GLY3202C-Earth Materials **Spring, 2015**
Sections 13H4 and 5358 (3-cr)

Meeting Time: Lecture meets Tuesdays per 4-5 (Wm202) and Lab meets either Th per 4-5 (section 13H4) or Th per 6-7 (section 5358) (Wm 214)

Contact:

Name:	Office:	Email:	Phone:	Office Hours:
Dr. Matthew Smith	WM 269	mcsmith@ufl.edu	352-392-2106	MW Period 5; T per 7
Ryan Wilhelmi	Wm	rwilhelmi@ufl.edu	NA	T 1:00 - 2:00 PM, W 2:00 - 3:00 PM

Office Hours:

Schedule office hours are on a first come, first served basis. 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.

Required Course Materials:

Textbook:

Required: Earth Materials: Introduction to Mineralogy and Petrology by Klein and Philpotts (ISBN: 978-0521-14521-3)

Hand Lens, 10X Triplet Loupe (many options available here, just be sure it's a decent one)

Recommended Course Materials:

You will have need of additional reference materials in the lab**,** however I provide several copies of relevant texts in the lab (the 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.

Goals & Objectives:

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. Identify, describe and classify the most common rock-forming minerals in hand sample and thin section and associate these minerals with their common rock occurances
3. Identify, describe and classify the most common igneous, sedimentary and metamorphic rocks
4. Associate rock characteristics (textures, composition) with rock-forming processes interpreted to be responsible for their occurrence.
5. Associate different rock-forming environments on Earth with the rock associations that have been observed to occur in each.

Attendance:

Attendance is compulsory through frequent quizzes/in-class activities. Though it is not recorded, 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.

Make-Up Policy:

This course meets for two periods and covers a lot of material. Due to this nature, all absences are treated the same in that it is the responsibility of the student to come during office hours (or email for an appointment) in order to discuss recuperation of material missed. Missing a quiz due to an unexcused absence will count towards your drop (See below). Similarly, missing a lab deadline can induce a percentage deduction (See below). Since absences are circumstantial, this policy is subject to change at the discretion of the instructor. 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 evidence of an emergency can help in a similar manner.

Grading: Labs/Take Home Assignments 30%, Quizzes 15%, 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 therefor 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 labs will receive a 5% reduction in grade for each day late unless (unless due to an excused absence) and must be turned in person to the TA or placed in the TA's mailbox. We reserve the right not accept late work if it is deemed too late in submission.

Assessments:

You will have 3 hourly assessments in lecture and two lab practicals. Weighting for each is described above. Quizzes occur periodically during class meetings and weekly during lab meetings. Quizzes can be written or practical. All quizzes are short in nature and assess material from previous lecture or lab experiences. You are allowed two (2) drops for your lowest scoring quizzes.

University Policy on Accommodating Students with Disabilities :

Students requesting accommodation for disabilities must first register with the Dean of Students Office (is http://www.dso.ufl.edu/drc/). The Dean of Students Office will provide documentation to the student who must then provide this documentation to the instructor when requesting accommodation. 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.

Academic Honesty:

By enrolling in this course, you agree to the University's Honor Code:
http://www.dso.ufl.edu/sccr/honorcodes/honorcode.php

Failure to comply with this code will result in a failing (E) grade in this course. Breaching the code will not be tolerated and will be dealt with strictly and swiftly. 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.

Class Conduct:

All students are expected to follow the Student Conduct Code outlined here:
http://www.dso.ufl.edu/sccr/honorcodes/conductcode.php

Punctuality is important, especially since quizzes are given at the start of class. All students are expected to behave professionally and responsibly. If there are conflicts with the course material or instructor, it is important to communicate this to the proper authorities as soon as possible. The microscopes are expensive and sensitive devices, therefore food and drink are not allowed in the labs. Thin sections are fragile, so students must follow proper microscope handling techniques. You will be assigned a microscope and cabinet key. You MUST return this key at the end of the term. Your grade will not be assigned until you do so. All other policies and procedures must be abided by in order for the class to run smoothly.

