

GEOLOGY 303 SYLLABUS

FALL SEMESTER 2013

Lectures are in the Jackson Geological Sciences Building (JGB) 2.324, the Boyd Auditorium

Lecture section 1: MW 12→1 p.m. (unique numbers 27410 through 27460)

Lecture section 2: TTh 11→12 noon (unique numbers 27350 through 27405)

Each unique number corresponds to a unique combination of lecture and lab meeting times.

Professors: Richard Ketcham, Geology Building, JGB 3.316E
Office hours: MW 11→noon, TTh 10→11, or by appointment
Office phone: 512-471-6942
e-mail: ketcham@jsg.utexas.edu

Laurie S. Duncan (Catherine), E. P. Schoch Building (EPS) 4.102A
Office hours: MTWTh 1→2 pm, or by appointment
Office phone: 512-232-3906
email: laurieduncan@jsg.utexas.edu

Drs. Ketcham and Duncan take turns lecturing to both lecture sections.

Textbook and lab manual (combined into a single volume): Long, L. E., 2011, *GEOLOGY*: 15th ed., Pearson Learning Solutions, 600 pages. An iclicker plus remote is also required.

Lab: You are already registered to attend one 2-hour laboratory session per week in JGB 2.306. Participation in laboratory is required in order to pass the course. There will be no labs during the first several days of class. **Labs begin on Tuesday, September 3.**

Weights assigned	1 st lecture quiz	17%
to grades:	2 nd lecture quiz	16%
	Laboratory grade	35%
	Lecture final exam	27%
	Lecture participation (i-clicker)	5%
		100%

Assignment of final grade: The grades will be curved, but the boundaries between letter grades are determined by the instructors' judgment and are different every semester. Recently the *A/B* boundary has been in the high 80s, the *B/C* boundary in the high 70s, the *C/D* boundary in the high 60s, and the *D/F* boundary in the high 50s. All of these estimates are approximations and may vary a point or so according to class performance. We will assign grades on a plus/minus scale.

Absences and academic honesty: Drs. Ketcham and Duncan take an understandably dim view of unexcused absences and have no tolerance for any type of cheating. Unexcused absences from quizzes generally will result in a grade of zero. Please contact one of the instructors as soon as possible if you have missed a quiz for a legitimate reason. Sharing of quiz and exam questions outside of your lecture or lab section is strictly forbidden. Please see page 6 of the syllabus for our computer policies.

Students with disabilities: Upon request, UT provides appropriate academic accommodations for qualified students with disabilities. For more information, contact the Office of the Dean of Students at 471-6259 or consult the web site: <http://ddce.utexas.edu/disability/>. If you have already received permission for accommodations in GEO 303, give your authorization letter to Dr. Duncan.

Objectives of GEO 303

GEO 303 is a one-semester survey of the entire field of geological science. We recognize that you probably have had no formal instruction in geology. Polls show that nearly all of you have taken high school biology and chemistry, and nearly as many of you have taken physics. We will draw upon certain elementary concepts in these other sciences, and they will be reviewed when they are discussed in GEO 303. Mathematics in this course consists of simple arithmetic.

Geology draws heavily from these other disciplines. The earth is complex and not many aspects of it can be studied in isolation in a laboratory. This very complexity means also that geology includes a greater variety of subject material than many other sciences have. We may classify the subject of geology into three main areas: the *configuration* of the earth (the shapes, sizes, and compositions of its parts), the *processes* that constantly change the configuration, and the *origin* and *history* of the earth. GEO 303 treats all of these categories, emphasizing one or another of them differently along the way. The lectures present the more theoretical subjects, and you will have opportunity in lab to study minerals, rocks, fossils, and maps, go into the field locally in Austin, and hold small-group discussions.

In addition we invite you to participate in two optional activities. They are a one-day field trip west of Austin to visit the Llano Uplift, scheduled for Saturday, October 19th, and a brown-bag lunch discussion (time to be announced) about how geology fits into your larger philosophical or theological worldview.

SCHEDULE OF LECTURE TOPICS

Part I. *Introduction to the earth* (Chapters 1, 2, 3, 5, 7, and 9)

- Origin of the solar system; the earth's constituent parts
- Chemistry of the earth; crystals and minerals
- Igneous, sedimentary, and metamorphic rocks

Part II. *History of the earth and development of life* (Chapters 11, 12, 13, and 15)

- Measurement of geologic time, earliest earth history
- Origin of life
- Stratigraphy, fossils, earliest metazoans
- Geologic history of vertebrate animals

Part III: *Geophysics, plate tectonics* (Chapters 16, 21, and 22)

- Earthquakes, seismic waves
- Earth's deep interior
- Continental and oceanic crust, and the mantle
- Gravity, isostasy, origin of mountains
- Earth magnetism
- Physiographic features of the ocean basins
- Continental drift, plate tectonics

Part IV: *Processes occurring at the earth's surface: geology and you* (Chapters 23, 24, and 25)

- Streams, deltas, coasts
- Glaciers
- Geology of petroleum and natural gas
- Past and future climates
- Population, natural resources, looking to the future of humanity

Chapters 4, 6, 8, 10, 14, 17, 18, 19, 20, 26, and 27 are covered in lab.

