

Current Information:

I. A.) DEPARTMENT NAME: _____

B.) COURSE NUMBER, and TITLE: _____

C.) CREDIT HOURS: _____ D.) PREREQUISITES: _____

E.) CURRENT CLASSIFICATION1. General Education Code: B C D H M N P S None2. Writing Requirement: E2 E4 E6 None3. Math Requirement: M None**Requests:****II. GENERAL EDUCATION**A.) Requested Classification: B C D H M N P SB.) Effective Date: Fall Spring Summer _____(year)

Or

 1-time Approval Fall Spring Summer _____(year)**III. WRITING REQUIREMENT** **MATH REQUIREMENT** A.) Requested Classification E2 E4 E6B.) Effective Date: Fall Spring Summer _____(year)

Or

 1-time Approval Fall Spring Summer _____(year)

C.) Assessment:

1.) What type of feedback will be provided to the student (in reference to writing skill)?

_____ Grade _____ Corrections _____ Drafts _____ Other

2.) Will a published rubric be used? _____

IV. ATTACH A DETAILED SYLLABUS

V. SYLLABUS CHECKLIST

Courses that offer students General Education and/or Writing Requirement credit must provide clear and explicit information for the students about the classification and requirements.

For courses with a **General Education** classification, the syllabus **must** include:

- Instructor contact information (and TA if applicable)
- Course objectives and/or goals
- Student Learning Outcomes
- Required and optional textbooks
- Methods by which students will be evaluated and their grades determined
- Weekly course schedule with sufficient detail (including topics, assigned readings, assignments, due dates) that the General Education Committee may determine the appropriateness of the General Education classification requested.
- A statement related to class attendance, make-up exams and other work such as: *“Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found in the online catalog at: <https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>.”*
- A statement related to accommodations for students with disabilities such as: *“Students with disabilities requesting classroom accommodations should first register with the Disability Resource Center (352-392-8565, www.dso.ufl.edu/drc/) by providing appropriate documentation. Once registered students will an accommodation letter which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.”*
- A statement informing students of the online course evaluation process such as: *“Students are expected to provide feedback on the quality of instruction in this course by completing online evaluations at <http://evaluations.ufl.edu>. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at <https://evaluations.ufl.edu/results>.”*
- Information on current UF grading policies for assigning grade points. This may be achieved by including a link to the appropriate undergraduate catalog web page <https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>.

It is **recommended** that syllabi contain the following information:

- Critical dates for exams and other work
- Class demeanor expected by the professor (e.g. tardiness, cell phone usage)
- The university's honesty policy regarding cheating, plagiarism, etc.
Suggested wording: 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 (<http://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 or TAs in this class.
- Phone numbers and contact sites for university counseling services and mental health services: <http://www.counseling.ufl.edu/cwc/Default.aspx>; 392-1575, University Police Department 392-1111 or 9-1-1 for emergencies.

The University's complete Syllabus Policy can be found at:

http://www.aa.ufl.edu/Data/Sites/18/media/policies/syllabi_policy.pdf

For courses with **Writing Requirement (WR)** classification, the syllabus **must** include:

- "The Writing Requirement ensures students both maintain their fluency in writing and use writing as a tool to facilitate learning."
- "Course grades now have two components: To receive writing credit, a student must receive a grade of "C" or higher and a satisfactory completion of the writing component of the course."
- A statement or statements indicating that the instructor will evaluate and provide feedback on the student's written assignments with respect to grammar, punctuation, usage of standard written English, clarity, coherence, and organization
- Assignment word counts, page lengths, submission deadlines and feedback dates

Additionally, the syllabus must clearly show that the course meets the WR to

- Evaluate [2,000/4,000/6,000] written words in assignments during the semester
- Provide all feedback on assignments prior to the last class meeting

Important note: The following types of writing assignments **CANNOT** be used to meet the WR: teamwork, exam essay questions, take-home exams, and informal, ungraded writing assignments.

