



**Instructor:** DR. BERAKI WOLDEHAIMANOT  
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**Office hours:** M, W 8:30-9:30 am; M 4:30-5:40 pm; and by appointment  
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Spring 2014 (Feb 10 – Jun 9, 2014)  
 Location: MSA-307

Section # 0897  
 Mondays 1:00-4:15 pm

EARTH SCIENCE LAB- EARTH 2 (2 UNITS)  
 Lab Schedule (Tentative)

DATE	ACTIVITY	LAB MANUAL
FEB 10	LAB 1. AERIAL PHOTOS, SATELLITE IMAGES & TOPO MAPS	PAGES 41-56
FEB 24	LAB 2. EXAMINING THE TERRESTRIAL PLANETS	PAGES 267-279
MAR 3	LAB 3. THE DYNAMIC OCEAN FLOOR	PAGES 145-154
<b>MAR 10</b>	<b>1<sup>ST</sup> MID-TERM EXAM (LABS 1-3)</b>	
MAR 17	LAB 4. EARTHQUAKES & EARTH'S INTERIOR	PAGES 121-132
MAR 24	LAB 5. THE STUDY OF MINERALS	PAGES 3-20
APR 14	LAB 6. ROCKS & THE ROCK CYCLE	PAGES 21-40
APR 21	LAB 7. GEOLOGIC TIME	PAGES 91-104
<b>APR 28</b>	<b>2<sup>ND</sup> MID-TERM EXAM (LABS 4-7)</b>	
MAY 5	LAB 8. SHAPING EARTH'S SURFACE: RUNNING WATER & GROUNDWATER	PAGES 57-74
MAY 12	LAB 9. INTRO TO OCEANOGRAPHY	PAGES 133-144
MAY 19	LAB 10. HEATING THE ATMOSPHERE	PAGES 183-194
JUN 2	LAB 11. GLOBAL CLIMATES	PAGES 225-237
<b>JUN 9 @ 1:45 PM</b>	<b>FINAL EXAM (LABS 8-11)</b>	

**TEXTBOOK/LAB MANUAL (REQUIRED):**

Tarbuck, E.J., Lutgens, F.K., Tasa, D.G., and Pinzke, K.G. (2012). *Applications and Investigations in Earth Science*, 7<sup>th</sup> ed., PEARSON/Prentice Hall. ISBN 978-0-321-68955-9.

**TRANSFER:** CSU, UC

**PREREQUISITE/CO-REQUISITE:** Earth Science 1 (or concurrent enrolment in Earth Science 1).

**COURSE OBJECTIVES & SCOPE:**

Earth Science 2 is an introductory-level laboratory course designed to examine many of the basic principles of geology, meteorology, geography, oceanography, and astronomy. It gives students hands-on experience with Earth materials, skills to gather scientific data, and critical thinking to solve problems.

Earth Science 2 supplements Earth Science 1 lectures. Students will be introduced to the study of geologic materials by learning skills necessary to identify common minerals and rocks, determine structures and ages of rocks, describe and interpret processes related to running water and groundwater, locate earthquakes and determine their magnitudes, and analyze information contained in maps and aerial photographs. Other lab exercises include analyses of ocean floor topography and sediments, underwater volcanism and tectonic processes; interpretation of atmospheric data related to heating, moisture, pressure, and wind; determination of ocean water's heat capacity, salinity, temperature and density; and examining the terrestrial planets and patterns in the Solar system.

### **STUDENT LEARNING OUTCOMES:**

*Upon completion of this course the student will be able to:*

1. Explain the inter-relationships between the four spheres of our planet Earth, i.e. lithosphere, hydrosphere, atmosphere, and biosphere.
2. Identify common rocks and minerals; discuss the processes that form the different types of minerals and rocks; relate volcano & earthquake distribution patterns to plate tectonics; compute earthquake parameters such as distance to epicenter and Richter magnitude; Interpret the geology, geologic ages, and structures of rocks & regions ; discuss the geologic work of running & groundwater.
3. Describe the various topographic elements and dynamics of the ocean floor; discuss how waves, currents and tides form; discuss the relationship between ocean water temperature, salinity, and density.
4. Discuss meteorological phenomena such as atmospheric heating, moisture, pressure, and wind and relate these phenomena to global climates.
5. Examine, compare and contrast the geologic landforms of the terrestrial planets; explain the geologic processes responsible for producing the observed landforms.

### **LAB ATTENDANCE POLICY:**

Absence from a lab session will result in zero marks for that lab assignment. Irrespective of the reason for absence, no make-up lab will be given to anyone who does not show up during the scheduled lab sessions. Students are responsible for all work missed when absent. If a student has been absent from any 3 lab sessions during the semester, for whatever reason, that student will be dropped from class at any time during the semester.

Occasional tardiness of up to 5 minutes may be tolerated. If a student has been arriving late during 6 lab sessions, for whatever reason, that student will be dropped from class. Tardiness during two lab sessions will be considered as being absent for one full lab session. A student might as well be dropped if he/she had a combined absence and tardiness that add up to 3 absences.

### **LAB WORK:**

A typical lab session lasts for 3 hours and is worth 20 points. During each lab session, students will be provided with worksheets on which to write their work. Students must collect the worksheets for use for upcoming lab from their instructor. By having the worksheets a week earlier students are expected to read the lab introductions and make the necessary preparations before coming to the lab. If a student loses a worksheet or forgets it at home, the instructor will not give that student a replacement; no student will be allowed to sit in the Lab without a worksheet and without a Lab Manual.

