

**GLY3202C-Earth Materials**  
Sections 25187, 28288

**Fall, 2025**

**Meeting Time:** Lecture meets Tuesdays per 4-5 (Wm202) and Lab meets Wed. Per 6-7 (class 28288) or Th per 4-5 (Class # 25187) in Wm 101.

**Contact:**

<b>Name:</b>	<b>Office:</b>	<b>Email:</b>	<b>Phone :</b>	<b>Office Hours:</b>
Dr. Matthew Smith	Wm269	mcsmith@ufl.edu  Zoom join URL: <a href="https://ufl.zoom.us/j/4902865705">https://ufl.zoom.us/j/4902865705</a>	352-392-2106	MWF 12:30-1:30; T1:30-2:30 or by appt.
Teaching Assistant				
Emmanuel Nyavor	Wm375	<a href="mailto:enyavor@ufl.edu">enyavor@ufl.edu</a>		TBA
Owen Yazzie	Wm264	<a href="mailto:oyazzie@ufl.edu">oyazzie@ufl.edu</a>		TBA

**Office Hours:** Scheduled office hours will be held in Wm269 (my office) and via zoom (zoom link below). TA's hours in the offices/zoom links listed above. Hours are on a first come, first served basis (zoom waiting room function enabled). If you are unable to meet during scheduled hours, individual meetings can be set up via email. However, you should NOT HESITATE to seek us out for help when you need it (during office hours or otherwise). Learning to identify and interpret rocks and minerals is an experiential skill that is developed over time. We understand and anticipate that you will need help in developing these skills.

**Course Website:** Maintained in Canvas. Accessed via <http://elearning.ufl.edu>

**Course Communications:** For any class-related questions, students should use the ***Course Questions Discussion Forum***. This will benefit all students that might have similar questions. The instructor will regularly answer all questions and participate in this forum. Students should check if the question they have has already been answered in the forum before posting. Private questions should be sent to the instructor through the course management system, or to her personal e-mail address (this would include questions about grades, late work, etc.). Communications/questions should be responded to within 24 hours during weekdays and 48 hours on weekends.

**Required Course Materials:**

1. Earth Materials: Introduction to Mineralogy and Petrology by Klein and Philpotts 2<sup>nd</sup> Ed (ISBN: 978-1-316-60885-2)
2. Hand Lens, 10X Triplet Loupe (many options available, just be sure it's a decent one. More info is provided on the course canvas page.)

**Recommended Course Materials:** You need additional reference materials in the lab, however, I provide several copies of relevant texts in the lab (they must stay there), so no additional references are required. You may desire to have your own references in which case I recommend an optical mineralogy textbook (I prefer Nesse, but there are several) or other petrography reference like *Minerals in Thin Section* by Perkins and Henke. Additionally, many online references exist and links to a select subset will be provided on the course webpage.

**Course Fees:** \$58.98 additional fee (total) for Materials and Supplies and Equipment Use and Maintenance.

**Course Description and Objectives:** Overview of the origin and occurrence of earth materials with a particular emphasis on the identification and classification of minerals and rocks. Activities involve lecture and a fully integrated laboratory component where students learn to identify and classify minerals and rocks through both macroscopic and microscopic investigation.

The goal of this course is for students to gain familiarity with the most common minerals and rocks and their identification, classification, association and environments of formation on Earth. The course is intended to provide a fundamental understanding of rocks and minerals in preparation for field work and further studies in sedimentology and petrology. Note that this course does not go into great detail regarding either water or soils (both important earth materials) which are the subjects of other dedicated coursework. Students that successfully complete this course should be able to:

1. Recall the most common rock-forming minerals, their chemical formulae and physical properties
2. Understand how composition and structure control mineral physical properties and understand the criteria by which minerals and rocks are classified.
3. Identify, describe and classify the most common rock-forming minerals in hand sample and thin section and associate these minerals with their common rock occurrences
4. Identify, describe and classify the most common igneous, sedimentary and metamorphic rocks
5. Associate rock characteristics (textures, composition) with rock-forming processes interpreted to be responsible for their occurrence.
6. Associate different rock-forming environments on Earth with the rock associations that have been observed to occur in each.

