

# GLY4750L - Geologic Field Methods

## Syllabus (GLY4750L)

### Field Methods Fall 2021

Instructor: Dr. Joseph Meert

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Office Hours: Mondays from 1-3 pm. Normally I hold these office in the Reitz Union where we can get a couple of tables and work as a group. Due to Covid, I am going to look for an alternative location where we can still congregate safely. Likely that I will post each location Monday morning.

Teaching Assistant: Ananya Singha

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Office Hours: TBD

**NOTE: This course is intended ONLY for BS majors attending field camp in 2022. 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 Fr-Tuesday Oct 22-26, 2021. All geology classes will receive automatic permission, but if you need a note for other classes, let me know.

### Covid-19 Notices:

1. This course is being offered in person. The classroom notifications below are expected to be followed.

- You are encouraged to wear approved face coverings at all times during class and within buildings. While masks are uncomfortable, they help limit spread of disease. Many of us have family and friends who can be seriously affected by Covid 19. We do best, when we look out for each other.
- You are encouraged to get the vaccine if possible. Vaccines are shown to be highly effective in preventing serious infections, hospitalization and death from Covid.
- This course has been assigned a physical classroom with enough capacity to maintain physical distancing (6 feet between individuals) requirements. Please utilize designated seats and maintain appropriate spacing between students. Please do not move desks or stations.
- Sanitizing supplies are available in the classroom to wipe down your desks prior to sitting down and at the end of the class.
- If you are experiencing COVID-19 symptoms ([Click here for guidance from the CDC on symptoms of coronavirus \(https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/symptoms.html\)](https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/symptoms.html)), please use the UF Health screening system and follow the instructions on whether you are able to attend class. [Click here for UF Health guidance on what to do if you have been exposed to or are experiencing Covid-19 symptoms \(https://coronavirus.uflhealth.org/screen-test-protect/covid-19-exposure-and-symptoms-who-do-i-call-if/\)](https://coronavirus.uflhealth.org/screen-test-protect/covid-19-exposure-and-symptoms-who-do-i-call-if/).
- Course materials will be provided to you with an excused absence, and you will be given a reasonable amount of time to make up work. [Find more information in the university attendance policies \(https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/\)](https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/).

### Supplies Required:

Adobe Illustrator or CorelDraw (computer graphic arts packages, for details click [here](#)). [Metal ruler \(https://media.officedepot.com/image/upload/b\\_rgb:FFFFFF,c\\_pad,dpr\\_1.0,f\\_auto,h\\_666,g\\_auto,w\\_500/c\\_pad,h\\_666,w\\_500/v1/products/323116/323116\\_p?pgw=1\)](https://media.officedepot.com/image/upload/b_rgb:FFFFFF,c_pad,dpr_1.0,f_auto,h_666,g_auto,w_500/c_pad,h_666,w_500/v1/products/323116/323116_p?pgw=1), [geology field notebook \(https://encrypted-tbn0.gstatic.com/images?q=tbn%3AAND9GcQZ-mPeIEKn8SEfahJbrSq60w0allyGqbEbxsnOUyfn0O8j4fkaBxp2yP0PA&usqp=CAC\)](https://encrypted-tbn0.gstatic.com/images?q=tbn%3AAND9GcQZ-mPeIEKn8SEfahJbrSq60w0allyGqbEbxsnOUyfn0O8j4fkaBxp2yP0PA&usqp=CAC) (yellow rite-in-the-rain suggested), protractor ([full circle \(https://imgprod65.hobbylobby.com/sys-master/migrated/h9a/hcc/h00/898305992974/216085\\_1%5B5%5D.jpg\)](https://imgprod65.hobbylobby.com/sys-master/migrated/h9a/hcc/h00/898305992974/216085_1%5B5%5D.jpg)), works better than [semi-circle \(https://orcforensics.com/wp-content/uploads/2018/07/Clear-Semi-Circle-Protractor-600x600.jpg\)](https://orcforensics.com/wp-content/uploads/2018/07/Clear-Semi-Circle-Protractor-600x600.jpg)), colored pencils, brunton compass (on loan from department), GPS (on loan from department), calculator, tracing paper.

**Important Note:** This course requires you to learn Adobe Illustrator/Corel drawing package outside of classroom hours. Due to the amount of material we cover, there is no time to teach these packages. Sometimes, the GeoClub offers tutoring/help. I am also available to assist as you learn during office hours. Be prepared to spend some time learning these packages.

### Grading:

See Canvas for Point Totals of each exercise and quizzes.

