

GLY4750L: Geological Field Methods



Fall 2024
2 credits

I. General Information

Meeting days and times: W 9-10

Class location: WM202

Instructor(s):

Name: Joseph Meert

Office Building/Number: 361 Williamson Hall

Phone: 3528704642

Email: jmeert@ufl.edu

Office Hours: M 12:35-2:45 (Room 265 Williamson Group office hours)

Teaching Assistant(s):

Name: Kawner Sistrunk

Office Building/Number: 253 Williamson Hall

Phone: 208-252-0291

Email: sistrunk.kf@ufl.edu

Office Hours: TBD

Course Description

This course is to help prepare you to work as a professional geologist. We will demand that your work is professionally completed, accurate and follows the expectations required in the industry.

As professional geologists, your notes, maps, field books etc. become legal documents. Any errors, omissions or inadequacies can cost you in a court of law!

The course is rigorous, time-consuming and graded very thoroughly. We spend a lot of time grading assignments and commenting on your work. *Please take the time to read our comments and avoid repeating the mistake.* Because this is a prep course for the capstone, you must receive a grade of “C” or higher to be able to register for GLY4400C (Structural Geology) which itself is a requirement for GLY4790 Summer Field Camp.

NOTE: This course is intended ONLY for BS majors attending field camp in 2025. It is not suitable for BA majors or others outside the department.

Text: None required, materials will be handed out in class.

Field Exercise: There will be a 5 day field trip Oct 4-8. All geology classes will receive automatic permission, but if you need a note for other classes, let me know.

Prerequisites

Prereq: GLY 3105C or GLY 2100C, or instructor permission. **MUST PLAN TO ATTEND FIELD CAMP SUMMER 2025**

General Education Designation:

All General Education area objectives can be found [here](#).

Course Materials

- 360 protractor: Available through Amazon or other vendors
- Metal ruler
- Adobe Illustrator, CorelDraw or other approved Drawing Package
- Colored Pencils
- Rite in the Rain Geology Field: Available through Amazon and other vendors
- Calculator (can use phone)

Materials will be available through the following means:

Materials Fee: \$59.48 (field trip)

II. Student Learning Outcomes

A student who successfully completes this course will be able to:

- Identify and describe minerals and rocks.
- Define geologic time, stratigraphy, and landforms.
- Synthesize analog and digital datasets to produce geologic maps.

- Apply the scientific method to the analysis of published and self-generated data.
- Use computers for the presentation of geologic maps and data.
- Solve geologic problems in teams and present the result of such collaboration effectively.

III. Graded Work

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 [Catalog](#).

Homeworks and Quizzes (points given in canvas)

Mid-Term Exam: 150 points

Final Exam: 150 points

Graded Components

Note: Certain lectures/short vids will be posted on canvas for review.

Rubrics- How will I be graded?

There are basically 3 types of exercises/exams/quizzes in this course. The most complex grading comes from your map/cross-section work. To help you understand what we will be looking for, I have provided a detailed grading rubric in the first mapping File folder ([Assignment #4](#)). *It is also very important for you to read/note the feedback we provide.* That feedback will help you in subsequent assignments. Neatness is a must. I have provided examples in the assignment files for each type of exercise.

Scale/3-Point and Other Exercises: These are mostly quantitative exercises that require you to calculate the correct answers. To get full credit, you should show your work. For example, when converting units (meters to miles), show the equations with units. If the problem requires multiple steps to reach the correct answer, provide each step in a clear and logical manner ([see example](#)). For 3 point problems, follow the methods outlined in lecture.

Late Work: Late Assignments lose 20% per day. One 'free' late assignment will be accepted per semester, per student without penalty provided it is turned in no later than midnight on the Sunday following the due date.

Extra Credit: I will add *up to 5 points* to each homework for students who fix errors in the graded assignment and turn in the corrected version within 1 week. You must address/correct all errors. That requires you to explain what the error was and how to correct it going forward.

Repeated Errors: Once we have commented on, and noted an error in your homework, you are expected to NOT REPEAT the error. Point penalties are DOUBLED on subsequent assignments for repeated errors. REVIEW OUR COMMENTS!

Grading Scale

| Letter Grade | Number Grade |
|--------------|--------------|
| A | 100-93 |
| A- | 92-90 |
| B+ | 89-87 |
| B | 86-83 |
| B- | 82-80 |
| C+ | 79-77 |
| C | 76-73 |
| C- | 72-70 |
| D+ | 69-67 |
| D | 66-63 |
| D- | 62-60 |
| E | 59-0 |

See the UF Catalog's "[Grades and Grading Policies](#)" for information on how UF assigns grade points.

Note: A minimum grade of C is required to earn General Education credit.

IV. Calendar

| Date | Topic | Readings/Preparation | Work Due |
|--------------------|---|----------------------|------------|
| August 28, 2024 | Introduction to the course. Introduction to each other. Review supply requirements. Begin on topographic maps and discuss scale, legend information, latitude, longitude, magnetic north versus true north, contour rules, rule of V's, vertical exaggeration, elevation cross-sections. Scale exercises. | | 09/04/2024 |
| September 4, 2024 | More work with topographic maps. Production of Index maps, additional elevation cross-sections. Discussion on data analysis in geosciences. | | 09/13/2024 |
| September 11, 2024 | Meaning of strike and dip in geology. Solving 3-point problems to determine strike and dip. Quiz on geological time scale. Demonstrate use and description of the Brunton compass (indoors and outdoors). | | 09/18/2024 |
| September 18, 2024 | Simple geological maps with monoclinial dips and the use of structural contours in geology. The difference between and | | 09/25/2024 |

