

GRADUATE SEMINAR, GEOL 747
GEOLOGIC EVOLUTION OF WESTERN NORTH AMERICA
Fall 2017, M-W 10:00-11:15, LFG 105

PROFESSOR

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Office Hours:
T, W, R 1:00-2:00

CLASS PARTICULARS

1. Course Learning/Outcome Objectives:

The goal of this course is to gain a better appreciation of the tectonic history of western North America, with an emphasis on the southwestern Cordillera. Upon completion of the course, students should have an understanding of:

- The overall tectonic development of the western Cordillera
- The magmatic, sedimentologic, and structural processes and features of convergent, divergent, and transform plate margins in general, and specifically of:
 - Precambrian rifting of western North America
 - Paleozoic accretion and westward growth of the continent during the Antler and Sonoman orogenies
 - Late Paleozoic continental truncation
 - Triassic to Mid Jurassic foothills subduction and the Nevadan orogeny
 - Late Jurassic to early Cenozoic Cordilleran subduction regime, and the backarc Sevier orogenic belt and Laramide structural province
 - Cenozoic extension in the Basin and Range province
 - Cenozoic development of the San Andreas transform boundary and Eastern California Shear Zone

2. Assessment (grading)

The assessment of these learning/outcome objectives will be based on the following criteria:

Class Participation and preparation from weekly readings:	10%
Oral presentations of selected topics:	20%
Leadership of Discussions	5%
Mid-Term exam	25%
Paper Summaries:	15%
Final Exam:	25%

Important Dates:

Take home mid-term exam; distributed electronically 10/11, due 10/18 5:00 PM

Fieldtrip to Death Valley, 11/03-11/05

Take home final, pick up Wednesday, 12/6, due Wednesday 12/13 5:00 pm

3. Format for Class

The class will be run in a seminar format. This requires a commitment from all participants to stay current with the literature that we are reading, so that the discussion will be stimulating, well informed, and inclusive of all participants. The course will consist of a series of presentations followed by discussions of required literature reading. Participants will pick a tectonic event or aspect of a tectonic event in the western United States. This topic will be researched, and a presentation of about 75 minutes will be given to the class as an overview. The following week the class will discuss two of the most influential, provocative or complete papers on the subject, and the researcher on the topic will serve as the discussion leader. One-page summaries of the papers are to be written for all papers discussed, and are to be handed in on the day of discussion. Using this format as a framework, we will discuss the important aspects of the geologic history of the western United States from a viewpoint of tectonics, in chronological order, from the Late Proterozoic rifting of western North America to the Cenozoic development of the San Andreas Fault system.

4. Field Trip:

There will be a required 3-day, overnight field trip to examine stratigraphic architecture of the Late Proterozoic to Devonian passive margin, and the Mesozoic contractional and Cenozoic extensional tectonics of the Death Valley region. The dates of this field trip are tentatively Nov 3-5.

5. Readings

The readings for the course will be from the literature. Readings will be assigned weekly, and the reading list is not preset and will evolve as the course progresses. The DNAG volume G-3, The Cordilleran Orogen: Conterminous U.S., is an essential reference and starting point for library research, and the article by Burchfiel, Cowan and Davis (p. 407-479) provides an excellent overview and should be read concurrent with topics studied throughout the semester.

OTHER MATTERS

Academic Misconduct

Academic integrity is a legitimate concern for every member of the campus community; all share in upholding the fundamental values of honesty, trust, respect, fairness, responsibility and professionalism. By choosing to join the UNLV community, students accept the expectations of the Student Academic Misconduct Policy and are encouraged when faced with choices to always take the ethical path. Students enrolling in UNLV assume the obligation to conduct themselves in a manner compatible with UNLV's function as an educational institution. The College of Sciences has a zero tolerance policy with regard to cheating, plagiarism and academic dishonesty and students found to be responsible for such action will fail the course and be directed to the UNLV Student Judicial Officer.

An example of academic misconduct is plagiarism. Plagiarism is using the words or ideas of another, from the Internet or any source, without proper citation of the sources. See the *Student Academic Misconduct Policy* (approved December 9, 2005) located at:

<http://studentconduct.unlv.edu/misconduct/policy.html>.

Disability Resource Center (DRC)

The UNLV Disability Resource Center (SSC-A 143, <http://drc.unlv.edu/>, 702-895-0866) provides resources for students with disabilities. If you feel that you have a disability, please make an appointment with a Disabilities Specialist at the DRC to discuss what options may be available to you. If you are registered with the UNLV Disability Resource Center, bring your Academic Accommodation Plan from the DRC to the instructor during office hours so that you may work together to develop strategies for implementing the accommodations to meet both your needs and the requirements of the course. Any information you provide is private and will be treated as such. To maintain the confidentiality of your request, please do not approach the instructor in front of others to discuss your accommodation needs.

