam and aren't allowed to submit the exam and leave the classroom within the first 10 min of the exam.

Late submissions

Course work submitted late without valid reason

(<https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>) being presented to the instructor will receive a grade penalty of -10% per day.

Grading Scale

A	94 – 100%		C	74 – 76%
A-	90 – 93%		C-	70 – 73%
B+	87 – 89%		D+	67 – 69%
B	84 – 86%		D	64 – 66%
B-	80 – 83%		D-	60 – 63%
C+	77 – 79%		E	<60

III. Required Policies

This course complies with all UF academic policies. For updated information on those policies and for resources for students, please see [this link](#). Selected UF policies, as well as course specific policies are listed below.

Attendance Policy

Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found at:
<https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>

Students Requiring Accommodation

Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the disability Resource Center by visiting <https://disability.ufl.edu/students/get-started/>. It is important for students to share their accommodation letter with their instructor and discuss their access needs, as early as possible in the semester.

UF Evaluations Process

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at <https://gatorevals.aa.ufl.edu/students/>. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via <https://ufl.bluera.com/ufl/>. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/>.

University Honesty Policy

UF students are bound by The Honor Pledge which states, “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: “On my honor, I have neither given nor received unauthorized aid in doing this assignment.” The Honor Code (<https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor.

Academic Resources

E-learning technical support: Contact the UF Computing Help Desk at 352-392-4357 or via e-mail at helpdesk@ufl.edu.

Teaching Center: General study skills and tutoring. Broward Hall, 352-392-2010 or to make an appointment 352- 392-6420.

Health and Wellness

U Matter, We Care: If you or someone you know is in distress, please contact umatter@ufl.edu, 352-392-1575, or visit U Matter, We Care website to refer or report a concern and a team member will reach out to the student in distress.

Counseling and Wellness Center: Visit the Counseling and Wellness Center website or call 352-392-1575 for information on crisis services as well as non-crisis services.

Student Health Care Center: Call 352-392-1161 for 24/7 information to help you find the care you need, or visit the Student Health Care Center website.

University Police Department: Visit UF Police Department website or call 352-392-1111 (or 9-1-1 for emergencies).

GatorWell Health Promotion Services: For prevention services focused on optimal wellbeing, including Wellness Coaching for Academic Success, visit the GatorWell website or call 352-273-4450.