| Date | Topic | Readings/Preparation | Work Due |
|--------------------|--|----------------------------------|------------|
| | structural contour and a topographic contour. In-class exercise on structural contours. Interlude on the field notebook and rock/mineral descriptions. | | |
| September 25, 2024 | More work with geological maps and geological data analysis using excel. | | 10/02/2024 |
| October 2, 2024 | Measure pace. Review of Bowen's Reaction Series and Goldich stability series. Review of common sedimentary structures encountered in the field. Interlude on the field notebook and rock/mineral descriptions. | | 10/16/2024 |
| October 5, 2024 | Field Trip | through Oct 8, 2024 | 10/16/2024 |
| October 9, 2024 | Continuation of Geological maps and scale. Simple geological histories. | | 10/16/2024 |
| October 16, 2024 | Mid-Term Exam | review all materials | |
| October 23, 2024 | Handout of more complex geological maps (synforms and antiforms). | | 10/30/2024 |
| October 30, 2024 | Introduction to Stereonets | print out and prepare stereonets | 11/06/2024 |
| November 6, 2024 | Advanced Stereonets | | 11/13/2024 |
| November 13, 2024 | Advanced Field Topics Digital Use | | 11/20/2024 |
| November 20, 2024 | Final Exam Part I: Geological Maps and Cross-Sections. | | |
| November 27, 2024 | Thanksgiving Break | | |
| December 4, 2024 | Final Exam Part II: Scales, Topo Sheet, Time Scale, Stereonets, 3 point problems | | |

V. University Policies and Resources

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 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 course evaluation 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 <http://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 <http://ufl.bluera.com/ufl/>. Summaries of course evaluation results are available to students at <http://gatorevals.aa.ufl.edu/public-results/>.

University Honesty Policy

University of Florida students are bound by the Honor Pledge. On all work submitted for credit by a student, the following pledge is required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment." The Student Honor Code and Conduct Code (Regulation 4.040) specifies a number of behaviors that are in violation of this code, as well as the process for reported allegations and sanctions that may be implemented. If you have read this far, just come up to me before the first class starts (August 28) and say, hey how is your dog magnetite, and get 5 bonus points for reading the syllabus. All potential violations of the code will be reported to Student Conduct and Conflict Resolution. If a student is found responsible for an Honor Code violation in this course, the instructor will enter a Grade Adjustment sanction which may be up to or including failure of the course. For additional information, see <https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/>.

In-class recording:

This is a lab course. No recording is allowed.

Students are allowed to record video or audio of class lectures. However, the purposes for which these recordings may be used are strictly controlled. The only allowable purposes are (1) for personal educational use, (2) in connection with a complaint to the university, or (3) as evidence in, or in preparation for, a criminal or civil proceeding. All other purposes are prohibited. Specifically, students may not publish recorded lectures without the written consent of the instructor.

A "class lecture" is an educational presentation intended to inform or teach enrolled students about a particular subject, including any instructor-led discussions that form part of the presentation, and delivered by any instructor hired or appointed by the University, or by a guest instructor, as part of a University of Florida course. A class lecture does not include lab sessions, student presentations, clinical presentations such as patient history, academic exercises involving solely student participation, assessments (quizzes, tests, exams), field trips, private conversations between students in the class or between a student and the faculty or guest lecturer during a class

session.

Publication without permission of the instructor is prohibited. To "publish" means to share, transmit, circulate, distribute, or provide access to a recording, regardless of format or medium, to another person (or persons), including but not limited to another student within the same class section. Additionally, a recording, or transcript of a recording, is considered published if it is posted on or uploaded to, in whole or in part, any media platform, including but not limited to social media, book, magazine, newspaper, leaflet, or third-party-note/tutoring services. A student who publishes a recording without written consent may be subject to a civil cause of action instituted by a person injured by the publication and/or discipline under UF Regulation 4.040 Student Honor Code and Student Conduct Code.

Procedure for conflict resolution

Any classroom issues, disagreements or grade disputes should be discussed first between the instructor and the student. If the problem cannot be resolved, please contact Joseph Meert (jmeert@ufl.edu, [352-846-2414](tel:352-846-2414)). Be prepared to provide documentation of the problem, as well as all graded materials for the semester. Issues that cannot be resolved departmentally will be referred to the University Ombuds Office (<http://www.ombuds.ufl.edu>; [352-392-1308](tel:352-392-1308)) or the Dean of Students Office (<http://www.dso.ufl.edu>; [352-392-1261](tel:352-392-1261)).

Resources available to students

Health and Wellness

- U Matter, We Care: umatter@ufl.edu; [352-392-1575](tel:352-392-1575).
- Counseling and Wellness Center: <http://www.counseling.ufl.edu>; [352-392-1575](tel:352-392-1575).
- Sexual Assault Recovery Services (SARS): Student Health Care Center; [352-392-1161](tel:352-392-1161).
- University Police Department: <http://www.police.ufl.edu>; [352-392-1111](tel:352-392-1111) (911 for emergencies).

Academic Resources

- E-learning technical support: learning-support@ufl.edu; <https://elearning.ufl.edu>; [352-392-4357](tel:352-392-4357).
- Career Connections Center: Reitz Union; <http://www.career.ufl.edu>; [352-392-1601](tel:352-392-1601).
- Library Support: <http://cms.uflib.ufl.edu/ask>.
- Academic Resources: 1317 Turlington Hall; [352-392-2010](tel:352-392-2010); <https://academicresources.clas.ufl.edu>.
- Writing Studio: 2215 Turlington Hall; <http://writing.ufl.edu/writing-studio/>.

Native American Statement: The Department of Geological Sciences at UF respectfully acknowledges the native Potano people and Timucua tribe on whose land the UF campus now occupies.