

**Surface and Ground Water Interactions**  
**GLY5247; Class 28739, section 5566**  
**GLY4390; Class 30864, section 9854**  
**Spring 2024**

**Instructor:** Dr. Jon Martin  
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**Office Hours:** 2:30 – 3:30 pm Tues./Thurs. or by appointment (call or email first)  
**Meeting Place:** 218 Williamson Hall  
**Meeting Time:** 1:55 – 4:40 pm Wednesday. Start time fixed; end time variable

**Objectives:**

In this course we will read, discuss, and critically evaluate papers that deal with environments where surface water and groundwater exchange is common. Papers will consist of classic or review papers, as well as papers that have been published within the last few years. Which environments we will focus on depends on interests of the students taking the class. Settings in which I have an interest, and some overlap between them exists, include: coastal zone, hyporheic zone of stream beds, carbonate karst aquifers, and glacial systems.

The course has several objectives that include:

- (1) becoming familiar with our current understanding of hydrologic and hydrogeologic environments, their chemical and hydrologic processes, and techniques used to observe them,
- (2) learning how to read and critically evaluate scientific literature,
- (3) gaining skills in how to participate in and contribute to group discussions,
- (4) honing your ability to compile information from the primary literature and synthesize it into a written document that clearly describes a scientific hypothesis and means to test the hypothesis.

**Readings:**

The bibliography linked at the class website includes a list of potential papers we could read during the semester, although we will certainly not get through all of them. Further, this bibliography is not an exhaustive listing of the pertinent literature. Although the bibliography is broken into sections, there will be considerable flexibility as to which papers we will read and their sequence. We also may read papers not on the list, particularly if new ones appear during the semester. I welcome your suggestions for papers and especially encourage your suggestions for papers that deal with your thesis topic if it pertains to surface water and groundwater interactions. Typically, papers will be assigned at least one week in advance of the class discussion. Papers and selected information will be posted on the class e-learning site.

**Expectations and evaluations:**

Since this is not a standard lecture/testing class, the expectations for your work and behavior in class may differ from what you may anticipate based on your previous classes. In particular, I expect the following from you:

- (1) Come to all classes. Absences must be excused by a note from a doctor or a mortician. Unexcused absences will significantly impact your grade (see below).
- (2) Read all of the assigned papers.

(3) Participate in the discussions. At the end of class I will assign you a value of 1, 2, or 3 where 1 = never said a word, 2 = briefly spoke one or two times, 3 = actively participated and contributed to the discussion. These points will contribute to your final grade according to the grading rubric below.

(4) Complete Readiness Assurance Tests (RAT) at the start of each class. These tests will consist of 10 (more or less) multiple choice questions that are related to that week's readings. You will initially take the RAT as individuals (iRAT) and then immediately take the same RAT as a team (tRAT). I will construct the teams based on information you provide in the first class. The questions on the RATs will lead to discussion for the remainder of the class. I will co-lead the discussion with selected students.

(5) Write (and possibly present) to the class a short proposal (5 pages maximum, 1 inch margins, 12 point font, including figures, but not references) on a topic of your choice. I will evaluate the proposal according to the following rubric.

### Rubric for proposal

Section	Topics that should be covered	Value (%)
Introduction	Hypothesis introduced early	20
	Background information provided to explain unknowns	
Background	Detailed and thorough review of literature. Only information included that supports hypothesis and why important to test	20
Work plan	Description of how hypothesis will be tested – what will be done, what will be found, how results provide a test	20
Conclusion	Summary of timeline, next steps	10
Writing	Grammar, punctuation, spelling	15
	Clarity of thought	15

At some point during the semester, I will provide a couple lectures about writing, one of which will focus on sentence and paragraph structure and the other on parts of a proposal (or paper). I will post PowerPoint slide decks of those lectures. Various parts of the proposal will be due throughout the semester according to the following schedule.

January 24: short (2-3 sentences) description of proposal topic

February 28: Annotated bibliography for proposal

Week of March 13 Spring break, no classes

March 27: Extended abstract of proposal (1 page)

April 17: Proposal due, possible proposal presentations.

### Grading:

Item	Total Value (%)
Attendance	Variable*
Class participation	50
iRAT (TBL stuff)	3
tRAT (TBL stuff)	12
Proposal	25
Proposal presentation	10
<b>Total</b>	<b>100</b>

\* Each unexcused absence will lower your class score by 5 percentage points.

## Some additional information

- (1) Attendance is mandatory.
- (2) Arrive at class on time. The first activity will always be the iRAT and coming to class late will limit the time available to take the test.
- (2) No make-up work will be allowed. Making up the RATs is impossible, which is why attendance is mandatory.
- (4) No textbook is required.
- (5) Letter grades will include minus grades. The grading scale is  $\geq 93 = A$ ;  $90-92 = A-$ ;  $87-89 = B+$ ;  $83-86 = B$ ;  $80-82 = B-$ , etc. Values will be rounded to nearest whole numbers
- (6) Class demeanor:
  - a) Class will start on time. Please be punctual. Turn off cell phones.
  - b) I expect lively discussions in this class, but demand respect for each other's views and backgrounds. Personal slights, either overt or covert, will not be tolerated. Everyone should talk and everyone should respect what others have to say.
- (7) All students are expected to follow the University honor code: neither give nor receive unauthorized aid in doing any assignment. Not adhering to this policy will result in a failing grade for the class.
- 8) Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the instructor when requesting accommodation.
- 9) 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/>.