

CBM003 ADD/CHANGE FORM

Undergraduate Council  
 New Course  Course Change  
 Core Category: Life/Phys Sci Effective Fall ~~2013~~ 2014

or

Graduate/Professional Studies Council  
 New Course  Course Change  
 Effective Fall 2013

1. Department: EAS College: NSM  
 2. Faculty Contact Person: Shuhab Khan Telephone: 713-893-1699 Email: sdkhan@uh.edu

3. Course Information on New/Revised course:  
 • Instructional Area / Course Number / Long Course Title:  
GEOL / 1330 / Physical Geology  
 • Instructional Area / Course Number / Short Course Title (30 characters max.)  
GEOL / 1330 / PHYSICAL GEOLOGY  
 • SCH: 3 Level: FR CIP Code:          Lect Hrs: 3 Lab Hrs: 0

RECEIVED APR - 4 2013

4. Justification for adding/changing course: To meet core curriculum requirements

5. Was the proposed/revised course previously offered as a special topics course?  Yes  No

If Yes, please complete:

- Instructional Area / Course Number / Long Course Title:  
 \_\_\_\_ / \_\_\_\_ / \_\_\_\_  
 • Course ID: \_\_\_\_ Effective Date (currently active row): \_\_\_\_

6. Authorized Degree Program(s): \_\_\_\_

- Does this course affect major/minor requirements in the College/Department?  Yes  No  
 • Does this course affect major/minor requirements in other Colleges/Departments?  Yes  No  
 • Can the course be repeated for credit?  Yes  No (if yes, include in course description)

7. Grade Option: Letter Instruction Type: Lect (Note: Lect/Lab info. must match item 3, above.)

8. If this form involves a change to an existing course, please obtain the following information from the course inventory: Instructional Area / Course Number / Long Course Title

- \_\_\_\_ / \_\_\_\_ / \_\_\_\_  
 • Course ID: 31085 Effective Date (currently active row): \_\_\_\_

9. Proposed Catalog Description: (If there are no prerequisites, type in "none".)

Cr. 3. (3-0). Prerequisite: credit for, placement out of, or concurrent enrollment in MATH 1310 or MATH 1311. Principles of geology; emphasis on surface and internal processes of the earth.

10. Dean's Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Print/Type Name: Ian Evans

## REQUEST FOR COURSES IN THE CORE CURRICULUM

Originating Department or College: [Click here to enter text.](#)

Person Making Request: Shuhab Khan

Telephone: (713)893-1699

Email: [sdkhan@uh.edu](mailto:sdkhan@uh.edu)

Dean's Signature: \_\_\_\_\_

Date: 01/03/2013

Course Number and Title: GEOL 1330 Physical Geology

Please attach in separate documents:

Completed CBM003 Add/Change Form with Catalog Description

Syllabus

List the student learning outcomes for the course (Statements of what students will know and be able to do as a result of taking this course. See appended hints for constructing these statements):

1. Understand Earth landscapes and various processes which shape it.
2. Explain causes of floods, earthquakes, landslides, volcanoes, coastal erosion, and their impact on humans.
3. Describe hydrologic, tectonic and erosional processes and their interrelationship.
4. Relate geological processes to find its valuable resources
5. Solve geological problems using critical thinking

Component Area for which the course is being proposed (check one):

**\*Note:** If you check the Component Area Option, you would need to also check a Foundational Component Area.

Communication

American History

Mathematics

Government/Political

Science

Language, Philosophy, & Culture

Social & Behavioral Science

Creative Arts

Component Area Option

Life & Physical Sciences

Competency areas addressed by the course (refer to appended chart for competencies that are required and optional in each component area):

Critical Thinking

Teamwork

Communication Skills

Social Responsibility

Empirical & Quantitative Skills

Personal Responsibility

Because we will be assessing student learning outcomes across multiple core courses, assessments assigned in your course must include assessments of the core competencies. For each competency checked above, indicated the specific course assignment(s) which, when completed by students, will provide evidence of the competency. Provide detailed information, such as copies of the paper or project assignment, copies of individual test items, etc. A single assignment may be used to provide data for multiple competencies.

Critical Thinking:

Questions on exams will assess critical thinking. See attached page for sample questions.

Communication Skills:

Class discussions on various topics and group project assignments.

