

Cover Sheet: Request 10668

GLY3882C Hydrogeology and Human Affairs

Info

Process	Course Modify Ugrad/Pro
Status	Pending
Submitter	Screaton,Elizabeth Jane screaton@ufl.edu
Created	1/8/2016 11:52:08 AM
Updated	3/7/2016 12:35:41 PM
Description	Insight into current scientific, political, legal, social and economic aspects of hydrogeology.

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	CLAS - Geological Sciences 011610000	Foster, David A		1/8/2016
No document changes					
College	Recycled	CLAS - College of Liberal Arts and Sciences	Pharies, David A	The course should either be given a different pre-requisite (suggestion: junior status) or moved to the 2000 level.	1/26/2016
No document changes					
Department	Approved	CLAS - Geological Sciences 011610000	Foster, David A	Prerequisite was changed to junior status.	1/27/2016
No document changes					
College	Approved	CLAS - College of Liberal Arts and Sciences	Pharies, David A		2/10/2016
No document changes					
University Curriculum Committee	Comment	PV - University Curriculum Committee (UCC)	Case, Brandon	Added to the March agenda.	2/17/2016
No document changes					
University Curriculum Committee	Pending	PV - University Curriculum Committee (UCC)			2/17/2016
No document changes					
Statewide Course Numbering System					
No document changes					
Office of the Registrar					
No document changes					

Step	Status	Group	User	Comment	Updated
Student Academic Support System					
No document changes					
Catalog					
No document changes					
College Notified					
No document changes					

Course|Modify for request 10668

Info

Request: GLY3882C Hydrogeology and Human Affairs

Submitter: Screaton,Elizabeth Jane screaton@ufl.edu

Created: 1/26/2016 4:49:51 PM

Form version: 2

Responses

Current Prefix

Enter the current three letter code (e.g., POS, ATR, ENC).

Response:

GLY

Course Level

Select the current one digit code preceding the course number that indicates the course level at which the course is taught (e.g., 1=freshman, 2=sophomore, etc.).

Response:

3

Number

Enter the current three digit code indicating the specific content of the course based on the SCNS taxonomy and course equivalency profiles.

Response:

882

Lab Code

Enter the current lab code. This code indicates whether the course is lecture only (None), lab only (L), or a combined lecture and lab (C).

Response:

C

Course Title

Enter the current title of the course as it appears in the Academic Catalog.

Response:

Hydrogeology and Human Affairs

Effective Term

Select the requested term that the course change(s) will first be implemented. Selecting "Earliest" will allow the change to be effective in the earliest term after SCNS approval. If a specific term and year are selected, this should reflect the department's expectations. Courses cannot be changed

retroactively, and therefore the actual effective term cannot be prior to SCNS approval, which must be obtained prior to the first day of classes for the effective term. SCNS approval typically requires at least 6 weeks after approval of the course change at UF.

Response:
Earliest Available

Effective Year

Select the requested year that the course change will first be implemented. See preceding item for further information.

Response:
Earliest Available

Requested Action

Indicate whether the change is for termination of the course or any other change. If the latter is selected, all of the following items must be completed for any requested change.

Response:
Other (selecting this option opens additional form fields below)

Change Course Prefix?

Response:
No

Change Course Level?

Note that a change in course level requires submission of a course syllabus.

Response:
No

Change Course Number?

Response:
No

Change Lab Code?

Note that a change in lab code requires submission of a course syllabus.

Response:

No

Change Course Title?

Response:
No

Change Transcript Title?

Response:
No

Change Credit Hours?

Note that a change in credit hours requires submission of a course syllabus.

Response:
No

Change Variable Credit?

Note that a change in variable credit status requires submission of a course syllabus.

Response:
No

Change S/U Only?

Response:
No

Change Contact Type?

Response:
No

Change Rotating Topic Designation?

Response:
No

Change Repeatable Credit?

Note that a change in repeatable credit status requires submission of a course syllabus.

Response:
No

Change Course Description?

Note that a change in course description requires submission of a course syllabus.

Response:
No

Change Prerequisites?

Response:
Yes

Current Prerequisites

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

Proposed Prerequisites

Response:
Junior status

Change Co-requisites?

Response:

No

Rationale

Response:

This prerequisite is not needed for the course and discourages some students who would benefit from the course. Students for whom the prerequisite have been waived have succeeded in past semesters of the courses.

GLY 3882C – Hydrology and Human Affairs

Dr. Liz Screaton, 221 Williamson, 352-392-4612 screaton@ufl.edu

TA: TBA

Office hours: Monday: 5-6 pm and Thurs 10-11 am. Please see “**Contact information for online course**” section below.