LECTURES, READING ASSIGNMENTS, AND EXAMS

Monday, September 2. Labor Day Holiday; no lecture or lab.

Friday, September 13. Last day to drop GEO 303 for a possible refund.

Monday, September 30, 7:30 p.m., JGB 2.324. **Review session** for Quiz 1; participation is voluntary.

Tuesday, October 1 (or Wednesday, October 2). Quiz 1 covering first 9 lectures, and textbook chapters and pages mentioned below.

<i>Material on</i>	<i>Dates of lectures</i>	<i>Reading assignment</i>
<i>Quiz 1</i>	August 28 (or 29) through September 26 (or 30): 9 lectures	Chapters 1, 2, 3, 5, 7, 9, 11, and 12 through page 214

Saturday, October 19. **All-day field trip** (approximately 10 hours) to the Llano Uplift northwest of Austin. Transportation by air-conditioned bus equipped with restroom is free; participation is voluntary and all are invited. Also invited at a modest expense are guests who are not students in GEO 303 as long as bus space is available; priority goes to students registered for GEO 303.

Monday, November 4, 7:30 p.m., JGB 2.324. **Review session** for Quiz 2; participation is voluntary.

Tuesday, November 5 (or Wednesday, November 6). Quiz 2 covering lecture material *since* Quiz 1 (i.e., next group of 8 lectures) and corresponding portion of the textbook.

<i>Material on</i>	<i>Dates of lectures</i>	<i>Reading assignment</i>
<i>Quiz 2</i>	October 3 (or 7) through Oct 31 (or Nov 4): 8 lectures	Chapters 12 (page 215 and follow- ing), 13, 15, 16, and 21 through page 431

Tuesday, November 5. Last day to drop GEO 303 with a *Q* (= Quit with no academic penalty) except for urgent, and substantiated, nonacademic reason approved by your dean. Last day to change registration in GEO 303 from a letter grade to pass/fail, or the opposite.

Thursday November 28th and Friday, November 29th, Thanksgiving Holiday (no labs Tue-Fri).

Time to be announced: "Extended office hours" for questions and summaries of class topics before the final exam; participation is voluntary.

LECTURE FINAL EXAMINATION

A special time and date will be arranged for the lecture final exam with **both lecture sections together**. This unified examination will **not** occur during a period designated in the Course Schedule for classes that meet TTh at 11 a.m., or MW at 12 p.m. We anticipate **Thursday, December 12, 7-10 p.m.** in a room to be assigned, subject to confirmation by the Office of Official Publications. We will offer the exam at an alternative time if you have a scheduling conflict; we anticipate **Friday, December 13, 7-10 p.m.** The GEO 303 lecture final exam is **cumulative**, but emphasizes material after quiz 2.

<i>Material emphasized on final exam</i>	<i>Dates of lectures</i>	<i>Reading assignment</i>
	November 7 (or 11) through De- cember 4 (or 5): 9 lectures	Chapters 21 (page 432 and fol- lowing), 22, 23, 24, and 25

GEO 303 LABORATORY

Grade in laboratory

Laboratory sessions are conducted by Teaching Assistants (TAs), who are graduate students pursuing Masters or Ph.D. degrees in geological science. **Performance in the laboratory accounts for 35 percent of your total grade in GEO 303.** Grades from the lecture examinations and laboratory will be weighted together and calculated as *one* combined grade for the course. Thus you will either pass or fail the entire course, *not* the lecture or laboratory separately.

The 35 possible points in the laboratory are distributed as follows:

- **33%** on a laboratory **mid-semester examination** to be given during the week of Tuesday, October 15 through Monday, October 21.
- **32%** on a laboratory **final examination** to be given during the week of Monday, December 2 through Friday, December 6.
- **35%** on **attendance, participation** in discussions, and **performance** on homework exercises and short quizzes: your TA will assign this “weekly lab grade” according to his or her grading policy.

Homework assignments and short quizzes

Your TA has the option to conduct unannounced quizzes. There will also be homework assignments and discussion topics to prepare. Consistent attendance and participation in lab, and performance on such quizzes and exercises, constitutes 35% of your laboratory grade, which translates to 12% of the course grade.

Make-up labs, late papers

If for any reason you must miss a laboratory session, there will be no make-up laboratory as such. Your laboratory TA teaches more than one section, and if she or he is willing, you may make arrangements with your TA (or another TA) to attend a later section in which the same material is being taught.