Empirical & Quantitative Skills:

There are multiple opportunities to learn and develop empirical and quantitative skill in this class. Few examples include, calculation of relative and absolute age of Earth, rocks and different events; estimation of amount of weathering and erosion, rate of plate motion etc.

Teamwork:

In class and home work assignments, in some team projects, group members will assess each other.

Example of team work projects includes making a Google Earth tour to a place demonstrating important geological process.

Social Responsibility:

N/A

Personal Responsibility:

N/a

Will the syllabus vary across multiple section of the course?  Yes  No

If yes, list the assignments that will be constant across sections:

Click here to enter text.

Inclusion in the core is contingent upon the course being offered and taught at least once every other academic year. Courses will be reviewed for renewal every 5 years.

The department understands that instructors will be expected to provide student work and to participate in university-wide assessments of student work. This could include, but may not be limited to, designing instruments

such as rubrics, and scoring work by students in this or other courses. In addition, instructors of core courses may be asked to include brief assessment activities in their course.

Dept. Signature: \_\_\_\_\_

The following courses have been reviewed and approved by the NSM Curriculum Committee to meet the new core requirements. Given the length of the individual submissions I have elected to submit these requests by electronic means only.

**Natural Sciences: Core Courses**

BIOL 1309 – Human Genetics and Society

BIOL 1310 – General Biology

BIOL 1320 – General Biology

BIOL 1361 - Introduction to Biological Science I

BIOL 1362 - Introduction to Biological Science II

CHEM 1301 – Foundations of Chemistry

CHEM 1331 – Fundamentals of Chemistry I

CHEM 1332 – Fundamentals of Chemistry II

GEOL 1302 - Introduction to Global Climate Change

**GEOL 1330 - Physical Geology**

GEOL 1340 - Introduction to Earth Systems

GEOL 1350 - Introduction to Meteorology

GEOL 1360 - Introduction to Oceanography

GEOL 1376 - Historical Geology

PHYS 1301 - Introductory General Physics I

PHYS 1302 - Introductory General Physics II

PHYS 1321 - University Physics I

PHYS 1322 - University Physics II

**Mathematics: Core Courses**

MATH 1310 – College Algebra

MATH 1311 – Elementary Mathematical Modeling

**Math/Reasoning: Core Courses**

COSC 1306 – Computer Science and Programming

MATH 1330 - Precalculus

MATH 1431 - Calculus I

MATH 1432 - Calculus II

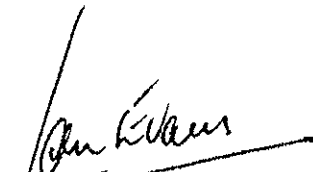
MATH 2311 - Introduction to Probability and Statistics

**Writing in the Disciplines: Core Courses**

BCHS Biochemistry Lab II

BIOL 3311 - Genetics Lab

PHYS 3313 - Advanced Lab I

  
Ian Evans  
Associate Dean

4/4/13

## Critical thinking

1. In the following figure 1, which is the correct sequence for the events listed below?

(oldest → youngest)

- dike B – fault - batholith – dike A
- batholith – fault - dike B – dike A
- fault – dike A – batholith – dike B
- fault – batholith – dike B – dike A

