

SIO 152: Introduction to Petrology and Petrography

Lecture: M/W 9:30 AM – 10:50 AM (Ritter 229)
Laboratory: M/W 11:00 AM – 12:20 PM (Ritter 229)

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General Note

This syllabus is an outline of proposed events. It is subject to change; however, never without notification, and never to advance the due dates of assignments.

Course Description

Petrology concerns the origin, composition, distribution and structure of rocks. Rocks provide the physical clues to understanding how the Earth works, and how the system has changed over time. Understanding of petrology is critical for a firm understanding of virtually all aspects of the Earth system. In this course you will study sedimentary, igneous and metamorphic processes using rock and thin-section descriptions (petrography). There will also be discussion of how different compositions and conditions influence phases present in igneous rocks (phase equilibria) and metamorphic rocks (metamorphic reactions). An important facet of petrology is also to understand the association of rocks types with tectonic setting. Skills will include: identification of common rock-types, including their textures and mineralogy in hand-specimen and in thin-section using a petrographic microscope; understanding of rock-types associated with tectonic setting; understanding of phase equilibria, metamorphic reactions and sedimentary processes

Class Organization

- You will be assessed on the lecture and laboratory portions of class by one midterm exam worth 15%, a final exam worth 20%, and three homework assignments worth 5% each.
- The lab portion of the class will be worth 50% of your grade and assignments will be due weekly. These will typically be returned after 1 week.

The lecture text is *Petrology*, by Blatt, Tracy and Owens (3rd edition). The suggested laboratory text is *Petrography of Igneous and Metamorphic Rocks*, by Philpotts. **You are responsible for reading the chapters assigned, and the exams will include material covered in the text.** Please note, there will be information covered in class that is not covered in the book, and students are responsible for all material that is presented during lectures.

An optical mineralogy text is also recommended. The following suggestions will be useful to you:

- Nesse, 2003. Introduction to Optical Mineralogy. Oxford, 3rd Ed.
- Deer, Howie, Zussman, 1992. An introduction to rock-forming minerals. Longman.
- Philpotts, 1989. Petrography of igneous and metamorphic rocks.
- Kerr (or Rogers and Kerr), (various publication dates). Optical mineralogy. (The 'Rolls Royce' of optical mineralogy textbooks!)

Other required materials

10 x or better hand lens

Absences and Missed Work

There will be no make-up examinations. In the case of legitimate conflicts, notification is required at least one week before the regularly scheduled examination. In the case of deaths, accidents, or sickness, notification is appreciated as soon as possible and is required within one week of the regularly scheduled examination time. *All excuses must be in writing.*

Classroom Conduct

Disruptions during lecture will not be tolerated. Disruptive behavior including talking, excessive noise, poor behavior towards other students or instructors/TAs, arriving late/leaving early, reading newspapers in class, inappropriate language/comments in lecture/lab or on-line, or ringing cell phones will result in your being asked to leave the class. **Use of cell phones during class is not appropriate.** Continued disruption will result in failing grade and denial of re-enrollment. It is to your benefit to arrive on time because most announcements and assignments occur at the beginning of lecture/laboratory.

Accommodations for Documented Disabilities

Any student with a documented disability is welcome to contact me as early in the semester as possible so that we may arrange reasonable accommodations. As part of this process, please be in touch with the UCSD Office of Disability Resources (<http://disabilities.ucsd.edu/>).

Academic Integrity

Academic dishonesty includes failure to do your **own** work on any assignment (not just exams)! University policies, regulations, and standards of conduct can be found at:

<http://www.ucsd.edu/current-students/organizations/academic-integrity-office/>

Penalties for late assignments

Late assignments will be penalized 20% per day of the possible maximum grade. A mark of zero will be given if the assignment is not submitted before the corrected assignments are returned.