There will be quizzes on the geological time scale. The time scale is available in the files portion of canvas. These time scale quizzes will account for 5% of your grade (combined score on all quizzes, 70 points total). Each week, you will be required to know more of the time scale. As we say in geology, "No dates, no rates".

Mid-Term Exam=100 points

Final Exam- 150 points

Note: The total number of points available in this class is **1247 points**. Thus, the two exams constitute about 20% of your total grade.

### 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. In order 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. In order 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 (lectures will be posted online).

### Weekly Schedule

**Week 1 (August 25):** 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.

**Week 2 (September 1):** More work with topographic maps. Production of Index maps, additional elevation cross-sections. Discussion on data analysis in geosciences.

**Week 3 (Sept 8):** 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).

**Week 4 (Sept 15):** Simple geological maps with monoclinical dips and the use of structural contours in geology. The difference between and structural contour and a topographic contour. In-class exercise on structural contours. Interlude on the field notebook and rock/mineral descriptions.

**Week 5 (Sept 22):** More work with simple geological maps and geological data analysis using excel. Field exercise using the Jacobs staff (outdoors).

**Week 6 (Sept 29):** Review of Bowen's Reaction Series and Goldich stability series. Review of common sedimentary structures encountered in the field. Quiz on geological time scale. Continuation of Geological maps and scale. Simple geological histories.

**Week 7 (Oct 6):** Stereonet basics including a description of the net and how to plot lines, planes and poles on the stereonet. Homework exercises for the stereonet.

**Week 8 (Oct 13):** Exam 1- Topo maps, scale, geological time scale, 3 point problems, structural contours. Meert will be out of town at GSA Meeting.

**Week 9 (Oct 20):** Handout of more complex geological maps (synforms and antiforms). Tentative Dates for field trip Oct 22-26.

**Week 10 (Oct 27):** Advanced stereonet work and introduction to Google Earth Pro (download Google Earth Pro before this lecture).

**Week 11 (Nov 3):** San Ysidro, NM google Earth Project. Quiz on stereonets and geological time scale.

**Week 12 (Nov 10):** Continuation of Google Earth Pro San Ysidro Project.

**Week 14: (Nov 17):** Final Exam Part 1. Geological Maps and Cross-Sections.

**Week 15 (Nov 24):** No class Thanksgiving Vacation.

**Week 16 (Dec 1):** FINAL EXAM PART 2. Scales, Topo Sheet, Time Scale, Stereonets, 3 point problems

### Academic Honesty

We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity. On all work submitted for credit by students at the university, the following pledge is either required or implied:

"On my honor, I have neither given nor received unauthorized aid in doing this assignment."

**Please note:** This is especially relevant when dealing with online/hybrid course. As we work together to learn in these unique circumstances, it is important that you do your own work. This course is preparing you to act as a licensed professional geologist. As a PG, you will be legally responsible for the work you do and may be required to testify in court that the work is yours and yours alone. This includes giving proper credit to any research/work/product that is not your own.

### Grading Scale (based on 100%)

A: >92%

A-: 89-91.9%

B+: 86-88.9%

B: 83-85.9%

B-: 79-82.9%

C+: 76-78.9%

C: 73-75.9%

C-: 69-72.9%

D+: 66-68.9%

D: 63-65.9%

D-: 59-62.9%

F: <59%

**Accommodations:** Please let me know at the beginning of the semester if you have any special accommodations required for this class. We will make sure to assist you. You should also contact UF's DRC for special accommodations. Just click on this [link](https://disability.ufl.edu/) (<https://disability.ufl.edu/>).

**Final Word:** This course is to help prepare you to work as a professional geologist. 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 GLY4790 Summer Field Camp

Note: Netiquette For this online course

### **SAFETY**

Remember that your password is the only thing protecting you from pranks or more serious harm.

- Don't share your password with anyone .
- Change your password if you think someone else might know it.
- Always log out when you are finished using the system.

### GENERAL (for any course/professional communication)

When communicating online, you should always:

- Treat your instructor and classmates with respect in email or any other
- Always use your professors' proper title: or Prof., or if in doubt use Mr. or Ms.
- Unless specifically invited, don't refer to your instructor by first name
- Use clear and concise language
- Remember that all college level communication should have correct spelling and grammar (this includes discussion boards).
- Avoid slang terms such as "wassup?" and texting abbreviations such as "u" instead of "you."
- Use standard fonts such as Ariel, Calibri or Times new Roman and use a size 10 or 12 font
- Avoid using the caps lock feature AS IT CAN BE INTERPRETED AS YELLING
- Avoid the use of slang
- Be cautious when using humor or sarcasm as tone is sometimes lost in an email or discussion post and your message might be taken seriously or sound rude
- Be careful with personal information (both yours and other's).
- Do not send confidential information via e-mail.

