

Integrated Earth Science AGLY 201 - 4 credit hours; Fall, 2008.

Instructor: Karin L. Willoughby, Office #207, Science; [karinw@usca.edu](mailto:karinw@usca.edu); #641-3379.  
Office Hours: Mon. and Wed. at 1-1:30 pm; Fri. at 11:15 – 11:45 am and also by appt.  
Time: Lecture: 12 -12:50 pm, MWF. Room 327.

LAB: Sec. 1, Mon. 9 - 11:40 am; Sec. 2, Wed. 9 - 11:40 am;

Sec. 3, Wed. 2:30 – 5:10 pm; Sec. 4, Mon. 2:30 – 5:10 pm; Room 212.

Required Texts and equipment: Earth Science Today by Murphy and Nance;  
Integrated Earth Sciences (GEOS); **student responder and extra batteries**

This course explores a holistic view of the earth. The atmosphere, lithosphere (solid earth), hydrosphere (oceans, surface fresh water and groundwater) and the solar system will be studied as specialized systems with identifiable internal compositions, natural processes and behavior patterns. The interactions among these systems and the biosphere are also investigated. Examples of such interactions include tides, waves, weather, climate, global change, plate tectonics and energy resources.

Students are expected to acquire knowledge about what these systems are, how they work and how they interact; build individual ability to understand the implications of earth systems' effects on the future of earth and human beings; and practice communicating that knowledge and understanding to others in written and oral form.

Grading: Lecture -- 75% of class grade

Maximum possible points: 300 points (100 pts. each) on 3 exams  
75 pts in class questions (responder)  
50 pts term paper  
30 pts on homework (3 assignments)  
10 pts environmental posters write up  
100 pts semester project  
25 pts oral presentation  
20 pts attendance and participation  
140 pts final  
750 pts Subtotal

Laboratory -- 25% of class grade\*

Maximum possible points: 120 pts on 12 lab reports (10 points each)  
120 pts (60 pts. each) on 2 quizzes  
10 pts on oral report  
250 pts Subtotal

Total possible points = 1000; Course grade will be based on: 900 or more points = A.  
800 - 899.9 pts. = B. 700 - 799.9 pts. = C. 600 - 699.9 pts. = D Below 600 pts. = F.

\* NOTE: Laboratory must be passed in order to pass course.

If you have a physical, psychological, and/or learning disability that might affect your performance in this class, please contact the Office of Disability Services B&E 126, (803)641-3609, as soon as possible. The Disability Services Office will determine appropriate accommodations based on medical documentation.

Tentative LECTURE Schedule		Reading Assignment Text Chapter	
August	22	Introduction to course	1
	25	Intro cont'd; semester project	
	27	Minerals	2
	29	Minerals cont'd; <b>start using responders</b>	
September	1	LABOR DAY HOLIDAY	
	3	Select semester project assignment**; Rocks	
	5	Rocks cont'd; Geologic Time and the Earth; HOMEWORK #1 is DUE	3
	8	Time cont'd	
	10	Time cont'd	
	12	Time cont'd	
	15	Plate Tectonics	4, 5
	17	Tectonics cont'd	
	19	EXAM #1 (Ch. 1-3)	
	22	Tectonics cont'd	
	24	Mountains and Volcanoes	6
	26	Mountains and Volcanoes cont'd	
	29	The Earth's Interior; turn in at least 5 preliminary resources on project	
	October	1	The Earth's Interior cont'd
3		Ocean Water	8
6		Ocean Water cont'd	
8		Circulation of Oceans; HOMEWORK #2 is DUE	9
10		FALL BREAK	
13		EXAM #2 (Ch. 4-7)	
15		Circulation of Oceans cont'd	
17		Atmosphere	11
20		Atmosphere cont'd	
22		Atmospheric Circulation	12
24		Atmospheric Circulation cont'd	
27		Circulation cont'd	
29		Fresh Water	10
31		Water cont'd	
November	3	History of the Earth	13, 14
	5	History of the Earth cont'd	
	7	Work on project	
	10	EXAM #3 (Ch. #8 - 12)	
	12	Environmental posters session; no lecture	

14 Planets; TERM PAPER IS DUE 15  
 17 Planets cont'd  
 19 Presentations  
 21 Presentations  
 24 Presentations; PROJECT NOTEBOOK IS DUE  
 26-28 THANKSGIVING HOLIDAYS

December 1 Sun and Stars; HOMEWORK #3 is DUE 16  
 3 Sun and Stars cont'd  
 5 Summary and Review  
 12 FINAL EXAM (Ch. #13 -16 + general review) (11 am - 2pm)

\*\* The student project and oral presentation requires thorough research on a selected topic. Preliminary resources (at least 5 references) must be located and turned in by Sept. 29 for full credit on the project. The project is a notebook containing several written and visual products. The notebook is DUE November 24. The oral presentation must be about 7-9 minutes long and discuss in detail one or more facets of the major research topic.