Each student must complete and submit the lab worksheet before leaving the laboratory. Students who do not submit their lab worksheet on the day the lab was conducted will not be allowed to submit it at a later date. If for legitimate reasons the instructor approves a student to submit his/her lab work at a later date, the student must submit the lab work before the start of the next lab. No lab work can be submitted after graded lab worksheets have been returned to other students. And remember, a student has to submit his work in person; a student cannot submit a lab worksheet on behalf of another student.

The instructor will return graded lab worksheets at the beginning of the next lab session. Review of the previous lab will be done during the first 10-15 minutes of the new lab session. Following the review of the previous lab, there will be a 30-40 minutes introduction to the new lab. Students are therefore expected to arrive in the lab on time.

### **ASSESSMENT AND GRADING:**

There will be three exams for this course. Tentative dates are shown in this syllabus; if there will be any changes in the schedule, these will be announced by your instructor in advance.

Exams will cover material completed during lab sessions. The final exam is NOT cumulative.

For each exam you will need to bring the following items: Regular Scantron (**882 E**), a ruler, a simple calculator, pencil and eraser.

Your final grade will be determined by the following:

1 <sup>st</sup> Mid-term Exam	80 points
2 <sup>nd</sup> Mid-term Exam	100 points
Final Exam	100 points
11 Labs	220 points
<b>TOTAL</b>	<b>500 points</b>

Final letter grades will be assigned as follows:

<b>A:</b> $\geq 450$ points ( $\geq 90\%$ )
<b>B:</b> 400-449 points (80-89%)
<b>C:</b> 350-399 points (70-79%)
<b>D:</b> 300-349 points (60-69%)
<b>F:</b> $< 300$ points ( $< 60\%$ )

Once graded examination papers are returned to students and reviewed, they will have to be given back to the instructor.

Final grades for the course will be posted on the College's "Student Information System" within 10 days after the final exam. To log on to the site open the college's webpage ([www.wlac.edu](http://www.wlac.edu)) and click the button titled "Student Information System (SIS)".

### **WANT TO RECEIVE HONOR'S CREDIT?**

Do you plan to transfer to UC/CSU? Do you want to receive Honors Credit for Geology 6, which is a transferrable general education course? If yes, your instructor is willing and encourages you to go for it. Please contact your instructor during the first week of classes. Otherwise, you may not be considered for the program.

To be eligible for the Honor's Credit, students must first be accepted into the Transfer Honors Program. Transfer Honors Application can be obtained from the Counseling Office. For More Information please contact Helen Young, Program Director phone (310) 287-4289 or email her at [transferhonors@wla.edu](mailto:transferhonors@wla.edu), or talk to Andrea Frederic, Transfer Honors Program Counselor at (310) 287-4260. To learn more visit <http://www.wlac.edu/transfer/index.html#honors>. Once accepted by the Program, the student will be given a contract that the student and the instructor must complete. Students who want to be part of this program must be prepared to do extra work and ensure that they can earn "A" or "B" grade.

### **POLICY ON EXAM MAKE-UPS:**

Students should take exams on the scheduled dates; otherwise they will score zero points for that exam. There will be NO make-up exams except for valid and verifiable reasons (for example, if you were ill, you must submit a doctor's note). If you have a problem on the day of the exam you, your relatives or friends must e-mail or call your instructor before the scheduled exam time. Make-up exams, when approved, will take place on a date determined by your instructor.

### **POLICY ON ACADEMIC DISHONESTY & CONDUCT IN CLASS:**

Pursuant to West Los Angeles College's [WLAC] policy on student conduct, all forms of disruptive behaviors such as private talking, use of cell phones and texting while class is in session, as well as going out of class to answer or make a call etc. will not be allowed. These behaviors detract from the learning experience of others in the class. Students should make certain that cell phones are turned off before

entering the class. In addition, eating &/or drinking beverages (except water) in the classroom, as well as chewing gum are prohibited. These and other college policies on academic integrity (cheating, plagiarism) will be strictly enforced. Students should read WLAC's publication on all aspects of student conduct outlined in the most recent College Catalog or by logging onto the College website at [http://www.wlac.edu/academics/pdf/WLAC\\_12-14Catalog\\_FRONT.pdf](http://www.wlac.edu/academics/pdf/WLAC_12-14Catalog_FRONT.pdf).

Consequences of Misconduct: Violators of College regulations and rules are subject to disciplinary action under Board Rule 9803.15 of the Los Angeles Community College District. Depending upon the seriousness of the conduct, disciplinary procedures may range from a warning to removal from the class with a referral to the Vice President of the College.

### **DEADLINES**

Students should adhere to Add/Drop policies & deadlines of the College. It is the student's responsibility to officially drop out of the course, when he/she stops attending. Otherwise, grades other than a "W" may be assigned.

*Remember, if you decide to withdraw from the course, you must file appropriate papers in the Admissions Office.*

### **STUDENTS WITH DISABILITY**

If a student has disability (with special physical, communication or learning needs) and requires accommodations, he/she should contact the Disabled Students Programs & Services (DSPS) located on the first floor of the Heldman Learning Resources Center (HLRC). DSPS' phone number is (310) 287-4450.

### **IMPORTANT DATES:**

#### Last day to:

Drop a class with a refund/no fee owed: Feb 21

Drop a class without a "W": Feb 21

Drop a class with a "W": May 9

#### College is closed:

Presidents' Day: Feb 14-17

Cesar Chavez Day: Mar 31

Spring Break: April 7-13

Memorial Day: May 26

Non-Instruction Day: May 27

*This syllabus may be modified in order to better meet student needs or in the event of an emergent matter.*