### Email Netiquette

When you send an email to your instructor, teaching assistant, or classmates, you should:

- Use a descriptive subject
- Be specific and brief
- Avoid attachments unless you are sure your recipients can open
- Avoid HTML in favor of plain
- Sign your message with your name and return e-mail
- Think before you send the e-mail to more than one Does everyone really need to see your message?
- Be sure you REALLY want everyone to receive your response when you click, "reply "
- Be sure that the message author intended for the information to be passed along before you click the "forward"

### Discussion Board Etiquette

When posting on the Discussion Board in your online class, you should:

- Make posts that are on topic and within the scope of the course material.
- Take your posts seriously and review and edit your posts before sending.
- Be as brief as possible while still making a thorough comment.
- Always give proper credit when referencing or quoting another source.
- Be sure to read all messages in a thread before replying.
- Don't repeat someone else's post without adding something of your own to it.
- Avoid short, generic replies such as, "I agree." You should include why you agree or add to the previous point.
- Always be respectful of others' opinions even when they differ from your own.
- When you disagree with someone, you should express your differing opinion in a respectful, non-critical way.
- Do not make personal or insulting remarks.
- Be open-minded.



















Recording of Lectures:











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 lecturer during a class session. **Note that GLY4750L is a lab course and therefore recording is not allowed.**

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 Code.

## Course Summary:

Date	Details	Due
Wed Sep 2, 2020	 <a href="https://ufl.instructure.com/calendar?event_id=2158570&amp;include_contexts=course_437680">GLY4750L-08B7(14011) - Geologic Field Method (https://ufl.instructure.com/calendar?event_id=2158570&amp;include_contexts=course_437680)</a>	3pm to 5pm
Wed Sep 9, 2020	 <a href="https://ufl.instructure.com/calendar?event_id=2158571&amp;include_contexts=course_437680">GLY4750L-08B7(14011) - Geologic Field Method (https://ufl.instructure.com/calendar?event_id=2158571&amp;include_contexts=course_437680)</a>	3pm to 5pm
Wed Sep 16, 2020	 <a href="https://ufl.instructure.com/calendar?event_id=2158572&amp;include_contexts=course_437680">GLY4750L-08B7(14011) - Geologic Field Method (https://ufl.instructure.com/calendar?event_id=2158572&amp;include_contexts=course_437680)</a>	3pm to 5pm
Wed Sep 23, 2020	 <a href="https://ufl.instructure.com/calendar?event_id=2158573&amp;include_contexts=course_437680">GLY4750L-08B7(14011) - Geologic Field Method (https://ufl.instructure.com/calendar?event_id=2158573&amp;include_contexts=course_437680)</a>	3pm to 5pm
Wed Sep 30, 2020	 <a href="https://ufl.instructure.com/calendar?event_id=2158574&amp;include_contexts=course_437680">GLY4750L-08B7(14011) - Geologic Field Method (https://ufl.instructure.com/calendar?event_id=2158574&amp;include_contexts=course_437680)</a>	3pm to 5pm
	 <a href="https://ufl.instructure.com/courses/437680/assignments/4819340">Assignment #4: Faults &amp; Coal Seam Tracing (3 point Problem) (https://ufl.instructure.com/courses/437680/assignments/4819340)</a>	due by 11:59pm
Wed Oct 7, 2020	 <a href="https://ufl.instructure.com/calendar?event_id=2158575&amp;include_contexts=course_437680">GLY4750L-08B7(14011) - Geologic Field Method (https://ufl.instructure.com/calendar?event_id=2158575&amp;include_contexts=course_437680)</a>	3pm to 5pm
	 <a href="https://ufl.instructure.com/courses/437680/assignments/4819341">Assignment #5- Complete the Map, more work with structure contours and 3 point problems (https://ufl.instructure.com/courses/437680/assignments/4819341)</a>	due by 11:59pm
Wed Oct 14, 2020	 <a href="https://ufl.instructure.com/calendar?event_id=2158576&amp;include_contexts=course_437680">GLY4750L-08B7(14011) - Geologic Field Method (https://ufl.instructure.com/calendar?event_id=2158576&amp;include_contexts=course_437680)</a>	3pm to 5pm
	 <a href="https://ufl.instructure.com/courses/437680/assignments/4819342">Assignment #6- More Complexities Unconformities, faults and more (https://ufl.instructure.com/courses/437680/assignments/4819342)</a>	due by 11:59pm
Wed Oct 21, 2020	 <a href="https://ufl.instructure.com/calendar?event_id=2158577&amp;include_contexts=course_437680">GLY4750L-08B7(14011) - Geologic Field Method (https://ufl.instructure.com/calendar?event_id=2158577&amp;include_contexts=course_437680)</a>	3pm to 5pm
	 <a href="https://ufl.instructure.com/courses/437680/assignments/4819343">Assignment #7- Introduction to Stereonets (https://ufl.instructure.com/courses/437680/assignments/4819343)</a>	due by 11:59pm
Wed Oct 28, 2020	 <a href="https://ufl.instructure.com/calendar?event_id=2158578&amp;include_contexts=course_437680">GLY4750L-08B7(14011) - Geologic Field Method (https://ufl.instructure.com/calendar?event_id=2158578&amp;include_contexts=course_437680)</a>	3pm to 5pm
Wed Nov 4, 2020	 <a href="https://ufl.instructure.com/calendar?event_id=2158579&amp;include_contexts=course_437680">GLY4750L-08B7(14011) - Geologic Field Method (https://ufl.instructure.com/calendar?event_id=2158579&amp;include_contexts=course_437680)</a>	3pm to 5pm
Thu Nov 5, 2020	 <a href="https://ufl.instructure.com/courses/437680/assignments/4819344">Assignment #8- Complex Structures Antiforms and Synforms (https://ufl.instructure.com/courses/437680/assignments/4819344)</a>	due by 11:59pm
Wed Nov 11, 2020	 <a href="https://ufl.instructure.com/calendar?event_id=2158580&amp;include_contexts=course_437680">GLY4750L-08B7(14011) - Geologic Field Method (https://ufl.instructure.com/calendar?event_id=2158580&amp;include_contexts=course_437680)</a>	3pm to 5pm
	 <a href="https://ufl.instructure.com/courses/437680/assignments/4819345">Assignment #9- Advanced Stereonet work and use of Computer Stereonet program (https://ufl.instructure.com/courses/437680/assignments/4819345)</a>	due by 11:59pm
Wed Nov 18, 2020	 <a href="https://ufl.instructure.com/calendar?event_id=2158581&amp;include_contexts=course_437680">GLY4750L-08B7(14011) - Geologic Field Method (https://ufl.instructure.com/calendar?event_id=2158581&amp;include_contexts=course_437680)</a>	3pm to 5pm