VI. SUBMISSION AND APPROVALS

Department Contact:

Contact Name: _____

Phone _____ Email _____

College Contact:

College Name: _____

College Contact Name: _____

Phone _____ Email _____

Spring 2015 GLY 3882C – Hydrology and Human Affairs

Dr. Liz Sreaton, sreaton@ufl.edu Online office hours 11am to noon Monday and 10-11 Tuesday, or by appointment

TA: Lanie Meridth, lmeridth@ufl.edu Online office hours 5-6 pm Mondays and Wednesdays, or by appointment

Overall Course Goals and Outcomes: Water is a resource that is vital for life, but the quality and quantity of our water resources are currently under threat. Students will understand the basic concepts of groundwater flow, and its relationship to surface water, humans, and the environment and apply concepts to current water-related issues. By the end of this course, students will be able to:

- Describe the basic concepts of groundwater flow and its relationship to surface water, humans, and the environment.
- Apply hydrologic methods, including potentiometric surface mapping, cross-section development, and data analysis, to assess water-related problems.
- Summarize, present, and discuss hydrologic information from scientific reports and the media.

Class Format: The class is online on Canvas and consists of 12 modules.

- Each module will begin with a background reading to introduce the concepts and terms.
- The reading will be followed by an online quiz, which consists of 10 T/F questions. Quizzes are open book and open notes and you can seek help from classmates.
- Assignments in each module will focus on reinforcing and applying the concepts from the reading. Assignments will involve working on maps or cross-sections, data interpretation and calculations, and virtual experiments. Assignments will be assessed using multiple-choice questions, essay questions, and evaluation of submitted maps, calculations, and cross sections. Assignments are open book and open notes and you can seek help from others, **but answers must be written in your own words and figures must be drawn by you.**
- Assignments will also examine current problems through discussions in student groups. The discussions will include student written posts and a total of 2 student audio/video presentations. Audio/video presentations will be reviewed by two peers and revised prior to presentation to the group. The written post or presentation will be evaluated on how well it addresses the question or assignment and the quality of written or oral communication. Discussion replies and peer reviews will be assessed on content, thoughtfulness, and quality of written communication. Three assignments will consist of individual written 1-page syntheses of discussions.
- Every 4 modules, there will be a quiz consisting of wrap-up questions (9 questions at 10 points each). You will have 90 minutes for completion. In these wrap-up quizzes, you will apply what you have learned and integrate material from different modules. The wrap-up questions are open book and open notes but **are to be completed on your own.** During the semester, the class modules build on previous learning. As a result, material from earlier modules will be included, although the emphasis of each set of wrap-up questions will be on the most recent 4 modules.

Textbook: The readings are course notes that have been developed through years of teaching this class. They can be found linked from each module.

Prerequisites: one chemistry course (e.g. CHM 1030).

Grading 1000 total points.

- **Introductory quiz and discussion = 20 pts**
- **11 quizzes @ 10 points = 110 points.** *Your best 11 quiz scores (out of 12) will be counted for your grade.*
- **Assignments: 12 modules @ 50 points/module = 600 points.**
- **3 sets of wrap-up questions @ 90 pts/each = 270 points.**

A: ≥934 pts, A- 900-934 pts; B+ 867 - 899 pts, B: 834 - 866 pts, B-: 800 t- 833 pts, C+ 767 - 799 points; C734 - 766 pts, C-: 700 - 733 pts, D+: 667 t- 699 pts, D: 634 - 666 pts. D-600 - 633 pts; E 599 and below. **These grade criteria are firm.** (*Information on how UF calculates GPA based on letter grades can be found at: <https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>)*

Physical Sciences Requirement: Physical science courses provide instruction in the basic concepts, theories and terms of the scientific method in the context of the physical sciences. Courses focus on major scientific developments and their impacts on society, science and the environment, and the relevant processes that govern physical systems. Students will formulate empirically-testable hypotheses derived from the study of physical processes, apply logical reasoning skills through scientific criticism and argument, and apply techniques of discovery and critical thinking to evaluate outcomes of experiments.

