CSUN Geology 343L: Stratigraphy Syllabus, Spring 2010

Prof. Richard Heermance
-Office LO1212; office hours: Tuesday 2-4 PM or by appointment
-email: richard.heermance@csun.edu, phone x4357
-class webpage: http://www.csun.edu/~rvh97413/stratigraphy/

Lecture Tuesday/Thursday 12:30-1:45, Lab Thursday 2:00-4:45, Rm EH2302

Definition of Stratigraphy: “The science of rock strata”

COURSE OBJECTIVES
This course will cover the theory and methods useful for interpreting layers of rock, called strata. Class lectures will be combined with paper reviews, field investigations, and in-class laboratory assignments where you will be introduced to a variety of methods applied to stratigraphic studies. The major objectives of the course are:

1) Interpret sedimentary environments from rock types.
2) Learn how to interpret a stratigraphic section for basin analysis.
3) Develop proficiency in creating a stratigraphic section from field outcrops.
4) Improve ability to read and comprehend scientific literature.

GRADING
Lecture (3 units)
- paper reviews (presentation included, lowest grade dropped)……30%
- midterm exam……………………………………………………………20%
- final exam ………………………………………………………………..25%
- participation, quizzes, oral reports, attendance ……………………25%

Lab
- labs & one-day field trips (7 @ 10% each and I’ll drop the lowest class lab grade)……………………………………………………………60%
- weekend field trip report ………………………………………………20%
- field/lab final…………………………………………………………….20%

TEXTS AND MATERIALS
Required:
Other course reading will either be handed out or the pdf will be available at:
http://www.csun.edu/~rvh97413/stratigraphy_papers

Recommended:
CLASS STRUCTURE
Learning will be accomplished through the combination of lecture, paper review, fieldwork, and laboratory work. Although the grades will be separated into two parts, the class and lab will be integrated to maximize time efficiency.

PAPER REVIEWS
Scientific advances occur due to individual and collaborative research that is presented in peer-reviewed scientific journal articles. Therefore, one aspect of this course will be the review of pertinent articles related to stratigraphy. Each week you will turn in a 1-page (maximum!) review of a journal article at the beginning of Thursday’s class. Your review should include the following:

1) The first paragraph should state the paper purpose and the hypothesis tested. How do the authors test their hypothesis?
2) Second paragraph should summarize the data and results of the research.
3) Third paragraph should state the implications of the research.
4) Last paragraph should be your own thoughts on the paper. What are the weaknesses, in your opinion?
5) Conclude the review by writing 2 questions about the paper? These questions should be based on what you think the problems may be with the author’s interpretation.

The one-page review should elucidate your understanding of the paper. The review will be graded on completeness and grammar. In addition, one student will be responsible for leading a discussion of the paper each week. These paper presentations will be informal in that you need NOT prepare a powerpoint or overheads, but you will be graded nonetheless on your ability to lead a discussion and walk the class through the paper.

LABS
Laboratory assignments will take place from 2-4:45 PM Thursdays. The class will meet EVERY WEEK unless you are told otherwise. Some labs will be combined with class time in order to maximize time for field trips. Lab write-ups are due on the Tuesday following the lab meeting at the beginning of class.

FIELD TRIPS
There will be 4 field trips (3 one-day, 1 weekend) during this course. Dates and times are indicated on the attached syllabus schedule. All field trips are required, and reports are due as indicated.

1) Thursday, Feb 4, 12:30-4:45 PM: Vasquez Rocks
2) March 4, 12:30-4:45, location TBD
3) March 25-28, Orocopia Mts
4) April 29, 12:00-6:00 PM, Field final trip

ACADEMIC HONESTY
Group work and discussion is strongly encouraged. All written assignments and exams, however, must be done entirely by each student unless otherwise instructed. Ideas that arise from collaboration should be individually evaluated in the write-up. Any data presented from outside readings should be clearly referenced. Honor code violations will result in automatic NO CREDIT.
PAPER REVIEWS


Paper #5: To Be Determined: subject = sequence stratigraphy


Paper #7: To Be Determined

Paper #8: To Be Determined: subject = turbidites?