Geology 15 section 41307 **West Valley College**

Geology of California

Instructor: Dr. Robert Lopez
Offices: Robert Lopez—SM 47A
Phone: 408-741-2437
Office Hours: T-2-2:30pm; Th-10-12 noon
Course Meets MW 7:45-9:20am
e-mail: robert_lopez@westvalley.edu

Text: Harden, D., 2004, *California Geology*: Prentice Hall (available at bookstore).
Course Handbook: Study questions, exercises, course handouts.
Course Web Page: http://instruct.westvalley.edu/lopez Look for Geology 15 link!
The text, *California Geology*, will serve as introductory material and as a reference.

Course Themes: The course will integrate three themes:
1) the principles of physical geology with emphasis on plate tectonics;
2) the physical geology of the eleven natural provinces of California;
3) the tectonic evolution of California through geologic time.

Principle Objectives: Upon completion of the course, you should be able to say something knowledgeable about the origin and significance of prominent landforms, celebrated geological features, and common, conspicuous rock types of California. **Examples**: Yosemite Valley, Death Valley, Owens Valley, Mt. Shasta, Mono Lake, San Gabriel Mountains, San Andreas fault, granite, rhyolite, blueschist, serpentinite, and Franciscan Formation.

Exams: Tests and/or short quizzes will cover the reading and lecture materials, and they are approximately 90% multiple choice and 10% of the short answer format. Study questions are included in the course reader for each lecture, and the exams will be taken largely (80%-90%) from these questions. There will be four mid-term exams (including final) worth 100 points each and one Geologic Features exam worth 50 points. The Geologic Features exam will be a slide show, photographic quiz of California geologic structures (this will be given near the end of the course). There will be several quizzes throughout the semester. I will announce the quiz dates. *Warning*: **Do not miss an exam**. If you miss an exam for any reason contact me immediately, preferably on the day of the exam and by e-mail. Make arrangements to take the exam ASAP. No make-up exams will be given after the exam has been returned to the class. **No make ups on quizzes or missed exercises.**

Approximate Grading:

400 points	three exams	90-100 = A
150 points	exercises/Field Trip	80-89 = B
150 points	Quizzes	65-79 = C
50 points	Features exam	55-64 = D
750 points	Total	< 55 = F

Field Trip: We will have one weekend field trip. This excursion is optional, but participation and completion of the field trip summary exercise will add extra credit points to your final grade (50 points). This spring I will be taking you to the southern Eastern Sierra Nevada (Basin and Range Province). This is a two-night camping field trip with overnight temperatures in the mid 50's and daytime highs in the upper 80's. We will be camping at Red Rock Canyon State Park.

Attendance: You are expected to attend each class section. If you cannot attend a particular class, **please call or e-mail me to let me know**. It is better to come to class late than to not come at all. However, tests and quizzes will usually start at the beginning of class and you will have less time to answer the questions if you are late.

Dropping the Course: Last day to drop with a W is April 28.

Geology of California

Academic Honesty: Cheating will not be tolerated. Anyone caught cheating will receive a letter grade of F and have their name turned over to the Dean of Students.

Emergency Procedures

West Valley College is one of the safest campuses in California. However, earthquakes and other incidents have been known to happen. The college has developed an emergency procedures plan. This document includes how to respond to emergencies that might occur on campus and in the classroom. A copy of the Plan is available to review from the Division Office. A condensed version in the form of a yellow colored flip chart is posted along with other emergency information on the bulletin board at the southeast corner of the classroom near the fire extinguisher and first aid kit.

I strongly urge each of you to have basic emergency supplies in your car and have a flashlight with you when you are on campus, especially at night. Please ask me for a list of supplies that I carry in my car if you are not sure what to have.

EVACUATION: In the event of an evacuation, the emergency assembly area for this classroom is in the northeastern portion of parking lot 2 next to Theater Way (see map posted in classroom – yellow assembly area).

