

**GENERAL INFORMATION**  
**GEOLOGY 303, FALL SEMESTER, 2006**

Lectures in Geology Building (GEO) 2.324 (the Boyd Auditorium)

Lecture section 1: MW 10→11 a.m. (unique numbers 26455 through 26495)

Lecture section 2: TTh 11→12 noon (unique numbers 26500 through 26540)

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

**Professors:** Leon E. Long, Geology Building 4.156

Office hours: MW 9→10, TTh 10→11, or by appointment

Office phone: 471-7562

Home phone: 459-7838

e-mail: [leonlong@mail.utexas.edu](mailto:leonlong@mail.utexas.edu)

Jenny Cooke, Geology Building 4.142

Office hours: MW 11→12, TTh 9→10, or by appointment

Office phone: 471-1177

Home phone: 292-7214

e-mail: [mcooke@mail.utexas.edu](mailto:mcooke@mail.utexas.edu)

Drs. Long and Cooke take turns lecturing to both lecture sections.

**Textbook** and lab manual (combined into a single volume): Long, L. E., 2005, *GEOLOGY*: 12<sup>th</sup> ed., Pearson Custom Publishing, 598 pages

You are invited to visit the GEO 303 website: <http://www.geo.utexas.edu/courses/303/>

You are already registered to attend one 2-hour laboratory session per week in GEO 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 5.**

Weights assigned	1 <sup>st</sup> quiz	18%
to grades:	2 <sup>nd</sup> quiz	17%
	Laboratory grade	35%
	Lecture final exam	<u>30%</u>
		100%

The grades will be curved, but the boundaries between letter grades are determined by the instructors' judgment and are different every semester. Typically the *A/B* boundary is in the mid-80s, the *B/C* boundary is in the mid-70s, the *C/D* boundary is in the mid-60s, and below the mid-50s is an *F*. All of these approximations may be give-or-take several percentage points.

**Absences:** Drs. Long and Cooke take an understandably dim view of unexcused absences from quizzes. Unexcused absences 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.

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 open the web site: <http://deanofstudents.utexas.edu/>

## Objectives of Geology 303

Geology 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, 75% or more have had chemistry, and more than half 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 will consist 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 actual *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 in lab you will have opportunity to look at minerals, rocks, fossils, and maps, go into the field locally in Austin, and hold discussions as part of a small group.

In addition, you are invited to participate in two optional activities, both costing no money. They are a one-day field trip west of Austin to visit the Llano Uplift on October 1, and a brown-bag lunch discussion (time and place to be announced) of how geology fits into your larger philosophical or theological worldview.

## Lecture Topics

### Part I. *Introduction to the earth* (Chapters 1, 2, 3, 5, 7, 9, and 11)

- Origin of the solar system and earth
- Chemistry of the earth; crystals and minerals
- Igneous, sedimentary, and metamorphic rocks
- Measurement of geologic time, earliest earth history

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

- Origin of life
- Stratigraphy, fossils
- Processes of organic evolution
- Geologic history of vertebrate animals

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

- Earthquakes, seismic waves
- Deep interior of the earth
- 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
- Past and future climates
- Geology of petroleum and natural gas
- Population, natural resources, looking to the future

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

## LECTURE, READING ASSIGNMENT, AND TESTING SCHEDULE

Textbook: Long, L. E., 2005, *GEOLOGY*: 12<sup>th</sup> ed., Pearson Custom Publishing, 598 pages

<i>Material on</i>	<i>Dates of lectures</i>	<i>Reading assignment</i>
<i>Quiz 1</i>	August 30 (or 31) through September 28 (or October 2) 9 lectures	Chapters 1, 2, 3, 5, 7, 9, 11, and 12 through page 214 inclusive

Monday, September 4. Labor Day holiday; no lecture or labs.

Friday, September 15. Last day to drop GEO 303 for a possible refund.

Sunday, October 1. All-day field trip (approximately 10 hours) to the Llano Uplift west 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.

Monday, October 2, 7:30 p.m., GEO 2.324. **Review session** for Quiz 1; participation is voluntary.

October 3 (or 4). **Quiz 1** covering first 9 lectures and textbook chapters mentioned above.

Wednesday, October 25. 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.

<i>Material on</i>	<i>Dates of lectures</i>	<i>Reading assignment</i>
<i>Quiz 2</i>	October 5 (or 9) through October 31 (or November 1) 8 lectures	Chapters 12 (following page 214), 13, 15, 16, and 21 through page 431 inclusive

Monday, November 6, 7:30 p.m., GEO 2.324. **Review session** for Quiz 2; participation is voluntary.

November 7 (or 8). **Quiz 2** covering lecture material *since* Quiz 1 (i.e., second group of 8 lectures) and corresponding chapters of the textbook.

<i>Material emphasized on</i>	<i>Dates of lectures</i>	<i>Reading assignment</i>
<i>final exam</i>	November 2 (or 6) through De- cember 6 (or 7) 9 lectures	Chapters 21 (following page 431), 22, 23, 24, and 25

Thursday and Friday, November 23 and 24. Thanksgiving holidays; no lecture. Lab on November 20, but no labs on November 21 through 24.

## FINAL EXAMINATION FOR LECTURE PART OF THE COURSE

Monday, December 11, 10 a.m., GEO 2.324. **“Extended office hours”** review for the final exam; participation is voluntary.

**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 *Fall 2006 Course Schedule* for classes that meet MW at 10 a.m. or TTh at 11 a.m. We anticipate Thursday, December 14, 7-10 p.m. in a large auditorium, the date, hour, and locality to be confirmed by the Registrar's Office.