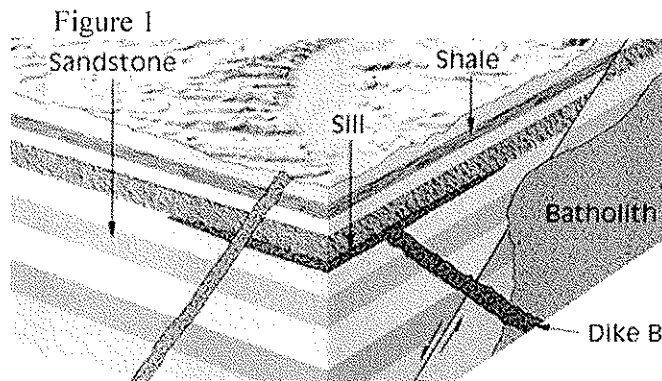


Figure 2

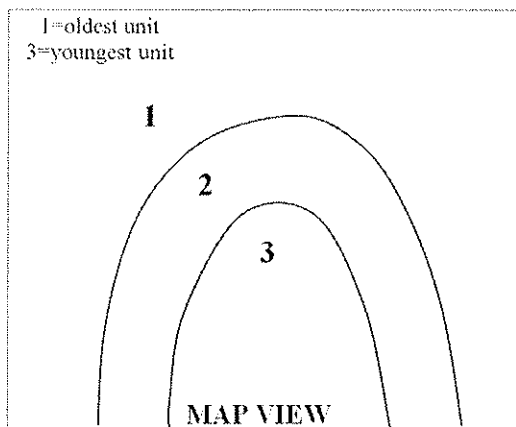
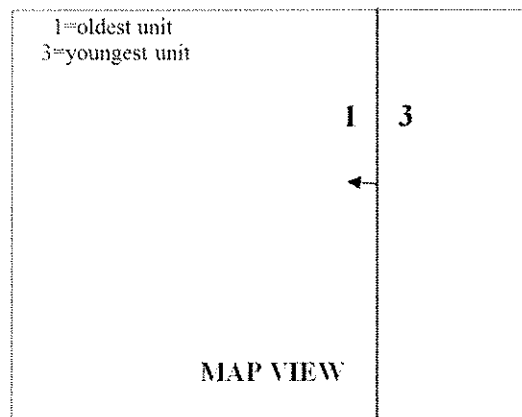
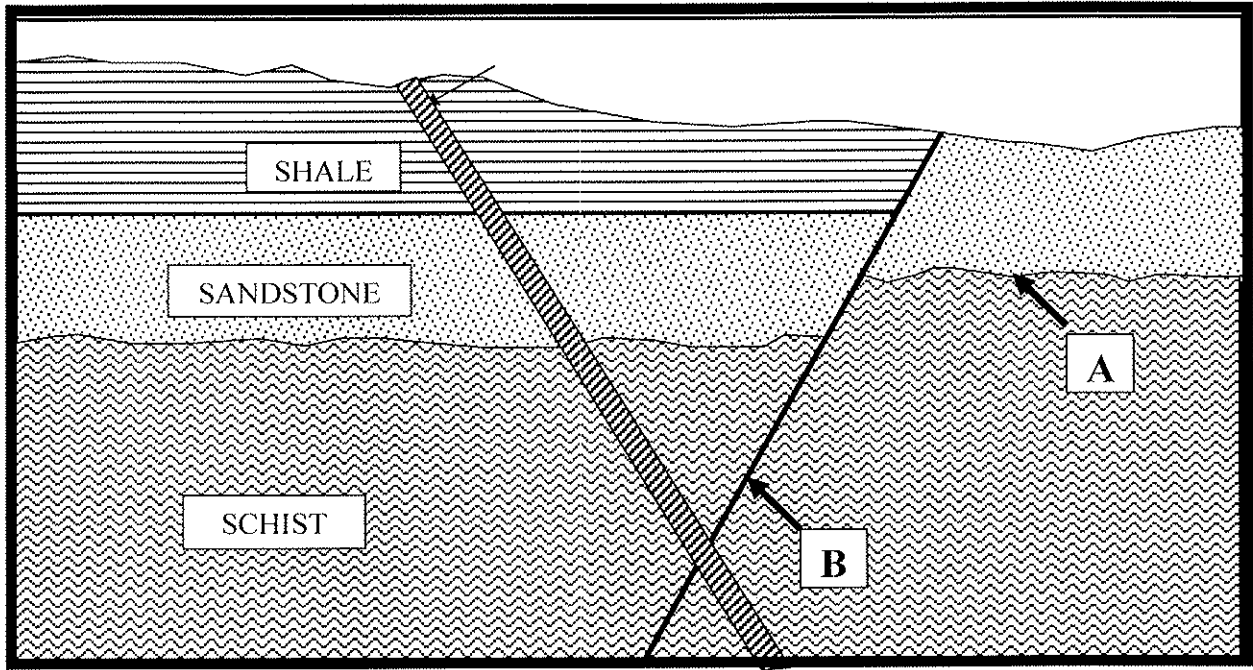