Homework assignments will not be accepted late. Their solution will be discussed when they are turned in, and therefore persons who submit late papers would have an unfair advantage.

Office hours, problems

Each TA will maintain office hours this semester, and will notify you of office hours and room location. If you should have problems in laboratory that cannot be handled by your Teaching Assistant, you should contact:

Prof. Rich Ketcham
Office phone: 512-471-7562
email: ketcham@jsg.utexas.edu

or

Dr. Laurie Duncan
Office phone: 512-232-3906
email: laurieduncan@jsg.utexas.edu

GEO 303 and your Computer

Blackboard: We will post course general information, course materials, and grades on Blackboard, a UT supported computer-based course management system that is accessible *only* to those enrolled in UT courses such as GEO 303.

How to access Blackboard:

- Use a web browser to access the main UT web page: <http://www.utexas.edu/>
- Click on “Blackboard” below “Learn Here” and provide your UT-EID and password.
- There will be a link for each course in which you are enrolled, including two links for this class: “(13F) GEO 303 Lecture” and “(13F) GEO 303 Lab.”
- You will need the ability to open, close, and save files and attachments, in particular a PDF reader (Adobe Acrobat Reader, which is free software). Also necessary is an email account.

Uses of Blackboard in GEO 303:

- *Announcements* Information regarding logistics of GEO 303
- *Syllabus* An electronic copy of this document
- *Faculty Information* How to contact your instructors
- *Discussion Board* Where you can discuss GEO 303 related topics with your classmates. Out of fairness to your classmates, please refrain from discussing GEO 303 in other online forums like Facebook and Twitter.
- *Course Documents* Where we post figures from class, copies of class handouts and lecture Power-Point files. We also will post review materials here immediately before each quiz, and before the lecture final exam. This is the most important domain in Blackboard for GEO 303. Please do not repost these course materials online.
- *My Grades* Where we will post your laboratory and lecture grades. The major components of your final course grade will be posted under “My Grades” at the “(13F) GEO 303 Lecture” link. Your TA will post weekly lab grades under “My Grades” at the “(13F) GEO 303 Lab” link. Blackboard is protected with your UT-EID and password such that your grades can be viewed only by you and your instructors.

iclicker: You are required to have an **iclicker plus** remote for the lecture participation portion of GEO 303. If you already have an iclicker 2 remote (the one with a screen), it will also work in this class, but is not required. iclicker is a response system that allows you to respond to questions we pose during class, and you will be graded on that feedback and/or your in-class participation.

To receive credit, you will need to **register your iclicker remote online by the beginning of your second lecture (September 3rd or 4th)**. To register online, go to <http://www.iclicker.com/registration> and complete the fields with your first name, last name, UT EID, and remote ID. The remote ID is the series of numbers and sometimes letters found on the back or bottom of your iclicker remote. You must also come to class at least once and vote on at least one question in order to complete your GEO 303 registration. Your TA may also choose to use the iclicker plus in your lab section, and he or she will let you know the lab policy at your first lab meeting.

We will be using iclicker in almost every class and clicker points will make up 5% of your final grade. Please remember that it is your responsibility to come prepared to participate with a functioning remote every day. However, we do realize that difficult circumstances do arise, and for this reason we will drop the lowest two iclicker sessions from your total participation grade.

If you lose or break your iclicker remote, you will have to purchase another one. If this occurs, please email us with your new Remote ID so that we can manually register your new remote.

If you have more questions, please visit the registration area of <http://www.iclicker.com>.

Computers and academic honesty: The material we teach in GEO 303 this semester is for you alone, and we feel strongly that every student registered in the course should have the same opportunity to succeed. For this reason, we ask that you refrain from online sharing of information that would put classmates who do not have access to online forums at a disadvantage. Please do not discuss GEO 303 study materials in open, online forums like Facebook or Twitter. Use the Blackboard discussion board instead. We also discourage reposting of GEO 303 course materials (practice quizzes, review notes) online, and sharing from semester to semester.

Sharing of exam questions between lecture or lab sections by any means, digital or otherwise, is cheating and will result in serious disciplinary action. Giving your iclicker to another student to record your attendance when you are absent is also forbidden. The penalty for this is a 0% lecture participation grade for both students.

Access to Computers at UT: You do not have to own a computer to access the computer-based GEO 303 resources. All libraries and the SMF (Student Microcomputer Facility) have public computers for student use *for free*, but many require you to set up an IF (Individually Funded) account. Use of the computers via the IF account is free, but other services such as printing will be charged to your IF account.

To set up an IF account, subscribe online (using UT-EID) at this site:

https://utdirect.utexas.edu/its/account/user_agreement.WBX

Consult this site for more information: <http://www.utexas.edu/its/account/index.html>

Procedure to Obtain Email (if you do not already have an email account): Information may be found at this web site:

<http://www.utexas.edu/its/email/>