## **Course Design:**

Your instructor will be using a Team Based Learning approach to teach this course. During the first class you will be placed in small teams that will be permanent for the semester. Course content will be broken into topical “modules” that comprise 1-2 chapters in the textbook. Each module has assigned readings and will start with an assigned pre-reading and/or video lecture that must be completed prior to the first day of that module. The first day of the module will consist of an Individual Readiness Assurance Test (I-RAT) and Team Readiness Assurance Test (T-RAT) based on the reading. These tests will be short and multiple-choice. Length will vary with each module from 5-15 questions. Please see the class schedule. The same test will be completed individually and as a team. Pre-readings are designed to provide you with the base knowledge to understand each topic. Class activities will then focus on conceptual understanding and application of the content through discussion and teamwork. Aspects of the application activities will be handed in for individual and team grading. All teamwork will be completed in class except in cases where the teams may opt to meet outside of class.

## **Class Participation:**

Class participation is very important – you should be actively engaged in answering questions and listening to other answers given. You are also expected to ask questions during class about topics you do not understand. There will always be several other students who will benefit from you asking a question. The more engaged you are, the more you will get out of this class. There will be team-based class activities and peer review will form a portion of your grade. With regards to class discussions, this is a **judgment free-zone** where getting answers wrong is equally, if not more valuable, to your learning than getting answers right.

## **Peer Review:**

There will be 2-3 periods of anonymous peer evaluation that will form part of your “quiz” grade. Each individual will evaluate the contributions of all the other team members by assigning an average of 10 points to the other team members. For example, a member of a 6-person team will have 50 points to distribute to the other members of their team. Limitations are that you must differentiate between your point assignments. You must give at least one score of 11 or higher (max. 15) and at least one score of 9 or lower. Individual peer review scores will be the average of points awarded by all the other team members. Your peer review score will be used to moderate your team RAT score. For example, if you were awarded 10, 10, 11, 9, 9 by your 5 team mates your average score would be  $49/5 = 9.8$  or 98%. As long as you score 95% or higher on peer review your team RAT score will not be affected. If you score less than 95% on peer review your team RAT average will be reduced by 1% for each percent below 95% on your peer review. Eg. If your peer review was a 90% your TRAT average would be multiplied by 0.95, if the peer review was 85% the TRAT average would be multiplied by 0.9, etc.

**General education:** GLY3202C, Earth Materials is NOT a GenEd physical science (P) course. This course is an upper division course intended for students majoring (or getting a minor) in the Dept. of Geological Sciences or other closely related fields.

**Prerequisite Knowledge and Skills:** This course presumes that students have had at least one basic introductory geology course that addressed the subject of Earth materials (particularly minerals and rocks). Some review materials are provided to refresh students on the basics that are addressed in courses of this type.

**Attendance and Make-Up Policy:** Requirements for class attendance and makeup exams, assignments, and other work in this course are consistent with UF attendance policy which can be found at: <https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/>. Attendance is required, and although it may not be recorded daily, missing class can be detrimental to your progress and grades. In lab you are expected to stay for the full lab period (~2 hr lab) unless you have a legitimate reason for leaving early and you discuss it with your TA in advance. Labs take a substantial amount of time outside of the scheduled lab period to complete, so it is expected that you will make the most of the in-class time that is available.

All absences are treated the same in that the student is responsible for coming during office hours (or email for an appointment) to discuss recuperation of missed material and the completion of missed assignments. Missed exams and quizzes can only be made up with an excused absence. Missing a quiz due to an unexcused absence will count towards your drop (See below). Similarly, missing a lab deadline without an excused absence can induce a percentage deduction (See below). An exemplary list of generally acceptable reasons for an excused absence is detailed in the UF attendance policy linked above. Because absences are circumstantial, determination of what beyond this list constitutes an excused absence is subject to the instructor's discretion. In general, notifying the instructor about potential conflicts as soon as possible can mitigate problems and allow for planned recuperation. Medical notes, receipts, or any other emergency evidence can help similarly.