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.

This course fulfills the UF General Education Physical Science (P) requirement. For more information, see the last page of this syllabus.

This course is an International Scholars Program course (click [here](#) to find out more about ISP).

Prerequisite: Junior status

Class Format: The class is online on Canvas and consists of 11 modules.

- Each module will begin with a background reading to introduce the concepts and terms. A video lecture will reinforce some of the key points from the reading.
- The reading and video 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, prof and TA.
- Each module will have two **assignments**. 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.
 - The first (“A”) assignment in each module will provide practice with new concepts and skills. This assignment is the equivalent of answering questions and working on assignments “in class”. These assignments will generally have multiple choice questions. There will occasionally be essay questions or problems.
 - The second (“B”) assignment in each module will ask you to apply the concepts and your skills. The assignment will generally consist of problems and short essay answers that will be graded by the TA or professor. One or two of the B assignments will include short recorded student presentations.
- In each module, the **group discussion** will further apply concepts and examine issues. The discussions will include student written posts and replies. The written posts and replies will be evaluated on how well they address the question or assignment and the quality of communication. Please carefully review for typos before posting.

- Two **writing assignments (Syntheses)** will synthesize class material, discussions and/or presentations.
- Turnitin is an online service to help prevent and identify student plagiarism. The synthesis assignments and the “B” assignments will be evaluated using Turnitin to determine the originality of your work.
- One **exam** at the end of the semester will consist of multiple choice, essay questions, and problems. You will have 90 minutes for completion. In the final exam, you will apply what you have learned and integrate material from different modules. The exam will be administered online using ProctorU (visit <http://www.proctoru.com/portal/ufl> for information and technical requirements). You can choose a 90 minute time period between 8 am and 8 pm April 25 or April 26.
- **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>.

Textbook: Due to the lack of an appropriate textbook for this topic, chapters have been written for each module. These readings are found linked from each module in Canvas.

Materials and Supplies Fees: TBA

Grading: 620 total points.

- 10 pts: Introductory quiz and discussion
- 100 pts: Best 10 of 11 quizzes @ 10 points.
- Assignments
 - 150 pts: “A” assignment: (best 10 of 11 @15 pts).
 - 150 pts: “B” assignment (best 10 of 11 @15 pts). *Turnitin will be used.*
- 50 pts: Best 10 of 11 Discussion Posts @ 5 pts
- 40 pts: Synthesis 1. *Turnitin will be used.*
- 30 pts: Synthesis 2. *Turnitin will be used.*
- 90 pts: Final Exam *Turnitin will be used.*

A: ≥93.4%; A- 90.0-93.3%; B+ 86.7 – 89.9%, B: 83.4 – 86.6 %, B-: 80.0 – 83.3 %, C+ 76.7 – 79.9 %; C: 73.4 – 76.6%, C-: 70.0 – 73.3%, D+: 66.7 – 69.9%, D: 63.4 – 66.6%,. D- 60.0 – 63.3%; E 59.9% and below. (*Information on how UF calculates GPA based on letter grades can be found at: <https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>)*

These grade criteria are firm. At the end of the semester, the points you earn determine your grade. Approximately 10-15 extra credit points will be available to all students at various times during the semester. These will be in the form of extra quizzes, extra questions on assignments, or extra discussions. Please take advantage of these opportunities for extra points. **We do not negotiate the final grade or offer special extra credit opportunities to individual students.**

Course announcements and email: When you log in to Canvas, please ensure that your Notification Preferences are set to “ASAP” for Announcements and for Conversation Messages. These tools will be used to inform you of any updates or changes in the course or to contact you.

Contact information for online course: This class is a 3000 level, which means it is aimed at junior-level students or above. You will 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. Be sure to allow yourself enough time prior to deadlines to ask questions and have them answered.

- 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 both the TA (srjames88@ufl.edu) and me (screaton@ufl.edu). We are happy to correct any problems and will credit you 1 point if you are the first to report a problem and **the problem must be reported to us by 5 pm before any deadline.**
- 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.
- If you prefer to contact us by email rather than post on the discussion board, email both the prof and TA.
- 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 with a deadline.
- Please contact us to arrange online Canvas conferences or phone calls.

Deadlines are shown below and are firm. You are responsible for keeping track of deadlines and allowing yourself plenty of time to complete work prior to the deadline. Assignments and activities are generally open at least 1 week (and often 2 weeks) prior to the deadline. We strongly recommend starting quizzes and assignments early enough to ask questions and get answers and to prevent loss of points due to technical issues.