Date	Details	Due
	<a href="#">include_contexts=course_437680</a>	
Wed Nov 25, 2020	 <a href="#">GLY4750L-08B7(14011) - Geologic Field Method (https://ufl.instructure.com/calendar?event_id=2158582&amp;include_contexts=course_437680)</a>	3pm to 5pm
Wed Dec 2, 2020	 <a href="#">GLY4750L-08B7(14011) - Geologic Field Method (https://ufl.instructure.com/calendar?event_id=2158583&amp;include_contexts=course_437680)</a>	3pm to 5pm
Wed Dec 9, 2020	 <a href="#">GLY4750L-08B7(14011) - Geologic Field Method (https://ufl.instructure.com/calendar?event_id=2158584&amp;include_contexts=course_437680)</a>	3pm to 5pm
Fri Dec 11, 2020	 <a href="#">University of Florida GatorEvals – Fall 2020 (https://ufl.instructure.com/calendar?event_id=2158569&amp;include_contexts=course_437680)</a>	11:59pm
Fri Dec 18, 2020	 <a href="#">San Ysidro Map and Cross-Section (https://ufl.instructure.com/courses/437680/assignments/4819352)</a>	due by 11:59pm
Wed Aug 25, 2021	 <a href="#">Pre-Class Planning Assignment (https://ufl.instructure.com/courses/437680/assignments/4819351)</a>	due by 11:59pm
Fri Aug 27, 2021	 <a href="#">Syllabus quiz (https://ufl.instructure.com/courses/437680/assignments/4819333)</a>	due by 11:59pm
Wed Sep 1, 2021	 <a href="#">Assignment #1 Topographic maps, scale and vertical exaggeration (https://ufl.instructure.com/courses/437680/assignments/4819338)</a>	due by 11:59pm
Wed Sep 8, 2021	 <a href="#">Bray California Topo Assignment #2 (https://ufl.instructure.com/courses/437680/assignments/4819346)</a>	due by 11:59pm
Wed Sep 15, 2021	 <a href="#">Assignment # 3: 3 Point Problems (https://ufl.instructure.com/courses/437680/assignments/4819339)</a>	due by 11:59pm