Figure 3



- The structure shown in figure 2 is best described as a:
  - horizontal anticline
  - plunging anticline
  - horizontal syncline
  - plunging syncline
- The structure shown in figure 2 is most likely the result of:
  - E-W compression
  - N-S compression
  - E-W extension
  - N-S extension
  - Shear stress
- The structure shown in figure 3 is best described as a:
  - right-lateral strip-slip fault
  - reverse fault
  - left-lateral strike-slip fault
  - normal fault
- The structure shown in figure 2 is most likely the result of:
  - E-W compression
  - N-S compression
  - E-W extension
  - N-S extension
  - shear stress



**Figure 6**

List in chronological order (1 = oldest) the sequence of geologic events as recorded in the cross section above (Figure 6). Include all igneous, metamorphic, deformational, depositional and erosional events, as done in class and on the extra credit assignment. (8 pts)

- 8 \_\_\_\_\_
- 7 \_\_\_\_\_
- 6 \_\_\_\_\_
- 5 \_\_\_\_\_
- 4 \_\_\_\_\_
- 3 \_\_\_\_\_
- 2 \_\_\_\_\_
- 1 \_\_\_\_\_



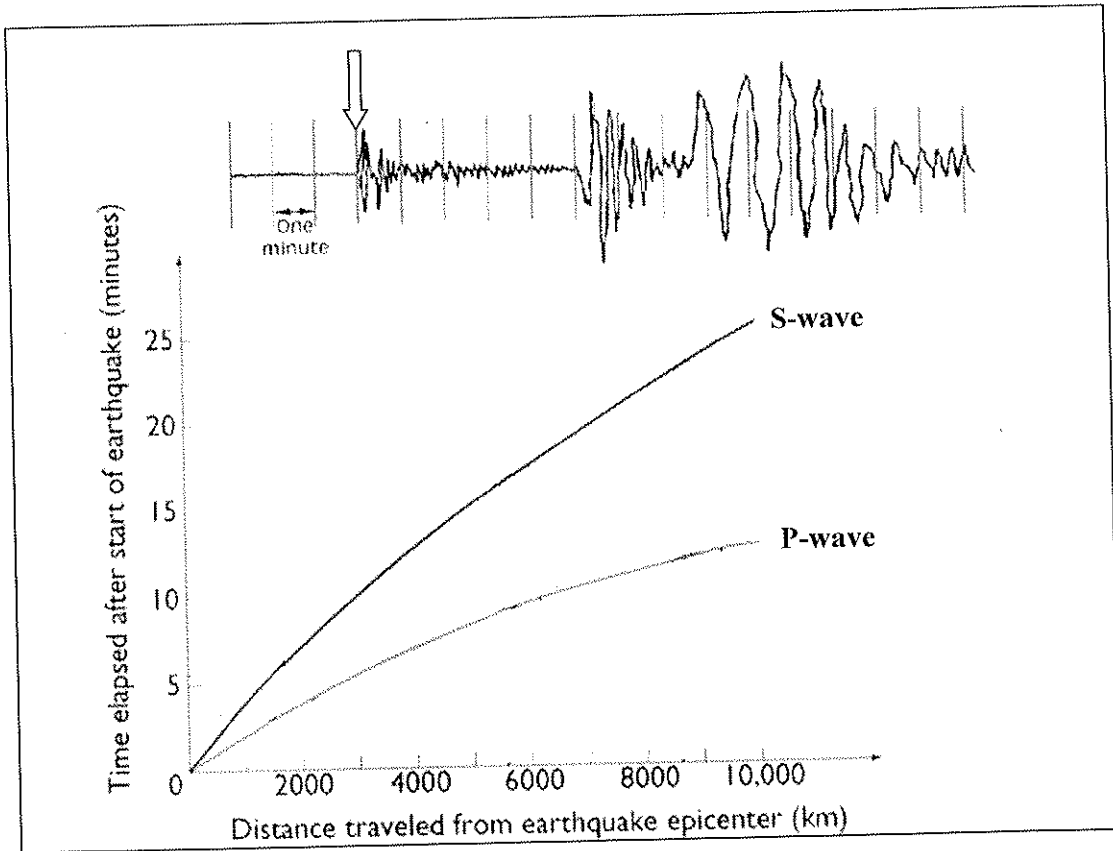


Figure 1: Seismogram and Time-Distance Graph

4. Using the time-distance chart in figure 1, determine the approximate distance from the epicenter as recorded in the seismogram at the figure.
- a. 1500 km   b. 3500 km   c. 5500 km   d. 8500 km   e. can't be determined from data provided

-----

Serious flooding occurs along the Woisme River whenever the discharge is at least 25,000 cubic feet per second (cfs). The table below lists the 8 largest floods in the past 99 years of record, (1900-1998):

- 1) what is the recurrence interval of such a equal to or greater than 25,000 cfs? (hint - show your work!)
- 2) what is the probability (expressed as a percent) that serious flooding (as defined above) will occur in the year 2013, assuming you have no new data?