**Grading:** Information regarding UF grading policies and grade point assignment can be found at: <https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/>

Breakdown of grade distribution comprising your final semester grade is as follows: Labs and Take Home Assignments 30%, Quizzes 15% (IRAT-4%, TRAT6% and lab quizzes 5%), Low lab practical 10%, High lab practical 15%, hourly exams 30% (3 at 10% each).

A=93%, A-=90-92%, B+=87-89%, B=83-86%, B-=80-82%, C+=77-79%, C=73-76 C-=70-72 D+=67-69%, D=63-66%, D-=60-62%, E=<59%

**Labs/Take Home Assignments:** Labs are issued on Thursdays and are due the following Thursday unless otherwise specified in class. Take home assignments can be assigned on any meeting day and will have due dates specified in the instructions. Labs comprise much of the classroom experience and require a lot of time both inside and outside of class to complete. Time management is imperative, especially when it comes time to use microscopes. Several classes utilize this lab (and therefore the scope to which you are assigned), so if necessity call for it, specific scheduling/sign up for usage will be implemented for your usage outside of normal class hours.

### **Late Work Submission Policy:**

Any late individual assignments will incur a late penalty. I will accept late work up to one week after the original deadline with a deduction of 5% (of the total points) for each day or part thereof (i.e. if your work is graded at 90% and it is 3 days late you will receive a grade of 75%. After this, NO late work will be accepted. If you have a written excuse from a doctor (for illness) or family member (for a family emergency) AND let the instructor know within a week of the assignment being due, you will not be penalized for late work if it is handed in by a re-scheduled date. If you have a preexisting conflict with one of the scheduled exams, an alternative meeting with the instructor must be made at least one week prior to the exam. In case of sudden illness or family emergency, please notify the instructor as soon as possible (within no more than 1 week). Appropriate documentation may be required. No make-ups will be permitted for other, unexcused absences.

**Assessments:** You will have 3 hourly assessments in lecture and two lab practicals. Dates for the assessments are detailed in the course schedule. Weighting for each is described above. Quizzes occur periodically during class meetings or online via canvas and during lab meetings. Quizzes can be written or practical. All quizzes are announced in advance and short in nature. You are allowed two (2) drops for your lowest scoring quizzes. One from the IRAT category and one from lab.

**Important Dates:** 9/30-Hourly Exam 1, 10/29 and 10/30-Midterm Lab Practical, 11/4-Hourly Exam 2, 12/2-Hourly Exam 3, Final Lab Practical -TBA during Final Exam Week- scheduled by section meeting time according to the posted final exam schedule.

## **UF POLICIES:**

This course complies with all UF academic policies. For information on those policies and for resources for students, please see [this link](#)." (The direct link is <https://syllabus.ufl.edu/syllabus-policy/uf-syllabus-policy-links/>.)

### **Disclaimer regarding recording of live sessions:**

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.

Publication without the 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

Note: In the event of Zoom meetings (for example, an evening review session), these may be audio visually recorded by the instructor for students in the class to refer back and for enrolled students who are unable to attend live. Students who participate with their camera engaged or utilize a profile image are agreeing to have their video or image recorded. If you are unwilling to consent to have your profile or video image recorded, be sure to keep your camera off and do not use a profile image. Likewise, students who un-mute during class and participate orally are agreeing to have their voices recorded. If you are not willing to consent to have your voice recorded during class, you will need to keep your mute button activated and communicate exclusively using the "chat" feature, which allows students to type questions and comments live. The chat will not be recorded or shared.

**University Policy on Accommodating Students with Disabilities :** Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the disability Resource Center. [Click here to get started with the Disability Resource Center](#). 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. You must submit this documentation prior to submitting assignments or taking the quizzes or exams. Accommodations are not retroactive; therefore, students should contact the office as soon as possible in the term for which they are seeking accommodations.

**Student Evaluation of Course and Instructor:** 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 [gatorevals.aa.ufl.edu/students/](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 [ufl.bluera.com/ufl/](http://ufl.bluera.com/ufl/). Summaries of course evaluation results are available to students at [gatorevals.aa.ufl.edu/public-results/](http://gatorevals.aa.ufl.edu/public-results/).

