GEOL 207/L: Mineralogy FALL 2012

Course information:
Units: 3/1
Location: Live Oak 1210
Times: T & Th, 11:00-12:15 (lecture)
T 2:00 – 4:45 (lab)

Instructor information:
Professor: Robinson Cecil
Office: Live Oak 1230
Office hours: W&Th, 2-3 pm (or by appt)
Email: robinson.cecil@csun.edu
Office phone: (818) 677-7009

GA: Nick Rousseau
Email: nick.rousseau.84@my.csun.edu
UGA: Amanda Smith
Email: alsmith523@yahoo.com

Course description (from the course catalog): Study of the nonsilicate and silicate minerals with emphasis on crystallography, mineral chemistry, physical properties, occurrence, origin and associations. Lecture 3 hours, lab 3 hours, field trips.
What it's really about: how minerals are formed (structurally, chemically, etc.), where they are found (i.e. in what geologic settings and with what other minerals), and how to identify them, in both hand sample and thin section.

Course objectives: The primary objectives of this course are to:

- Understand how atoms join to form minerals and how the structure and chemistry of a mineral determines its properties and occurrence.
- Identify minerals in hand sample and thin section.
- Understand how minerals are classified.
- Understand the importance of minerals to society and the study of the Earth.

Course materials:
- Text: *Introduction to Mineralogy*, by William D. Nesse *(required)*
- Some kind of mineral atlas, to be discussed in lab *(recommended)*
- Flash cards *(recommended)*
- Also, you must purchase or acquire a 10x hand lens *(required)*

Field Trips (required): This class will take 1 weekend field trip (Friday October 19 – 21). More information about the field trip will be provided early in the semester. Please set aside this date now!

We will also take an in-lab field trip to view the excellent gem and mineral exhibit at LA's Natural History Museum. This trip is scheduled during lab time on Tuesday, Sept. 11th.

Class policies:

1) *Missed labs and /or exams.* Labs and /or exams cannot be made up after the fact except in the event of an accident or medical emergency, in which case written documentation must be presented (e.g. doctor's note, police report, etc.). If you know in advance that you will not be able to attend a lab or take an exam, please speak with me about that in advance, keeping in mind that I'm not likely to make a special arrangement for you unless your circumstances are particularly difficult.

2) *Late work*. Late work will not be accepted, unless you have made a special arrangement with me ahead of time or you are unfortunate enough to have an accident or medical emergency, in which case written documentation must be presented (e.g. doctor's note, police report, etc.).

3) *No cell phone use in class or lab*! Please be respectful of your instructors and fellow students by turning off / putting away cell phones during class times.

4) *Academic dishonesty*. Academic dishonesty (e.g. cheating, plagiarism, fabrication; please review student conduct in the current schedule of classes and in the university catalog) will not be tolerated under any circumstances. Honor code violations may be reported to the Office of the Vice President of Students Affairs and will result in a zero for the assignment and potential failure of the class. Bottom line: pay attention, study, learn, and do your own work!

How will I be evaluated?
Your lecture grade will be based on your performance on exams, homework assignments, quizzes, and a field trip report (see details below). In addition, a small part of your lecture grade will derive from your attendance and participation in the course. Mineralogy is a fascinating – but *challenging* – field of study and it will be very difficult to do well in this course without attending all lectures and labs. I ***strenuously*** encourage you to come to class and to be prepared to learn. The more you put into it, the more you will get out of it!

Your lab grade will be based on your weekly lab reports, your mineral project, and a final exam (see below).

Lecture (totaling 100%):	Lab (totaling 100%):
Exams (3): 45% (15 each)	Labs: 60%
Homeworks: 30%	Mineral project: 25%
Quizzes: 10%	Final exam: 15%
Field trip: 10%	
Attendance / participation: 5%	

Grades: The three lecture exams will be curved by multiplying all grades by the number necessary to bring the mean grade to 73%. If the mean grade is greater than 73%, the exam will not be curved. The final exam will be treated the same as the two midterms; it will be worth the same amount of your grade and will not be cumulative.

Quizzes will be given throughout the course of the semester. Some will be announced, others will not.

Letter grades will be assigned using the scale below. Although the cut-offs for each letter grade will not be determined until the end of the semester, they will be no *higher* than those below. For example, if at the end of the semester your score is a 76%, then the *lowest* grade you could receive is a C.

A	93
A-	90
B+	87
B	83
B-	80
C+	77
C	73
C-	70
D+	67
D	63
D-	60

GEOL 207/L: Mineralogy Course schedule (*subject to change*) FALL 2012

WEEK	DATES	TOPIC	READING*	ASSIGNMENTS	LAB
1	8/28 8/30	Introduction Mineral Properties	3-5 97-112		NO LAB
2	9/4 9/6	Chemistry Review Crystal chemistry: bonding	39-56	**HW#1** due 9/6	Mineral Properties
3	9/11 9/13	Mineral composition and classification Crystal structure	57-68	*Form. Quiz #1*	**Field trip to the NHM!**
4	9/18 9/20	Symmetry Crystal systems	97-112; 114-139	**HW#2** due 9/20	Coordination and crystal structure
5	9/25 9/27	Miller indices Crystal growth	19-23 74 - 96	*Form. Quiz #2*	Crystal systems
6	10/2 10/4	Crystal growth **MIDTERM #1**	74-96	**HW#3** due 10/4	Silicates 1
7	10/9 10/11	Igneous minerals	183-190; 201-228		Silicates 2
8	10/16 10/18	Metamorphic minerals ****field trip 10/19 – 10/21***	194-200	**HW#4** due 10/18	Sulfides and carbonates
9	10/23 10/25	Sedimentary minerals	190-194 326-376	*Form. Quiz #3*	NO LAB – work on field trip reports
10	10/30 11/1	Sulfides and ore deposits	378-393	**FT report** due 11/1	Natives and oxides
11	11/6 11/8	**MIDTERM #2** Light	Handout		Halides, sulfates, and others
12	11/13 11/15	Optical mineralogy	114-156		Optical 1
13	11/20 11/22	Optical / mineral project NO CLASS: Thanksgiving	114-156	**HW#5** due 11/22	Optical 2
14	11/27 11/29	X-Ray Diffraction	160 - 168		**Mineral project Presentations**
15	12/4 12/6	Lab final review (out of town at AGU)			**LAB FINAL**
16	12/11	**FINAL EXAM 10:15 am**			

*all readings are in the Nesse course text, unless otherwise indicated

NOTE: Final exam will be held 12/11 in LO 1210 at 10:15 am.