

**Microtectonics
GEOLOGY 532**

Instructor: Dr. Miranda

Office: Live Oak Bldg., Room 1204

Office Hours: Tuesdays 11 am – 12 noon, or by prior appointment
(818) 677-4671

Email: elena.miranda@csun.edu

TEXTBOOK (REQUIRED): Microtectonics, 2nd edition by C. Passchier and R.A.J.

Trouw; get a copy with the CD included for videos and images

Other potentially useful resources:

A Practical Guide to Rock Microstructure by R.H. Vernon

Electron Microprobe Analysis and Scanning Electron Microscopy in Geology, 2nd edition
by S.J.B. Reed

SYLLABUS

The Microtectonics course is designed to build upon your foundation in structural geology and petrology. The primary objectives of this course are for you to learn the basic techniques and skills needed to 1) *describe* and 2) *interpret* deformed rock fabrics and textures in thin section. Together, the rock fabrics and textures are powerful tools that can serve to reconstruct tectonic events.

It may be necessary for me to adjust the schedule of topics and assignments and update the syllabus accordingly. Updated versions of this syllabus will be posted on Moodle, but not given in paper form in the interest of conserving resources. Be sure to check Moodle regularly so that you have the most up-to-date syllabus.

YOUR PREREQUISITE SKILLS AND RESPONSIBILITIES

I fully expect that you will come to class with a working knowledge of structural geology and petrology as they are prerequisite courses. If you find yourself “rusty” on these fundamental concepts, it is *your responsibility* to read up and review the relevant materials. It is imperative that you do the preparation necessary to keep up with the pace of the graduate level course.

This will be a hybrid-type course involving elements of traditional lecture, seminar discussions, and lab activities using the petrographic microscope. We will be reading portions of the textbook, but focusing on those topics that are directly related to your thesis topics or research interests.

EVALUATION DETAILS

Your grade in this course will be assessed by a mid-term exam (100), a final exam (100), your critique of your chosen/assigned journal article (25), your participation in each literature discussion (10), reading quizzes (10), lab exercises (25), and lab presentations

(25). In the event that you have a borderline grade, I will use your attendance, class participation, and overall effort dedicated to the course as a basis for assigning you a grade. I do not “grade on a curve”. The grading scale is as follows:

A = 93-100
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
F = < 60

I do not give ‘Incompletes’ for grades. No exceptions.

If you choose to drop the course, it is your responsibility to formally drop the class; I will not administratively drop you from the course.

EXAM POLICIES

You are required to take the exams as they are scheduled. I do not give make-up exams. Therefore, if you miss an exam, a grade of ‘0’ will be recorded. If you miss an exam due to an *extraordinary* circumstance (such as a serious illness or an emergency), you must have official documentation available for me to verify those circumstances, and you must supply that documentation within 24 hours after the exam date. In the event of such an emergency, the suitability of the documentation and the administration of make-up exams is entirely at my discretion. You are required to contact me well in advance of such an event, or as soon as possible after such an event. You will not be allowed to take a make-up exam if you do not follow these directions.

LITERATURE DISCUSSION AND PRESENTATION POLICIES

Your participation in literature discussions requires you to 1) carefully read the *entire* article 2) ask insightful questions about the material and 3) contribute to a class discussion of the material. Warning: reading the article in the hour leading up to class will not adequately prepare you for these tasks.

Relevant journal articles will be selected for group discussion over the course of the semester. Each member of the class is responsible for reading the chosen article of the week and contributing to the discussion of the article. Each student is responsible for conducting the critique of their assigned article in class. The critique must include a short

PowerPoint style presentation that highlights the problem that the work addresses, the methods used to solve the problem, and the primary conclusions of the work and their geologic significance. The PowerPoint presentation must also include digital images of the figures central to the paper.

LAB EXERCISE POLICIES

The lab exercises will give you a chance to see the microstructures ‘in action’. They are important assignments in the course, and you should spend a significant amount of time on these activities. They will require thin section observations, and perhaps analysis of EBSD data towards the end of the semester. Lab exercises are due at the beginning of class one week from the date of the assignment. **NO LATE LAB WORK IS ACCEPTED FOR CREDIT OR GRADING FEEDBACK.**

CORRESPONDENCE ETIQUETTE

I am happy to answer questions about course material via email when possible (some questions may require an office appointment), and you can expect that I will do so within 1 business day. *A word to the wise:* don’t wait to the last minute and expect an email response from me right before an assignment is due. Though email is less formal than a written letter, it is still official university correspondence--I expect that you will write in a professional, respectful, and courteous manner.

I will often send important course information via email. Check your account daily for important ‘GEOL 532’ messages. University policy states that you are responsible for course information sent via email. Your responsibility includes understanding how to forward mail to an off-campus account (if you choose to do so), understanding how to download and save files sent via email, and following instructions for assignments and deadlines sent via email.

If you need to see me in person, please adhere to my posted office hours or make an appointment *in advance*; the hour before class is a dedicated office hours time block for GEOL 310, and I do not have time to speak with you about this course.

CLASSROOM ETIQUETTE

Cell phones are an unwanted and rude distraction during the lecture. Either turn them off or silence them during class, or do not bring them to class.

Make every attempt to get to class on time. I will begin lectures promptly at the start of class; if you are late, it is your responsibility to get notes from another student. If you must be late to class due to an unforeseen event, enter the room as quietly as possible so as to not disturb your fellow students. You are already familiar with the parking and traffic situations in the Los Angeles area; these are not valid excuses for tardiness.

ACADEMIC DISHONESTY

Official California State University policy states: “The maintenance of academic integrity and quality education is the responsibility of each student within this university and the California State University system. Cheating or plagiarism in connection with an academic program at a campus is listed in Section 41301, Title 5, California Code of Regulations, as an offense for which a student may be expelled, suspended, or given a less severe disciplinary sanction. Academic dishonesty is an especially serious offense and diminishes the quality of scholarship and defrauds those who depend upon the integrity of the campus programs. Such dishonesty includes but is not limited to: cheating, fabrication, facilitating academic dishonesty, and plagiarism.”

I do not tolerate any form of academic dishonesty. I expect that you will uphold the integrity of the academic environment here at CSUN; however, if I find evidence of academic dishonesty, we will report such evidence to the Office of the Vice President for Student Affairs and recommend disciplinary action. If you are caught cheating in my class, you will be given a failing grade for the assignment, and possibly a failing grade for course depending on the severity of the incident (what constitutes a serious offence is at my discretion). This includes, but is not limited to, plagiarism, facilitating cheating by another student, using electronic files from peer or former student maps/cross-sections/projects, lying about an excuse for missing an assignment deadline, copying answers during an exam, facilitating cheating by another student, altering a test grading sheet after the exam, or lying about an excuse for missing the exam. Plagiarism also includes the use of paragraphs or even long phrases and diagrams or parts of diagrams from peer or former student reports/labs/maps in your own assignment without proper acknowledgement of the source. Proper acknowledgement of sources clears the student from academic dishonesty charges, but does not fulfill the work obligations of the student and the acknowledged item will count “0” points on the report.