

Syllabus for
PSC/GEO 201 LAB—Principles of Earth Science Laboratory
1 Credit hour
Fall 2003

I. COURSE DESCRIPTION

Lab exercises to supplement PSC 201 Lecture.
Corequisite: PSC 201 Lecture/GEO Lecture
Lab fee: \$30.

II. COURSE GOALS.

Exercises are designed to familiarize students with common tools and techniques of earth scientists, especially mapping skills. These skills enhance perception and understanding of surface materials, landscapes, and weather phenomena.

III. COURSE OBJECTIVES

As a result of successfully completing this course, the student will be able to do the following:

- A. identify common earth materials, using simple geological tests.
- B. construct and interpret geologic, topographic, and weather maps.
- C. use an atlas, stereo photographs, and a whirling psychrometer.
- D. discuss and describe the cause of earth's seasons, the significance of key latitude and longitude lines, time differences, the township and range survey system, and relative humidity.
- E. work as a team in problem-solving.

IV. REQUIRED TEXTBOOK

Lab Manual for Earth Science

V. POLICIES AND PROCEDURES

- A. University Policies and Procedures
 - 1. Attendance at each class or laboratory is mandatory at Oral Roberts University
 - 2. Double cuts will be assessed for absences immediately preceding or following holidays.
 - 3. Excessive absences can reduce a student's grade or deny credit for course.
 - 4. Students taking a late exam because of an unauthorized absence will be charged a late exam fee.
 - 5. Students and faculty at Oral Roberts University adhere to all laws addressing the ethical use of others' materials, whether it is in the form of print, video, multimedia, or computer software.
 - 6. Final exams cannot be given before their scheduled times. Students need to check the final exam schedule before planning return flights or other events at the end of the semester.
- B. School and/or Department Policies and Procedures
 - Loss, Damage, and Breakage Fees. Each student is responsible for the University materials that he/she uses during the laboratory period and will be assessed an appropriate fee for any items that are lost, damaged, or broken.

C. Course Policies and Procedures

1. Evaluation Procedures

a. Point Schedule

There are 400 points possible, divided as follows:

130 Lab quizzes and graded exercises

70 Elsing Museum (30) and field trip (40)

200 Lab exams - 1 (Labs 1-4), 2 (Labs 6-11)

- b. Up to 40 bonus points (10%) may be given to weak students who make a diligent effort to master the material. This bonus is contingent upon faithful attendance and completion of **all** lab assignments in a timely manner. **Penalty points will be charged for late arrival.**

c. Extra Credit

Up to 20 points of extra credit may be earned by doing the exercises cited in the course schedule. Additional options may be offered as they apply to specific exercises.

- d. Minimum points required for a **guaranteed** grade are as follows:

A = 360 - 90%, B = 320 - 80%, C = 280 - 70%, D = 240 - 60%

2. Portfolio Requirements

None

3. Other Policies and/or Information

a. Office Hours

Monday 12:30 & 2:30 PM. Tuesday 12:30 PM

Wednesday 12:30 to 12:55 PM; 2:30 to 4:20 PM.

Thursday 8:10 to 8:35 AM 12:30 to 12:55 PM

Friday 9:50 AM.

Location: LRC 108B (Elsing Museum area). Office No. **495-6933**

Instructor's e-mail: nmeleen@oru.edu

b. Makeup Policy

- (1.) All makeup work is to be done during regularly scheduled labs on a space available basis, with permission of instructor.
- (2.) All quizzes must be taken prior to the relevant lab exam.
- (3.) Excused Absence. Must be made up within two weeks of absence, unless special arrangements have been made with your instructor; attendance points will be averaged.
- (4.) Unexcused Absence. Lab quizzes may be made up for _ credit. NOTE: If a student misses a lab they should review the materials, in order to be prepared for the lab exam questions from that lab.
- (5.) All lab makeup work must be completed by the last class day. No automatic incompletes will be given.

VI. COURSE CALENDAR

The dates for each lab session for your section will be given to you in lab. Except for Lab 11, a quiz is given at the end of each lab exercise. Penalty points will be subtracted from the quiz grade for late arrival. Appendices are in the lecture textbook.

DATE

- / Lab 1: Orientation; Introduction to Mineral Identification
- / Lab 2: Rock and Fossil Identification; (Appendix B)
- / Lab 3: Relative Dating, Dip and Strike; Stereo Aerial Photography; Structure Sections and Geologic Maps
- / Lab 4: Elsing Museum tour (30 point report due by Lab 5)
- / Lab 5: Lab Exam over Labs 1-3 (100 points)
- / Lab 6: Latitude and Longitude; Globes; Atlases; Plate Tectonics
See Appendix C (textbook, p. 606)
- / Lab 7: Map Essentials (20-point assignment due by Lab 9) (Appendix D)
- / Lab 8: Contour Lines (Appendix D)
- / Lab 9: Survey Systems; Stream Gradients. **Extra Credit:** delinquent tax lot locations in Adair County, Oklahoma (3 points).
- / Lab 10: Seasons and Time. **Extra Credit:** Solar Navigation. See the back of the Lab Manual (7 points).
- / Lab 11: Relative Humidity. BRING CALCULATORS.
Also, 20-point written assignment.
- / Lab 12: Lab Exam over Labs 6-11 (100 points)
- / Lab 13: Weather Maps. **Extra Credit:** Climate Types and Classifications (Appendix F). See Exercise 14 in the Lab Manual (10 points).
- / Lab 14: Campus field trip (one of several options for field trip requirement)—40 points.

Dr. Nate Meleen
Name of Instructor

PSC 201-61
Course No.

Principals of Earth Science Lab
Title of Course

Engineering and Physics
Name of Department

MISSION

The lifestyle at ORU is rooted in the word "Wholeness." ORU seeks to educate the whole person, with balanced emphasis placed on the development of the mind, spirit, and body.

GENERAL OUTCOMES

1. Spiritual Development
2. Physical Development
3. Communication
4. Analysis
5. Problem Solving
6. Valuing in Decision Making
7. Social Interaction
8. Global Perspectives
9. Effective Citizenship
10. Aesthetic Responsiveness

GENERAL EDUCATION
OUTCOMES

Communication:
Shared knowledge

Analysis:
Looking at data and making
conclusions based on information
available.

Map skills and global sense

Social interaction through lab partner.

COURSE OUTCOMES

Familiar with tools of Earth scientists
and classification and identification
schemes

Experience in scientific method and
problem solving based on available
data.

Basic knowledge of latitude/
location, models, longitude and how to
locate places

ASSESSMENT OF COURSE GOALS

STIMULI:

Lab materials: rocks, maps, measuring
devices

Elsing museum and field trips both on
and off campus

Lab partner interaction

Lab displays

CRITERIA:

See course Syllabus