



Instructor: Dr. Sarah Penniston-Dorland

Fall 2012

Lecture: M,W 9:00-9:50 am, Plant Sciences Building Rm. 1172

Lab: W (0101) 10:00 am-1:00 pm Geology Building Rm. 2117

Office hours: Mondays, 10:00-11:00 am, or by appointment, Chemistry Building 1221B

email: sarahpd@umd.edu, tel: (301) 405-6239

Teaching assistant: Katherine Watter

Office hours: Wednesdays, 3-5 pm, or by appt., Geology Building (GEOL 3106)

email: katherine.watter@gmail.com

Required textbook: Introduction to Mineralogy by William D. Nesse, ISBN: 0-19-510691-6

Course Description: The optical behavior of crystals with emphasis on the theory and application of the petrographic microscope.

Blackboard: <http://www.elms.umd.edu>

Grading:

Lab Exercises	25%	<i>For each of the midterms and wiki assignments the percentage grades are averaged to obtain a final percentage grade for the category. For the labs and homework assignments, since the length of these is more variable, the total points for each assignment are added together and the percentage is calculated out of the total points for the category.</i>
2 Midterm Exams	20%	
Mineral Project	20%	
Comprehensive Final	10%	
Final Lab Exam	10%	
Homework Exercises	5%	
Class wiki	5%	
Participation	5%	

There will be no extra credit opportunities offered.

DETAILS OF THIS CLASS

Exams: There will be two midterm exams and a comprehensive final. Exams will consist of multiple choice, definition, sketches, short answer and/or essay questions. You may not use notes or any other study aids on exams or quizzes. There are no specially scheduled or makeup exams. Exceptions will be made for students with disabilities or extenuating circumstances that have been officially recognized by the university. Arrangements must be made at least one week in advance of the examination.

Project: There will be a mineral project that spans the course of the entire semester. In this project students will receive an unknown mineral. Students will be required to describe and identify their unknown mineral using a wide variety of techniques. Students will hand in a written report based on their results and present the results in an oral presentation to the class.

Class Wiki: At the beginning of the semester there will be a wiki assignment due each week. The course has a wiki site through Blackboard at <http://elms.umd.edu/>. Each class member has a section on the mineral of the week wiki page. For most weeks, this will consist of an assignment investigating the mineral of the week. Students will be required to look up information about each mineral and add images, links and information about the mineral to the page by the end of each week.

Labs: The labs may require more than the three-hour lab period to complete. The key to the microscope cabinets is accessible to registered students in this course. You may retrieve the key from Ms. Dorothy Brown in the office on the first floor of the Geology Building, Geol 1120.

Reading: The student is expected to read the reading assignment *before* the class or lab time for which it is assigned.

Participation and attendance: Your participation grade is based on general classroom participation (attendance, responses to questions, questions asked) and on specific participation exercises offered throughout the semester. Exams will be based largely on material presented in the class/lab as well as the reading assignments. If you miss a lecture or lab, it is your responsibility to obtain notes from a colleague. If you are absent from any lecture/lab it is your responsibility to provide the instructor with documentation of a university-approved absence. Upon receipt of proper documentation you will be permitted to make up missed work.

Late penalty: 10% of the grade will be deducted for *each day* that an assignment (lab, homework, etc.) is handed in after the due date. Exceptions will be made for absences due to *documented* university-approved absences.

Supplies needed for lab, class and/or exams: colored pencils, calculator, ruler, protractor, memory stick

Class communications: I will use the email addresses that you have registered with the university for communication regarding any class matters. Please make sure you check that email address regularly.

University closures: If the University is closed for an extended period of time, I will deliver course material and assignments using the Blackboard system and communicate with you through email.

GENERAL POLICIES

Academic Accommodations: If you have a documented disability, contact Disability Support Services, 0126 Shoemaker Hall. Each semester students with documented disabilities should apply to DSS for accommodation request forms and provide them to your professors as proof of your eligibility for accommodations. The rules for eligibility and accommodations a student may request are on the DSS web site at http://www.counseling.umd.edu/DSS/receiving_serv.html.

Religious Observances: The University System of Maryland policy provides that students should not be penalized because of observances of their religious beliefs, students shall be given an opportunity, whenever feasible, to make up within a reasonable time any academic assignment that is missed due to individual participation in religious observances. It is the responsibility of the student to inform the instructor of any intended absences for religious observances in advance.

Notice should be provided as soon as possible but no later than the end of the scheduled adjustment period. Prior notification is especially important in connection with final exams, since failure to reschedule a final exam before the conclusion of the final examination period may result in loss of credits during the semester.