To fulfill the physical science requirement, this course focuses on the major developments in the field of hydrology including the physical processes that govern groundwater flow and the chemical processes that affect water quality. These developments will be used to illustrate the scientific method. Students will evaluate data to formulate and test hypotheses. Critical thinking skills will be developed using virtual experiments and analyses of recent water-related issues.

The General Education requirements for Student Learning Outcomes are:

Content: Students demonstrate competence in the terminology, concepts, theories and methodologies used within the discipline.

Communication: Students communicate knowledge, ideas and reasoning clearly and effectively in written and oral forms appropriate to the discipline.

Critical Thinking: Students analyze information carefully and logically from multiple perspectives, using discipline-specific methods, and develop reasoned solutions to problems.

In this course, the *content outcome* will be assessed through the 12 quizzes based on terminology and concepts for each module, the assignments, and the 3 “Wrap-Up” Quizzes for each four modules. The *written communication outcome* will be assessed through your discussion posts, syntheses of discussions, and your answers on the “Wrap-Up” Quizzes. Discussion posts are evaluated for completeness and clarity. Discussion synthesis are assessed on content, organization, and mechanics. The *oral communication outcome* will be assessed through two audio/ video presentations, which will be assessed for content, use of supporting material, and delivery. *Critical*

thinking will be assessed through the Discussion syntheses, which require you to integrate scientific understanding of hydrology with societal factors that affect water use, and the 3 “Wrap-Up” Quizzes, which will require you to apply concepts and methods to new situations.

Getting answers to your questions: This class is a 3000 level, which means it is aimed at junior-level students (although open to others). This means that you should be challenged by some parts of the material. Expect to have questions as you read the course notes, work through the assignments, and prepare for the wrap-up questions.

- For problems with Canvas: call 352-392-4357 or via e-mail at helpdesk@ufl.edu.
- To report course-specific errors (a broken link in an assignment, a suspected error in quiz grading, missing information in a quiz question) email the TA (Imeridth@ufl.edu) and me (screaton@ufl.edu). We will correct the problem as quickly as possible and credit you 1 point.
- For content questions, the first place to go is to Discussions and the Q&A for the module. If the question hasn't been asked yet, you can post your question to the class. Help your classmates by answering questions --- BUT **help by explaining rather than just giving the answer!** Answers will be reviewed by the TA/professor daily M-F and additional information may be added.
- An email to the TA and prof is the best way to ask questions that are specific to you, such as about your grade or an upcoming conflict.

Deadlines:

- Modules are to be completed by **Wednesdays at 6 pm**. BUT, to allow for any last-minute technical issues, I strongly recommend you complete the assignments by Tuesday. Quiz (T/F) grades will be immediately available and assignment grades will generally be available by the end of Friday.
- Modules will generally be available 2 weeks prior to the deadline. An exception will be quiz 1, which will be available at the start of classes. I strongly recommend starting quizzes and assignments early enough to ask questions and get answers.
- The three wrap-up questions will become available the Friday after assignments are due for Modules 4, 8, and 12 and are due by the end of the following Monday.

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

Because quizzes and assignments are available for 1-2 weeks and wrap-up questions are available for several days, only very major conflicts will be considered to allow deadline extensions or make-ups. For *pre-existing conflicts* (e.g., athletic, religious, academic), **you are responsible** for providing me with email or written notification and making arrangements with me (screaton@ufl.edu) for an alternate date as soon as you are aware of the conflict, **but no later than 1 week before a deadline**. For *sudden, unexpected major issues that cause you to need additional time* **you are responsible** for providing me (screaton@ufl.edu) with email or written notification and making arrangements. Documentation will be requested.

Academic Honor Code: Students must follow the University of Florida Honor Code. On all work submitted for credit by students of 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.*" Before submitting any work for this class, please read the policies about academic honesty at <http://www.dso.ufl.edu/sccr/honorcode.php>.

Accommodations for Disabilities: Students with disabilities requesting accommodations should first register with the Disability Resource Center (352-392-8565, www.dso.ufl.edu/drc/) by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.