Year	Discharge (cfs)	Rank
1929	60,500	1
1956	48,400	2
1988	41,300	3
1985	40,000	etc
1947	25,000	
1965	22,000	
1995	20,600	
1937	19,500	

# COURSE SYLLABUS

## Geology 1330: Physical Geology Course Outline

Fall, 2012

8:30-10am TTh

**INSTRUCTOR:** Dr. William R. Dupré; Rm. 331, S&R 1; 713-893-1680; [wdupre@uh.edu](mailto:wdupre@uh.edu)

**OFFICE HOURS:** Anytime my door is open (and I'm not busy) or make an appointment by phone or e-mail

**TEXT:** Highly recommended: *Earth* 2011, Tarbuck & Lutgens, (10<sup>th</sup> edition) ISBN 0-321-66304-7 (e-book edition is also available)

Lecture	LECTURE TOPICS	READING ASSIGNMENT
Lectures 1-2	Introduction and some Basic Geologic Principles	Chapter 1
Lectures 3-4	Plate Tectonics: a Scientific Revolution	Chapter 2
Lectures 5-6	Minerals	Chapter 3
Lectures 7-8	Igneous Rocks	Chapter 4
Lecture 8-9	Volcanoes	Chapter 5
Sept. 22 <sup>nd</sup>	<b>Exam I</b>	
Lecture 10	Weathering, Erosion & Soils	Chapter 6
Lecture 11-12	Sedimentary Rocks	Chapter 7
Lecture 13	Metamorphism and Metamorphic Rocks	Chapter 8
Lecture 14-15	Telling Geologic Time	Chapter 9
Lecture 16-17	Deformation of the Earth	Chapter 10
Oct. 25 <sup>th</sup>	<b>Exam II</b>	
Nov. 2 <sup>nd</sup>	<i>Last Day To Drop Or Withdraw from any Course</i>	
Lecture 18-19	Earthquakes	Chapter 11
Lecture 20	Earths Interior	Chapter 12
Lecture 21-22	The Hydrologic Cycle and Rivers	Chapter 16
Lecture 23	Groundwater	Chapter 17
Lecture 24	The Beaches are Moving	Chapter 20
Lecture 25	Energy Resources and Climate Change	Chapter 23 & 21*
Dec. 1 <sup>st</sup>	<b>Exam III</b>	
Dec. 15 <sup>th</sup>	<b>Make-up Exam: 8:30am</b>	* modified readings may be provided later

You REALLY need to know the following!

1) **CORE COURSE:** This course has been approved to satisfy the Natural Science component of the level 2 (knowledge base) of the University Core Curriculum.

2) **EXAMS:** There are three hourly exams scheduled during the semester, each mainly covering material from the previous exam. Each exam will consist mainly of multiple-choice questions; the remaining may include fill in the blank, definitions, and short essay questions. Almost all of the questions will come from the lectures, so be sure and study the lecture material carefully! Students who cannot take the exam during the scheduled **must** take the make-up exam on Dec. 15<sup>th</sup> (details below). Only 1 make-up exam can be taken, so **don't miss two exams!**

**3) LEARNING OUTCOMES:**

- A. Understand Earth landscapes and various processes which shape it.
- B. Explain causes of floods, earthquakes, landslides, volcanoes, coastal erosion, and their impact on humans.
- C. Describe hydrologic, tectonic and erosional processes and their interrelationship.
- D. Relate geological processes to find its valuable resources
- E. Solve geological problems using critical thinking

# COURSE SYLLABUS

**4) ADDITIONAL ASSIGNMENTS/QUIZZES:** There may be additional homework assignments and short in-class quizzes given throughout the course.

**5) EXTRA CREDIT ASSIGNMENTS:** There will be an extra credit assignment given prior to each of the three exams. Each assignment is worth up to 3 bonus points on the hourly exams. These may be accessed through the BLACKBOARD VISTA course website (<http://www.uh.edu/webct/>).