Due to past student requests, we have set the deadlines at 11:59 pm on the due date. Students find this extra time helpful, but should be aware that **completing the work after 5 pm is at your own risk.** If you find a bad link or encounter a question, you are still responsible for completing the work. We will check emails at ~5 pm and help out with any last-minute questions or problems.

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>

For Module deadlines:

- 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.**
- **Routine issues such as colds, mild flu, minor schedule conflicts, or student error are the reason why only the best 10 of 11 module quiz, discussion, and assignment grades are counted toward your grade.**

- 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 no later than 5 pm the day of the deadline. The work must be made up within a reasonable time period. Documentation may be requested.

For the final exam and syntheses:

- 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 2 weeks before the exam.**
- For *sudden, unexpected major issues that cause you to be unable to complete the exam* **you are responsible** for providing me (screaton@ufl.edu) with email or written notification and making arrangements no later than 5 pm the last day of the exam. The exam must be made up within a reasonable time period. Documentation may be requested.
- Missed syntheses or exams due to **student error** can only be made up within 1 day of a deadline and 20% of possible points will be deducted.

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>

More information about how this course fulfills the **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. Critical thinking skills will be developed using virtual experiments and analyses of recent water-related issues. Students will evaluate data to formulate and test hypotheses.

The General Education requirements for Student Learning Outcomes are: 1) **Content:** Students demonstrate competence in the terminology, concepts, theories and methodologies used within the discipline. 2) **Communication:** Students communicate knowledge, ideas and reasoning clearly and effectively in written and oral forms appropriate to the discipline. 3) **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 quizzes based on terminology and concepts for each module, the assignments, and the final. The *written communication outcome* will be assessed through your discussion posts, synthesis writing assignments, and your essay answers on the exams. Discussion posts are evaluated for completeness and clarity. Discussion syntheses are assessed on content, organization, and mechanics. The *oral communication outcome* will be assessed through audio/ video presentations, which will be graded on content, use of supporting material, and delivery. *Critical thinking* will be assessed through the syntheses, which require you to integrate scientific understanding of hydrology with societal factors that affect water use, and the exams, which will require you to apply concepts and methods to new situations.

Course Modules and Deadlines

Introduction	Jan 12
Module 1 Precipitation and Recharge examines how precipitation, evapotranspiration, and groundwater recharge are quantified and how these vary in time and space. Three locations will be used to examine a range of conditions from extreme desert (Eastern Sahara) to high rainfall/monsoonal (Bangladesh).	Jan 14 and 21
Module 2 Water Underground introduces how water is stored and flows underground, and the relationship between geologic materials and water flow and storage. Skills include the creation and interpretation of cross sections for the High Plains (U.S.), Bangladesh, and the Nubian Aquifer system.	Jan 26 and 28
Module 3 Mapping Flow covers how wells are installed and how water level elevations in wells can be contoured to create potentiometric surface maps and interpreted to understand groundwater flow directions. Examples from the three systems (High Plains, Bangladesh, and Nubian) are interpreted.	Feb 2 and 4
Module 4: Streams and Floods covers how stream flow is measured and what factors affect the stream discharge. Dams will be introduced. Skills include interpreting hydrographs and flood frequency curves. Assignments will examine the Nile River in Africa and the Suwannee River basin in Florida.	Feb 9 and 11
Module 5 Surface Water and Groundwater examines how groundwater interacts with surface water and how potentiometric surface maps provide information about these connections. Assignments will include examples from the springs along the Suwannee River and focus regions.	Feb 16 and 18
Synthesis and Review	Feb 25
Module 6 Darcy's Law covers how hydraulic gradient and hydraulic conductivity control groundwater flow rates and how groundwater velocity and age can be determined.	Mar 8 and 10
Module 7 Pumping and Groundwater Budgets examines how an aquifer's inflows and outflows are impacted by the addition of pumping and under what circumstances pumping can lead to subsidence of the land surface. This module uses examples from California's Central Valley as well as the focus regions.	Mar 15 and 17
Module 8 Water Management uses U.S. law to introduce differing strategies for water allocation. Assignments will consider the problems of sharing water between	Mar 22 and 24

states (the Colorado River) and nations (current conflicts along the Nile; transboundary aquifer issues).	
Module 9 Water Chemistry and Karst describes the basics of the reactions that affect the chemistry of surface and ground water and examines karst and sinkholes.	Mar 29 and 31
Module 10 Water Quality focuses on nutrients, natural contaminants, and saltwater intrusion. Water management strategies of desalination and wastewater reuse are introduced.	Apr 5 and 7
Module 11 Water Contamination describes sources of water contamination, how contaminants migrate in groundwater, and basics of remediation.	Apr 12 and 14
Final Synthesis Final Exam	Apr 19 Apr 25 or 26