Course Evaluations: Students are expected to provide feedback on the quality of instruction in this course by completing online evaluations at <http://evaluations.ufl.edu>. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at <https://evaluations.ufl.edu/results>

Course Modules

Introduction: *Must be completed before starting Module 1*

- Introductory quiz
- Introductions Discussion

Module 1: Fundamentals of Groundwater *Due Jan 14*

- Quiz 1 Fundamentals
- Assignment 1.1 High Plains aquifer discussion
- Assignment 1.2 Porosity and storage
- Assignment 1.3 Creating and Interpreting Hydrogeologic Cross Sections
- Assignment 1.4 High Plains aquifer and depletion calculation

Module 2: Wells and Potentiometric Surface Maps *Due Jan 21*

- Quiz 2 Wells and Potentiometric Surface Maps
- Assignment 2.1 Florida Springs discussion
- Assignment 2.2 Drawing Potentiometric Maps
- Assignment 2.3 Interpreting potentiometric surface maps

Module 3: Groundwater inflow and Outflow *Due Jan 28*

- Quiz 3 Groundwater Inflow and outflow
- Assignment 3.1 Precipitation, Evapotranspiration, and Recharge in the High Plains and Florida
- Assignment 3.2 Using potentiometric surface maps to predict groundwater- surface water exchange
- Assignment 3.3 The High Plains and Florida Spring synthesis

Module 4: Streams and Floods *Due Feb 4*

- Quiz 4 Streams and Floods
- Assignment 4.1 Stream Discharge and Hydrographs
- Assignment 4.2 Flood recurrence intervals
- Assignment 4.3 Water Decisions Discussion

Module 1 to 4 Review and Wrap-Up Quiz *Due Feb 11*

Module 5: Florida Hydrogeology and Geology and Groundwater *Due Feb 18*

- Quiz 5: Florida and Geology and Groundwater
- Assignment 5.1 Florida hydrogeology
- Assignment 5.2 Gainesville hydrogeology and the Cabot-Koppers site
- Assignment 5.3 Aquifer Examples Presentation Drafts

Module 6: Darcy's Law *Due Feb 25*

- Quiz 6 Darcy's Law
- Assignment 6.1 Darcy's experiment to Darcy's Law
- Assignment 6.2 Applying Darcy's law
- Assignment 6.3 Aquifer Examples Presentation Peer Review

Module 7: Pumping and Groundwater Budgets *Due Mar 11*

- Quiz 7 Pumping and Groundwater Budgets
- Assignment 7.1 Water budgets and subsidence
- Assignment 7.2 Groundwater modeling using Excel: effects of pumping
- Assignment 7.3 Aquifer Examples Presentations and Discussion

Module 8: Water Management and Law *Due Mar 18*

- Quiz 8 Water Management and Law
- Assignment 8.1 Surface water and groundwater law
- Assignment 8.2 Dams and water management
- Assignment 8.3 Aquifer Examples Synthesis

Modules 5 to 8 Review and Wrap-Up Quiz *Due Mar 25*

Module 9: Water Chemistry *Apr 1*

- Quiz 9 Water Chemistry
- Assignment 9.1 Sampling and water chemistry
- Assignment 9.2 Determining when groundwater was recharged
- Assignment 9.3 Water Chemistry and Contamination Presentation Drafts

Module 10: Water Quality *Due Apr 8*

- Quiz 10 Water Quality
- Assignment 10.1 Freshwater/Saltwater Interface
- Assignment 10.2 Water quality
- Assignment 10.3 Water Chemistry and Contamination Presentation Peer Reviews

Module 11: Water Contamination *Due Apr 15*

- Quiz 11 Water Contamination
- Assignment 11.1 Water contamination
- Assignment 11.2 Water Chemistry and Contamination Presentations and Discussion

Module 12: Karst and Sinkholes *Due Apr 22*

- Quiz 12 Karst and Sinkholes
- Assignment 12.1 How caves and sinkholes form
- Assignment 12.2 Tallahassee sprayfields and nitrates at Wakulla Springs
- Assignment 12.3 Water Chemistry and Contamination syntheses

Module 9 to 12 Review and Wrap up Quiz *Due Apr 29*