**Academic Honesty:** By enrolling in this course, you agree to the University's Honor Code: <https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/>

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 Conduct Code specifies a number of behaviors that are in violation of this code and the possible sanctions. Click [here](#) to read the Conduct Code. If you have any questions or concerns, please consult with the instructor or TAs in this class.

Failure to comply with this code will result in a failing (E) grade in this course. If you are unsure if what you are doing would constitute breaking the code, contact the instructor. For example, working as a group in lab is a good way to bounce ideas and learn from each other. However, each student still needs to turn in their own individual work and come to their own justifiable conclusions.

**NETIQUETTE: COMMUNICATION COURTESY:** All members of the class are expected to follow rules of common courtesy in all email messages, threaded discussions and chats.  
<http://teach.ufl.edu/docs/NetiquetteGuideforOnlineCourses.pdf>

## **Campus Resources:**

### **Health and Wellness**

*U Matter, We Care:* If you or someone you know is in distress, please contact [umatter@ufl.edu](mailto:umatter@ufl.edu), 352-392-1575, or visit [U Matter, We Care website](#) to refer or report a concern and a team member will reach out to the student in distress.

*Counseling and Wellness Center:* [Visit the Counseling and Wellness Center website](#) or call 352-392-1575 for information on crisis services as well as non-crisis services.

*Student Health Care Center:* Call 352-392-1161 for 24/7 information to help you find the care you need, or [visit the Student Health Care Center website](#).

*University Police Department:* [Visit UF Police Department website](#) or call 352-392-1111 (or 9-1-1 for emergencies).

*UF Health Shands Emergency Room / Trauma Center:* For immediate medical

care call 352-733-0111 or go to the emergency room at 1515 SW Archer Road,

Gainesville, FL 32608; [Visit the UF Health Emergency Room and Trauma Center website.](#)

*GatorWell Health Promotion Services:* For prevention services focused on optimal wellbeing, including Wellness Coaching for Academic Success, visit the [GatorWell website](#) or call 352-273- 4450.

## **Academic Resources**

*E-learning technical support:* Contact the [UF Computing Help Desk](#) at 352-392-4357 or via e-mail at [helpdesk@ufl.edu](mailto:helpdesk@ufl.edu).

[Career Connections Center](#): Reitz Union Suite 1300, 352-392-1601. Career assistance and counseling services.

[Library Support](#): Various ways to receive assistance with respect to using the libraries or finding resources.

[Teaching Center](#): Broward Hall, 352-392-2010 or to make an appointment 352- 392-6420. General study skills and tutoring.

[Writing Studio](#): 2215 Turlington Hall, 352-846-1138. Help brainstorming, formatting, and writing papers.

[Academic Complaints](#): Office of the Ombuds; Visit [the Complaint Portal webpage](#) for more information.

[Enrollment Management Complaints \(Registrar, Financial Aid, Admissions\)](#): View the [Student Complaint Procedure webpage](#) for more information

### **Getting Help:**

For issues with technical difficulties for E-learning, please contact the UF Help Desk at:

- [helpdesk@ufl.edu](mailto:helpdesk@ufl.edu)
- (352) 392-HELP - select option 2
- <http://helpdesk.ufl.edu/>

Any requests for make-ups due to technical issues MUST be accompanied by the ticket number received from The Help Desk when the problem was reported to them. The ticket number will document the time and date of the problem. You MUST e-mail your instructor within 24 hours of the technical difficulty if you wish to request a make-up.