**6) GRADING:** I will assign a tentative final grade after the third hourly exam. It will be based on the average of your three hourly exams (including bonus points if any), plus assignments. If you wish to improve your grade (or if you have missed one of the three exams), you may choose to take the make-up exam on Dec. 15<sup>th</sup>. You **cannot lower your grade** by taking the optional make-up exam. The letter grade cutoffs are: A=70% and above; B=60-69%; C=50-59%; D=40-49%; and F= below 40%. The class average will be no lower than a C. I do give pluses and minuses; however the cutoffs aren't established at this time. Assignments may include group projects on Google Earth or in class exercises.

**7) ACADEMIC HONESTY:** All students are expected to uphold the standards of academic honesty as described in the Student Handbook. **ANY** violation of that policy will, at the minimum, result in your failing the course; extreme cases could result in your permanent expulsion from the University. For details see [http://www.uh.edu/provost/policies/uhhonesty\\_policy.html](http://www.uh.edu/provost/policies/uhhonesty_policy.html).

**8) DROP POLICY:** I do not take or require attendance; therefore I will not drop a student for "non-attendance"! It is therefore **your responsibility to initiate a drop or withdrawal if desired**. Failure to do so could result in your receiving an F at the end of the semester. Over half the F's given last semester were to students who failed to initiate drops and simply quit coming to class. Please note that the **last day to drop or withdraw** is Nov. 2<sup>nd</sup>. After that date you may not drop any course in the University unless you have special permission from the dean's office. Such permission will be given only for exceptional, non-academic reasons. Also, by state law, students are only allowed 6 W's during their college career in state colleges in Texas. You will not be allowed to drop any course once you have accumulated 6 W's. For details see [http://www.uh.edu/provost/stu/6-Ws\\_faq\\_stu.html](http://www.uh.edu/provost/stu/6-Ws_faq_stu.html).

**9) CLASSROOM BEHAVIOR:** The entire class and I would appreciate it if you turn off you cell phones, refrain from talking during the lecture, and arrive on time. Late arrivals and early departures are disruptive, and should be avoided whenever possible. If you must arrive late or leave early, please do so as unobtrusively as possible (i.e. don't walk in front of the class). Students who are disruptive to others will be asked to leave the classroom, and under extreme circumstances, may be dropped from the course.

**10) INCOMPLETES:** The temporary grade of "I" (incomplete) is a conditional and temporary grade given when students (a) are either currently passing a course or still have a reasonable chance of passing in the judgment of the instructor, and (b) have documented, non-academic reasons being their control, for not completed a relatively small part of all requirements. For more details, see <http://www.usd.uh.edu/usdforms/UHpolicies-grades-medwithdrawal.htm>

**11) LABORATORY:** There is an optional 1-hour credit lab course (GEOL 1130) that accompanies this lecture course. It is designed for students who need a "lab science", as well as for those who want more of a "hands-on" exposure to geology. Although you can make an A in the lecture without taking the lab, I believe it would be easier and more meaningful if you took the lab. FYA, the average grade in 1330 for students taking the lab was 0.75 grade points higher than those not taking the lab!

**12) STUDENTS WITH DISABILITIES:** Students with any type of health impairment, learning disability, or physical handicap that might affect their performance in this class should contact me as soon as possible so that reasonable accommodations can be made.

**13) OPTIONAL FIELD TRIP:** All students enrolled in Geo1330 are eligible to go on a field trip offered this semester at **no additional cost**. One trip will be to Central Texas where igneous, metamorphic, and sedimentary rocks can be collected and over one billion years of geologic history can be observed. More information on the trip(s) including date(s) will be provided as soon as possible. Please note, however, that there is no extra credit for attending the field trip – just the benefit of seeing geology "in the wild"!

## COURSE SYLLABUS

**14) GEOSCIENCE LEARNING CENTER:** will be open to all students beginning at the beginning of the semester (<http://www.geosc.uh.edu/undergrad/glc.php>). Faculty and graduate students will be available to help students with problems in 1330. Students who fail exam 1 should either plan on attending the learning center or dropping the course. N.B. I will have a copy of my PowerPoint Presentations at the GLC that you may review.