GSCI 310: Mineralogy
Fall 2010

COURSE SYLLABUS

Instructor: Ron Schott
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GTalk, Skype: HaysRockDoc **Twitter:** rschott
Office Hours: MWF 8:00-9:00am, TuTh 10:30-11:30am, or by appointment (please schedule appointments by e-mail)

Meeting Times:
Lecture: MWF, 1:30 - 2:20pm in 217 Tomanek Hall

Text Book: Introduction to Mineralogy by William D. Nesse (2000) Oxford, New York, NY, 442 p. - available in the Campus Bookstore. Recommended supplement: Rocks and Minerals: A Guide to Field Identification by Charles A. Sorrell and George Sandstrom (2001) ISBN-10: 1582381240

Course Website: http://hays.outcrop.org/GSCI310/ Also via Blackboard.

Course Schedule: A schedule for this course, which includes lecture topics, reading assignments and examinations, is posted on the Blackboard website. Examination dates will be confirmed, during class, one week in advance.

Course Description: This course is an introduction to the study of minerals designed for all persons pursuing advanced study of the Earth. Lecture topics include the basic principles of crystallography and their application, important concepts in mineralogy, geometry and physical-chemical relationships observed in minerals, systematic classification and identification of minerals, and study of mineral occurrences and associations. Prerequisite are classes in physical geology and general chemistry, however, the chemistry may be taken concurrent with this course. Mineralogy is an important basis for many of the upper level courses in a geology undergraduate program.

Upon successful completion of this course, students are expected to attain the following goals:

- Master the basic principles and concepts of crystallography and mineralogy.
- Achieve a strong understanding of the basis for mineral classification.
- Be proficient in the techniques required for mineral identification/description.
- Display a professional knowledge of mineral occurrences and associations.

Student Objectives: Given a group of minerals, a student will be able to:

- Interpret their geologic origin and tectonic/environmental setting
- Evaluate whether one of more of the minerals do not belong with the others in the group
- Predict other minerals that might be found in association with these
- Evaluate the resource potential of minerals in the region
- Design an analytical plan using optical, chemical, and structural (XRD) tools to further describe these minerals

Student Workload: In order to receive an average grade at FHSU, students are advised to expect to spend about two hours of studying and preparation for each hour spent in class. That amounts to about six hours of studying *per week* in order to get a B-/B this class. The time you need to spend may vary, depending on your study skills and your academic goals.

Disability Accommodations: In compliance with Fort Hays State University policy and equal access laws, disability-related accommodations or services are available. Students who desire such services are to meet with the professor in a timely manner, preferably the first week of class, to discuss their disability-related needs. For more information on university policies see the FHSU catalog beginning on page 30.

Course Grade: Credit for GSCI 310 is only awarded upon the successful completion of the course. We all want you to succeed in this course. Any student experiencing difficulty with course material should arrange for an immediate conference. Please do not hesitate to do so because many times performance problems can be overcome if they are brought to the attention of the instructor. A tutor may also be available for this course.

The breakdown for your final grade is as follows:

Lecture Exams (4 @15% each)	60%
Quizzes	15%
Homework Assignments	15%
Attendance and Participation	10%
Final Course Grade	100%

Nominally and at a minimum, final grades will be assigned according to the following grading scale:

A = 100% - 90% B =90% - 80% C =80% -70% D =70% - 60% U = 60% - 0%

In general, the class average is expected to fall in the B-/B range (~ 2.7 to 3.0 on a 0 to 4.0 point GPA scale - excluding drops). Because I prefer to give more challenging exams, I reserve the right to modify this curve slightly (only adjusting grades upward), if necessary. This modification will occur at the end of the semester when all scores are compiled. In order to gauge your progress during the semester the best barometer will be grade distribution curves which I will publish on the class website after each exam. Any student who is concerned about their grade is encouraged to discuss their progress during office hours.

Exams: There will be four lecture exams. Exams constitute the largest subtotal of your final grade. You are advised to be well prepared for each. Each lecture exam will cover approximately three to four weeks of lecture material. Exams will generally be made up of short answers or short essay questions. Study guides will be posted to the class website approximately one week in advance of each exam. All exam make-ups must be completed promptly. E-mail me ASAP to arrange them, if necessary.

Quizzes: Twenty Blackboard-based quizzes will be given throughout the semester (five per exam). The best 15 of these will constitute 15% of your final grade. Quizzes may cover reading assignments, recent lectures, field observations, mineral identification, etc. These are meant to give you ongoing feedback on your progress and to prepare you for exam-type questions.

Homework Exercises: Homework assignments are intended to give you practice at the practical application of the skills learned in this class. Five graded homework assignments will constitute 15% of your final grade. Take the time required to do a quality job on these.

Attendance and Participation: Ten percent of your final grade will be based on attendance and participation. Attendance in class is required. Brief, in lecture, "attendance and participation quizzes" may constitute up to half of the attendance and participation grade.

To receive full credit in this category you are expected to attend class regularly (<5 absences for the entire semester) *and* demonstrate your active involvement in the class by asking questions, paying attention, and answering intelligently when called upon. Additional absences, unpreparedness, and general malaise will result in a lower grade.

As another measure of participation, I expect you to check the class website frequently and keep abreast of geology in the news. Finally, I expect you to e-mail me whenever you run into questions about the material, need to schedule make-ups or extra help, or just want to share something that you found interesting about the class.

Computer Policy: I make fairly heavy use of the internet in class and I strongly encourage students to bring their laptop/tablet/mobile computing devices to class regularly, as well. During the course of the semester there may be one or more lectures (announced in advance) when I require students to have access to a mobile computing device in class that runs, at a minimum, a Flash-enabled web browser and Google Earth. I expect every student to use their computer responsibly in support of their learning experience. Any usage that distracts other students or otherwise hinders the teaching of the subject matter will not be tolerated.

Study Tips: Always read textbook assignments prior to class meetings and bring the textbook to class. When reading the assigned chapters, it is useful to write down terms and concepts that are not clear to you. Ask about these terms and concepts in class, on the discussion board, via e-mail, or during office hours. Lecture notes should be reviewed on a daily basis and coordinated with textbook assignments. Before exams, be sure to work through all of the questions on the study guides that are posted on the class website. Finally, discuss mineralogy with your classmates, roommates, and anyone else who's interested!

Office Visits: Come early and often. I expect everyone to stop by at least once during the first two weeks of class. You don't need to have a mineralogy question. Just stop by and shoot the breeze once in a while. Of course, if you do have mineralogy questions don't hesitate to ask. If you can't make it during my scheduled office hours e-mail me your question or make an appointment to meet me at another time. Anyone who receives an exam grade of C or worse is expected to make an office visit to discuss a strategy for improving your performance.

"The quality of a person's life is in direct proportion to their commitment to excellence, regardless of their chosen field of endeavor."

-- Vince Lombardi