Important phone numbers and location of emergency supplies:

life threatening emergency - regular phones	911
life threatening emergency - campus phones	9-911
life threatening emergency - cellular phones	408/299-2311
student health services on campus	x2222 (741-2222)
safety escort	x2092 (741-2092)
accessible campus phone (my office)	x 2403 (741-2403)
public phone (located just outside the exit door next to the AAS division office)	741-9939
fire alarm	Outside in hallway
fire extinguisher	
first aid kit	1. Front Room 2. Division Office 3. Career Programs Office

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Preliminary Lecture Topic Schedule Geology 15; Spring 2006

Week	Monday	Wednesday
Jan 30- Feb 1 **1**	Course Outline, Natural Provinces of California	Natural Provinces
Feb. 6-8 **2**	**Ex. 1: Natural Provinces** Exercise **Read: p. 63-64, Harden: Web lect.**	Plate Tectonics **Read: Ch. 1; pp. 3-12**
Feb. 13-15 **3**	Plate Tectonics **Read: Ch. 1; pp. 3-12**	Plate Tectonics **Ex 2**: **Plate Tectonics**
Feb. 20-22 **4**	**HOLIDAY**	Intro to Minerals and Rock Cycle **Ex. 3: Minerals** **Read; Ch. 2 Boxed Essay: Minerals p. 20**
Feb. 27- March 1 **5**	**Exam I**	Igneous Rocks and Evolution of Magmas **Read: Ch. 2; pp. 22-26;35-36; Ch. 8, p. 163-173**
March 6-8 **6**	Igneous Rocks and Evolution of Magmas **Ex. 4: Igneous Rocks Exercise Read: Ch. 2; pp. 22-26;35-36; Ch. 8, p. 163-173**	Volcanoes and Volcanic rocks **Read: Ch. 5 pp. 65-80**
March 13-15 **7**	Volcanoes and Volcanic rocks **Ex. 5: Volcanic Rocks** **Read: Ch. 5 pp. 65-80**	California Young Volcanoes Cascade-Modoc Provinces **Read: Ch. 5 pp. 80-90**
March 20-22 **8**	California Young Volcanoes Long Valley Caldera; Mono-Inyo Chain **Read: Ch.5 pp. 80-100**	**Exam II**
March 27 **9**	**Spring Break**	**Spring Break**
April 3-5 **10**	Sedimentary rocks **Ex. 6: Sedimentary Rocks** **Read Ch. 2, pp. 26-31; 36-37**	California Deserts **Read: Ch. 6, p. 101-121**
April 10-12 **11**	Basin and Range; Mojave Desert **Read: Ch. 7 p. 125-140; 143-154**	Basin and Range; Mojave Desert **Read: Ch. 7 p. 125-140; 143-154**
April 17-20 **12**	California Metamorphic Rocks **Ex. 7: Metamorphic Rocks** **Ch. 2, pp. 31-33; 37-38**	Geologic Structures **Read: Ch. 1, p.13-16**
April 24-26 **13**	Geologic Structures: **Exercise** **Read: Ch. 1, p.13-16**	The Geologic Column: Relative Time and Absolute Time **Read: Ch. 3, p. 40-55**
May 1-3 **14**	**EXAM III**	Sierra Nevada: Rodinia, TCM, Atlantic-type, Japanese-type, Andean-type, Californian-type **Ch. 18, p. 483-499; Ch. 8 p. 176-187**
May 8-10 **15**	Sierra Nevada Cenozoic tectonic uplift: Granitoids and Batholith **Read: Ch. 8, pp. 156-176**	Sierra Nevada Glaciation, **Ch. 8, pp. 198-211** **FIELD TRIP: Red Rock Canyon, Fossil Falls, Coso Volcanics: Fri.-Sat.-Sun.**
May 15-17 **16**	Earthquakes **Read: Ch. 13 p. 319-353**	The San Andreas Fault System: SF Bay Area, Parkfield, Fort Tejon-Carrizo Plain, LA Basin **Read: Ch. 14, p. 356-365; 371-392**
May 24 **FINALS**		**Final Exam Wednesday, May 24** **7:30 am to 9:30 am**