Copyright

The University requires all members of the University Community to familiarize themselves with and to follow copyright and fair use requirements. **You are individually and solely responsible for violations of copyright and fair use laws. The university will neither protect nor defend you nor assume any responsibility for employee or student violations of fair use laws.** Violations of copyright laws could subject you to federal and state civil penalties and criminal liability, as well as disciplinary action under University policies. Additional information can be found at: <http://www.unlv.edu/provost/copyright>.

Religious Holiday Policy:

Any student missing class quizzes, examinations, or any other class or lab work because of observance of religious holidays shall be given an opportunity during that semester to make up missed work. The make-up will apply to the religious holiday absence only. It shall be the responsibility of the student to notify the instructor no later than the end of the first two weeks of classes, September 4, 2017, of his or her intention to participate in religious holidays which do not fall on state holidays or periods of class recess. For additional information, please visit: <http://catalog.unlv.edu/content.php?catoid=6&navoid=531>.

Incomplete Grades - The grade of I – Incomplete – can be granted when a student has satisfactorily completed three-fourths of course work for that semester/session but for reason(s) beyond the student’s control, and acceptable to the instructor, cannot complete the last part of the course, and the instructor believes that the student can finish the course without repeating it. The incomplete work must be made up before the end of the following regular semester for undergraduate courses. Graduate students receiving “I” grades in 500-, 600-, or 700-level courses have up to one calendar year to complete the work, at the discretion of the instructor. If course requirements are not completed within the time indicated, a grade of F will be recorded and the GPA will be adjusted accordingly. Students who are fulfilling an Incomplete do not register for the course but make individual arrangements with the instructor who assigned the I grade.

UNLV Writing Center – One-on-one or small group assistance with writing is available free of charge to UNLV students at the Writing Center, located in CDC-3-301. Although walk-in consultations are sometimes available, students with appointments will receive priority assistance. Appointments may be made in person or by calling 702-895-3908. The student’s Rebel ID Card, a copy of the assignment (if possible), and two copies of any writing to be reviewed are requested for the consultation. More information can be found at: <http://writingcenter.unlv.edu/>

****GEOL 747 COURSE OUTLINE****

Wk.	Mo.	Day	Topic	Presenter	
1.	Aug	28	M	Overview & Introduction	Michael
1.		30	W	Late Prot. to early Cambrian rifting	Michael
2.	Sept	4	M	no class Sept 4, Labor Day Holiday	
2.		6	W	Late Prot. to early Cambrian rifting	Michael
3.		11	M	Antler Orogeny	Michael
3.		13	W	Antler Orogeny	Michael
4		18	M	Sonoman Orogeny & Continental Truncation	Michael
4.		20	W	Sonoman Orogeny & Continental Truncation	Michael
5.		25	M	Late Triassic-Late Jurassic forearc tectonics	Michael
5.		27	W	Late Triassic-Late Jurassic forearc tectonics	Michael
6.	Oct	2	M	Late Triassic-Late Jurassic forearc tectonics	Michael
6.		4	W	Franciscan subduction, forearc and arc	Michael
7.		9	M	Franciscan subduction, forearc and arc	Michael
7.		11	W	Sevier foreland FTB and foreland basin	Genevieve, Drew
Take home mid-term exam; distributed electronically 10/11, due 10/18					
8.		16	M	Sevier foreland FTB and foreland basin	Genevieve, Drew
8.		18	W	Sevier hinterland	Michael
No Class this week, 10/23-10/26, GSA Annual Meeting, Seattle					
9.		30	M	Sevier hinterland	Michael
9.	Nov	1	W	Background for Death Valley Fieldtrip	
Fieldtrip to Death Valley, 11/3-11/5					
10.		6	M	Laramide tectonics: geodynamics and geologic record	Logan, Susie
10.		8	W	Laramide tectonics: geodynamics and geologic record	Logan, Susie
11.		13	M	Cretaceous margin-parallel displacements	Suzanne, Becki
11.		15	W	Cretaceous margin-parallel displacements	Suzanne, Becki
12.		20	M	CZ B&R extension: temporal patterns of ext & mag	Kelsy, Rachel
12.		22	W	CZ B&R extension: temporal patterns of ext & mag	Kelsy, Rachel
13.		27	M	CZ B&R extension: geometry, mechanism and causes	Taylor, Kevin
13.		29	W	CZ B&R extension: geometry, mechanism and causes	Taylor, Kevin
14.	Dec	4	M	San Andreas & Eastern California-Walker Lane SZ	Michael
14.		6	W	San Andreas & Eastern California-Walker Lane SZ	Michael

Final Exam: Take Home Final, Handed out December 6, due Wednesday December 13, 5:00