Netiquette: Communication Courtesy :

All members of the class are expected to follow rules of common courtesy in all email messages, threaded discussions and chats. [Describe what is expected and what will occur as a result of improper behavior – http://teach.ufl.edu/docs/NetiquetteGuideforOnlineCourses.pdf

Tentative Schedule of Topics

Week	Date	Day	Klein and Philpotts Readings	Topic Lecture (blue) / Lab (white)	
1	25-Aug	T	1-2	Course Introduction, CH 1 Earth Structure/PT Review	
	27-Aug	R	3	Macroscopic Mineral ID Part 1	
2	1-Sep	T	2,4	Chemistry review/bonding/mineral groups	
	3-Sep	R	3, 7	Macroscopic Mineral ID Part 2, introduction to rock description.	Mineral group 1 assigned
3	8-Sep	T	5	Introduction to Crystallography	
	10-Sep	R	6	Intro to the Petrographic microscope/performing optic tests	Lab Quiz 1-Properties and Macro Mineral ID (mineral group 1), Mineral group 2 assigned
4	15-Sep	T	6	Introduction to petrography and the polarizing optical microscope	
	17-Sep	R	6	Intro to the Petrographic microscope/performing optic tests (cont.)	Lab Quiz 2- Properties and Macro Mineral ID of mineral group 2
5	22-Sep	T	7	**Hourly Exam 1 (ch 1-5)**, Magma and Igneous Processes	
	24-Sep	R	6	Optical identification of minerals	Lab Quiz 3-optic tests on the microscope: Microscope setup.
6	29-Sep	T	8,9	Igneous processes and rock classification cont.	HW: Ternary Plotting and Phase diagrams
	1-Oct	R	9	Description and classification of igneous rocks in hand specimen	Lab quiz 4: performing optic tests on the mmicroscope
7	6-Oct	T	9	Intrusive structures	
	8-Oct	R	9	Describing and Classifying Igneous Rocks In HS and Thin section	Lab Quiz 5- Mineral ID by optical microscope.
8	13-Oct	T	9	Volcanic features and landforms	
	15-Oct	R	9	Describing and Classifying Igneous Rocks In HS and Thin section	Lab Quiz 6: Igneous rock classification
9	20-Oct	T	9	Igneous associations	

	22-Oct	R	**Lab Midterm 1**	**Lab Midterm 1 (Through Igneous Rocks)**	Mineral group 3 assigned
10	27-Oct	T	10/11	**Hourly Exam 2 (ch 6-9)**, Weathering and the sedimentary cycle	HW: Sed. Worksheet,
	29-Oct	R			
11	3-Nov	T	11/12	Sedimentary rock classification, Occurrence and PT associations	
	5-Nov	R	11/12	Classifying Sedimentary Rocks	Lab Quiz 7:Mineral group 3
12	10-Nov	T	12	Sedimentary rock classification, Occurrence and PT associations cont.	
	12-Nov	R	11/12	Classifying Sedimentary Rocks	Lab Quiz 8: Sed rock classification
13	17-Nov	T	13/14	Metamorphism and classification of met rocks	HW- Met. Worksheet, mineral group 4
	19-Nov	R	13/14	Metamorphic rock description, classification and interpretation	
14	24-Nov	T	13/14	Metamorphism and classification of met rocks	"Lab" Quiz 9- mineral group 4
	26-Nov	R	13/14	**Thanksgiving. No class.**	
15	1-Dec	T	13/14	Metamorphic facies and environments of met.	
	3-Dec	R	13,14	Metamorphic rock description, classification and interpretation	"Lab" Quiz 10- met rock terminology/ classification
16	8-Dec	T		**Hourly Exam 3**	
			The LAB FINAL EXAM will be held during finals week. Because each 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		

*All topics and dates are tentative and subject to change