Academic Integrity: The University of Maryland, College Park has a nationally recognized Code of Academic Integrity, administered by the Student Honor Council. This Code sets standards for academic integrity at Maryland for all undergraduate and graduate students. As a student you are responsible for upholding these standards for this course. It is very important for you to be aware of the consequences of cheating, fabrication, facilitation, and plagiarism. For more information on the Code of Academic Integrity or the Student Honor Council, please visit <http://www.studenthonorcouncil.umd.edu/whatis.html>.

Academic Integrity and Labs: I encourage students to communicate during labs and to show each other what they are looking at under the microscope. I feel that this type of sharing enhances learning and understanding. However, each student must hand in his or her own written lab assignments. You may not directly copy what another student has written on his or her lab assignment. Also, you must find your own examples of a given mineral or whatever is assigned. **You may not swap microscopes once you have found an example and let another student sketch the same field of view.** Part of the learning experience is looking for minerals, finding them, and adjusting the various parts of the microscope in order to determine various optical properties. You may ask for assistance with any of these processes, but you may not sketch a field of view on a preset microscope.

Course materials: I own copyright in course materials that I develop and in my lectures under both federal copyright law and common law. You have a right to take notes in class for your personal use. You do not have any right to record my lectures, copy my course materials and/or copy notes you take in my class to distribute to any one else or to make any commercial use of without express prior permission from me.

Course Evaluations: CourseEvalUM will be open for students to complete their evaluations for Spring 2011 courses between Tuesday, November 29 and Wednesday, December 14. Students can go directly to <http://www.courseevalum.umd.edu> to complete their evaluations, beginning November 29. You will be alerted about these dates and provided more information closer to that time, and students will be alerted via their official University e-mail account. Students who complete evaluations for all of their courses in the previous semester (excluding summer), can access the posted results via Testudo's CourseEvalUM Reporting link for any course on campus that has at least a 70% response rate. The expectation is that all students will complete these evaluations. This is YOUR chance to anonymously evaluate this class: please use this opportunity!

Lecture, Lab and Project Schedule

Date	Lecture topic	Reading	Lab Exercise	Project
8/29	Introduction	p. 114-21	<i>Petrographic Microscope</i>	Mineral assignments
9/3	LABOR DAY			
9/5	Light	p. 175-80	<i>Index of refraction</i>	
9/10	Light		<i>Isotropic minerals</i>	Sample cutting
9/12	Refractometry	p. 151-55		
9/17	Optics of isotropic minerals	p. 121-2, 130-1	<i>Interference phenomena</i>	
9/17	Homework #1 due	p. 157-9		
9/19	Optics of anisotropic minerals	p. 122-9, 137-9		
9/24	Optics of anisotropic minerals		<i>Uniaxial minerals I</i>	
9/26	Uniaxial optics	p. 131-3, 136-7		
10/1	Uniaxial optics	p. 139-43		
10/3	Uniaxial optics		<i>Uniaxial minerals II</i>	
10/3	Homework #2 due			
10/8	MIDTERM I	p. 160-8	<i>Mineral Projects</i>	Photograph samples
10/10	Biaxial optics			
10/15	Biaxial optics	p. 133-36	<i>Biaxial minerals I</i>	10/17 Hand sample and grain mount descriptions due
10/17	Biaxial optics	p. 143-51		
10/22	Biaxial optics			Photograph samples
10/22	Homework #3 due			
10/24	Feldspars	p. 208-28	<i>Biaxial minerals II</i>	
10/29	Electron Microprobe	p. 169-74	<i>Intermediate and felsic rocks</i>	10/31 Thin section descriptions due
10/31	Electron Microprobe			
11/5	Mafic Minerals		<i>Mafic and ultramafic rocks</i>	
11/7	Biaxial optics			
11/7	Homework #4 due			
11/12	Pelitic Minerals		<i>Pelitic rocks (aluminous)</i>	
11/14	Biaxial optics			
11/19	Carbonates and calc-silicates		<i>Calc-silicate rocks</i>	
11/21	MIDTERM II			
11/26	Reflected light	p. 156-7		11/26 Microprobe results due
11/28	Reflected light		LAB FINAL EXAM	
12/3	Reflected light			
12/5	Review		<i>Opaque minerals</i>	
12/10	Mineral project presentations			Oral presentations
12/12	Written Mineral Project Report Due by 5 pm			
12/17	COMPREHENSIVE FINAL EXAM Monday, December 17 8:00-10:00 am			

This schedule is tentative and may be modified at any point during the semester.