Punctual and regular attendance is essential for full participation in class. The instructor reserves the right to give an automatic "F" to any student that misses 7 or more lectures, even if absences are excused. There will be no instructor directed make-ups available for missed labs. The student is responsible for obtaining notes to missed material. Make-up lecture exams or lab quizzes will be given only for documented emergencies considered acceptable to the University (death of close relative, religious holiday, jury duty, illness with Dr.'s excuse) and approved by the instructor. The student is still responsible for missed material.

Cell phones/walkie-talkies/pagers may not be turned during lectures or tests; the instructor's permission must be obtained prior to beginning of that class. Students checking messages or any other use of the phone without permission risk being excused for the rest of that class period.

Responders are required for use in this class. The first time a student forgets a working responder, the student will be allowed to turn in paper answers for full credit; second and third failures to bring a responder will be allowed half-credit paper answers. Any additional failures to bring a responder will result in NO points earned that day, except for attendance.

#### Tentative Lab Schedule

Aug. 25-27	Introduction; What is Science?
Sept. 1	LABOR DAY HOLIDAY
Sept. 3-8	Minerals
Sept. 10-15	Rocks
Sept. 17-22	Give oral report on mineral; complete rock lab; visit library
Sept. 24-29	Correlation and Geologic Time; Rocks and Minerals cont'd
Oct. 1-6	Earthquakes; Rocks and Minerals cont'd
Oct. 8-13	Oceans; Rocks and Minerals cont'd
Oct. 15-20	LAB QUIZ # 1 (on rocks and minerals)

Oct.	24-29	Wind and Atmosphere
Oct.	22-27	Wind and Atmosphere, cont'd
Oct.	29-Nov. 3	Wind and Atmosphere, cont'd
Nov.	5-10	LAB QUIZ # 2 (on wind and atmosphere)
Nov.	12-17	Planets; also Sun and Moon lab
Nov.	19-24	STUDENT PRESENTATIONS
Nov.	26	THANKSGIVING HOLIDAYS
Dec.	1-3	Planetarium

#### Homework Assignments:

(Worth 10 points each; must be typed or neatly printed)

#### **Due September 5**

1. Read pp. 80 -86 (to heading 4.2). Do you think Wegener made a strong enough argument about the movement of the earth's crust or do you think that his ideas should not have been adopted until more evidence was found to support crustal motion as a real phenomenon? Defend your answer; that is, why did you decide what you did? Include lists of several of the positive and negative aspects of his theory as given in the text in your answer. That is, list some of Wegener's proofs and explain what other scientists said to try to disprove his theory.

#### **Due October 8**

2. Get a paper plate or cut a large circle from thick paper, pasteboard or cardboard. Try the experiment described and illustrated on pp. 246 – 248. Turn in your experiment with the lines you drew. Correctly label each line you drew with being caused by a clockwise or counterclockwise spin. Define Coriolis Effect on this circle.

#### **Due December 1**

3. Read p. 372 and 373: Extraterrestrial Life on Earth? Go on the internet or check recent newspapers and magazines to learn what we have found out from our current space probes on Mars. Do you think there is or ever was life of any kind on Mars? Include the information that helped you decide, in your answer. **Give credit to your reference resource(s)** after your answer. Do you think you made your decision scientifically or was your answer wishful thinking?

#### **TERM PAPER is DUE November 14 (Worth 50 points)**

**Prepare a minimum of a five page typed paper on the subject of biological evolution from the scientists' viewpoint. Define evolution scientifically. Explain what Darwin's Theory of Evolution is. Discuss the scientific evidence that proves that evolution occurs. You will need additional references beyond the textbook. One good place to start is [www. Priweb.org](http://www.Priweb.org).**