**Tentative Schedule (likely to change to meet demands as semester progresses)**

Week	Date	Day	Klein and Philpotts Readings	Topic Lecture (blue) / Lab (white)	
1	21-Aug	R		Informal Lab Meeting First day	
2	26-Aug	T	Ch 1	Course Introduction, Intro to Team-Based Learning, Organization into teams	
2	27/28-Aug	W/R	3,7	Lab 1: Macro Mineral ID Part1	Mineral group 1 assigned
3	2-Sept.	T		CH 1 Earth Structure/PT Review	RAT (Ch 1 and 2)
3	3/4-Sep	W/R	3,7	Lab 2: Macroscopic Mineral ID Part 2-Identifying minerals in rocks	
4	9-Sep	T	1-2	Chemistry review/bonding/mineral groups	RAT Ch3
4	10/11-Sep	W/R	6	Lab 3 a/b: Intro to the Petrographic microscope/performing optic tests	Lab Quiz 1-Properties and Macro Mineral ID (mineral group 1), Mineral group 2 assigned
5	16-Sep	T	4,5	Introduction to Crystallography	CH 4-5 RAT;
5	17/18-Sep	W/R	6	Lab 3 cont.: Intro to the Petrographic microscope/performing optic tests (cont.)	Lab Quiz 2- Parts of the petrographic microscope
6	23-Sep	T	5/6	Wrap crystallography and continued Introduction to petrography and the polarizing optical microscope	
6	24/25-Sep	W/R		Lab 4 (3C): Optical identification of minerals	
7	30-Sep	T	Ch1-5 (exam), 8	Hourly Exam 1: ch 1-5 (Tues), More on CH 6 Optics	
7	1/2-Oct	W/R	10	Lab 5: Focus on Igneous Minerals in Thin Section	
8	7-Oct	T		Magma and Igneous Processes Igneous processes and rock classification (Module 5)	Ch 8/9 RAT, HW2: Phase diagrams
8	8/9-Oct	W/R	10	Lab 6a: Describing and Classifying Igneous Rocks In HS and Thin section	

9	14-Oct	T	9,10	More Module 5 (phase diagrams)	Ch 8/9 (2 <sup>nd</sup> ed) HW 1 Assigned: Ternary plotting and Calculating Mineral Formulae.
9	15/16-Oct	W/R	10	Lab 6b: Describing and Classifying Igneous Rocks In HS and Thin section	
10	21-Oct	T	10	Intrusive and extrusive features and landforms	Ch 10 (9 in 1 <sup>st</sup> Ed) <b>Module 6 RAT</b>
10	22/23-Oct	W/R		Midterm Exam Review	<b>Lab Quiz.</b> Performing optic tests, microscope ID of group 1
11	28-Oct	T	10	Igneous associations	<b>Lab Quiz:</b> Mineral group 2 assigned (Due Friday 10/25)
11	29/30-Oct	W/R		<b>Lab Midterm 1 (Through Igneous Rocks)</b>	HW: Sed. Worksheet, Mineral Group 3 assigned
12	4-Nov	T	6-10 (exam)/12	<b>Hourly Exam 2 (ch 6-10) (Tu),</b> Weathering and the sedimentary cycle (Th)	
12	5/6-Nov	W/R	11/13	Sedimentary rock description, classification and interpretation	<b>Lab Quiz:</b> Mineral group 3 due (by lab time)
13	11-Nov	T	12/13	Veterans Day. No Class	
13	12/13-Nov	W/R	11/13	Sedimentary rock description, classification and interpretation	<b>Quiz:</b> Sed rock classification (due Tuesday online)
14	18-Nov	T	12	Sedimentary rock classification, Occurrence and PT associations cont.	<b>Ch 12-13 RAT</b> Mineral group 4 assigned, <b>Lab</b>
14	19/20-Nov	W/R	14/15	Metamorphism and classification of met rocks	<b>In lab Quiz:</b> <b>Sedimentary and Metamorphic rocks.</b> Lab Due by Wed 12/4.
<b>24-29-Nov No Classes: Thanksgiving Break</b>					
15	25-Nov	T	14/15	Metamorphism and classification of met rocks	<b>CH 14/15 RAT;</b> HW- Met. Worksheet, <b>Lab Quiz 7-</b> Mineral Group 4 due Tuesday
15	26/27-Nov	W/R	14/15	Metamorphism and classification of met rocks	<b>In lab Quiz:</b> <b>Metamorphic rocks and minerals</b>
16	2-Dec	T	14/15	<b>Hourly Exam 3</b>	

16	3/4-Dec	W/R		No Class.	
17	9-Dec	T			
<p><b>The LAB FINAL EXAM will be held during finals week. Because lab spans two periods there are two possible times according to the ISIS final Exam Schedule. Accordingly which of those options we choose is TBA.</b></p>					