SIUC - GEOL535  Rock Magnetism & Paleomagnetism Spring semester 2016 Syllabus

Instructor: Dr. Eric C. Ferré  
Office hours: M 12-2 pm, W 8-9 am, F 9-10 am  
MC4324  
Phone: (618) 453-7368  
E-mail: eferre@geo.siu.edu

Classes: M 2-3, W 2-3, F 12-1  
Laboratory: M 4-7

Recommended Readings:
  http://www.geo.arizona.edu/Paleomag/book/  
  http://magician.ucsd.edu/Essentials_2/  

Laboratory:  
* No textbook required

Requirements:  
Successful completion of GEOL535 "Rock magnetism and Paleomagnetism" requires strong foundations in Physics and Earth Sciences.

Lecture  
Questions and comments during the lecture period are welcome and encouraged.

Laboratory  
Each laboratory is designed to investigate a structural geology concept or method. You are expected to collaborate but each student is responsible for written materials.

Class attendance  
Attendance for the full duration of all lectures and laboratory sessions is both expected and required. It is essential for success in this course.

Reading assignments  
It is essential that reading assignments are completed BEFORE the material is discussed in class. Short quizzes designed to test comprehension of reading assignments will be given from time to time.

Presentation  
Each student will present to the class a 15 minutes digest of an assigned recently published article in structural geology. Presentations are scheduled during the last lab session.
Academic honesty  Any form of academic dishonesty will result in a zero for that assignment, quiz, exam, as well as possible disciplinary action. See your student handbook for guidelines.

How to get a good grade in GEOL535?
* attendance at all lectures and labs
* completion of reading and problem assignments on time
* thorough completion of lab assignments on time

Grading:
All graded material should be labeled with your name, student ID number and date.

Exams
Two mid-term exams and one final exam will be given during the semester. All examinations will be comprehensive. Attendance at the final exam is mandatory.

Tentative exam schedule:
mid-term exam 1  tba
Lab. exam  tba
mid-term exam 2  tba
final exam sometime in May 2016

Quizzes
Two short unannounced quizzes on assigned readings will be given.

Point percentage
mid-term exam 1  10
mid-term exam 2  10
lab. exam  20
presentation  20
final exam  40

Course Content and Objectives:
GEOL535 Rock magnetism and Paleomagnetism is a course for Geology Graduate students aimed at explaining the fundamentals of rock magnetism, its sources and applications to Earth Sciences. Magnetic anisotropy and its origin will be reviewed and its applications in Structural Geology will be investigated. The Paleomagnetism section will explain the origin of the Earth magnetic field and present classic applications to paleogeography, tectonic reconstructions, paleoclimate studies and geochronology. Expanding domains such as planetary magnetism and biomagnetism will be briefly presented. The course will emphasize critical and lateral thinking. Students will be expected to develop their own scientific curiosity.

Check the list of subjects and assignments to be covered during the lecture part of GEOL535. If it becomes necessary to alter the sequence, the topics, or the assignments, notice will be given in class.