## GEOLOGY 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 averaged and *one* combined grade will be calculated 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 will be distributed approximately as follows:

- 33% on a mid-term examination to be given in your scheduled laboratory period during the week of Tuesday, October 17 through Monday, October 23.
- 32% on a laboratory final examination to be given in your scheduled laboratory period during the week of Monday, December 4 through Friday, December 8.
- 35% on attendance, participation in discussions, and performance on exercises and short quizzes.

### *Quizzes and homework assignments*

Your TA has the option to conduct unannounced quizzes. There will also be homework assignments and discussion topics to prepare. As mentioned above, performance on such quizzes and exercises and participation in lab will constitute 35% of your laboratory grade, or 12% of the course grade.

### *Make-up laboratories, 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 to attend another 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 students 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 location. If you should have problems in laboratory that cannot be handled by your Teaching Assistant, you should contact:

Prof. Leon Long  
Office phone: 471-7562  
e-mail: [leonlong@mail.utexas.edu](mailto:leonlong@mail.utexas.edu)

## GEO 303 on the web: Blackboard, web site, and eGradebook

Note: the discussion below is full of computer jargon. See the Glossary for several explanations or definitions.

**Course Web Site** to access: <http://www.geo.utexas.edu/courses/303/>

We have a “public” GEO 303 web site accessible to the entire world. This site holds general information and material related to the lab. The web site is also linked within Blackboard.

**UT Direct** to access: <https://utdirect.utexas.edu/>

To access Blackboard and eGradebook, you must first access UT Direct via your UT-EID.

- Web browser: (freely available from Bevoware or from producers’ web sites)
  - Internet Explorer 5.2 or higher for Macintosh
  - Internet Explorer 6.0 or higher for Windows
  - Netscape Navigator 4.7 or higher
- UT-EID (Electronic *ID*entification—what you use to access UT Direct)

**Blackboard** to access: <https://courses.utexas.edu/webapps/login>

We have also posted material to Blackboard, a UT supported computer-based course management system that is accessible *only* to those enrolled in GEO 303.

*How to access Blackboard:*

- Use a web browser to access: <https://courses.utexas.edu/webapps/login>
- You will be asked to provide your UT-EID and password.
- There will be a link for each course in which you are enrolled, including “06F INTRODUCTION TO GEOLOGY (your unique number).” Use your mouse to select this web link. For more information on how to access and use Blackboard, see this web site:  
<http://www.utexas.edu/cc/blackboard/tutorials/student/index.html>
  - 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 recommended is an e-mail account.

*Uses of Blackboard in GEO 303:*

Below are definitions and uses of the major subunits in the Blackboard facility.

- *Announcements* regarding logistics of GEO 303 (example, schedule of review sessions)
- *Syllabus* an electronic copy of this document
- *Faculty Information* how to contact the professors
- *Course Documents* where we post figures from class, copies of class handouts, etc. This is the most important domain in Blackboard. Among other things, we will post condensed lecture notes here immediately before each quiz and before the lecture final exam.
- *Discussion Board* where to raise questions related to GEO 303 (see rules for discussion below)
- *Check Grades* We may use this to post grades, or we may use eGradebook.

*How to post to a discussion board:*

- Click the discussion board button.
- You may read or add to an existing discussion by clicking on an existing “forum,” and add a new “thread” to the discussion. You may post a message to the existing thread (this is difficult to explain in detail, but rather self explanatory if you try it).

## Electronic Posting of Grades

Exam, quiz, and laboratory grades will be posted on eGradebook, which is part of the “Class Information Pages” or CLIPS, accessible from UT Direct. You can also access eGradebook from

Blackboard and the GEO 303 course website. eGradebook is password protected with your UT-EID and password such that your grades are available only to you and your instructors. The eGradebook web address is: <https://utdirect.utexas.edu/diia/egb>

### **Rules for Use of GEO 303 Blackboard Discussion Boards**

Blackboard discussion boards are available to all GEO 303 students, TAs, and professors. Everyone can read anything that you post to a discussion board, and your identity, although encrypted in your username, ultimately cannot be concealed. In a sense you are a "public figure" to be held accountable for your words and actions. Thus normal courtesy and civility are expected of everyone. Your peers will also think better of you if you think carefully about constructing good phraseology, spelling, and grammar before you send forth a message. Before posting a message, it would be a good idea to run it through a spelling checker.

The following uses of the GEO 303 Blackboard discussions are FORBIDDEN:

- Dirty, obscene, or inappropriate jokes
- Anything that insults a person's race, gender, religious faith, or sexual orientation
- Reference to athletic teams or events
- Negotiation to buy or sell something
- Reference to social events (unless you would like to throw a party just for GEO 303 students)
- Appeals on behalf of any private or public do-good organization (religious, charity, fight against disease, etc.), no matter how worthy

The guiding principle here is that GEO 303 Blackboard discussion boards are meant *only* for the business at hand. The Computation Center endorses (and will enforce) the "no-no" list above. If you wish to indulge in something on that list, send a personal e-mail message.

With adherence to these minimal requests, we hope that the GEO 303 Blackboard discussion boards will become an excellent forum by which you may seek help from your peers, TAs, and professors, or mentor others. You are welcome to ask questions, make comments, form study groups, whatever.

Address your message to the discussion board *only* if you intend for a large audience to read it. If your message is intended just for an individual, use e-mail instead.

Geology has important religious implications (origins, creation, organic evolution, etc.) and political implications (utilization of natural resources, minimizing pollution, etc.), and sometimes the GEO 303 discussion boards carry some highly opinionated exchanges. We welcome this! However, just as the United States Senate has learned through experience that it must have rules to limit debate, so must we. If someone violates the rules above, the message may be deleted and her/his privilege to post future messages on the board may be revoked at the discretion of Drs. Long and Cooke.

### **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](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 E-mail** (if you do not already have an e-mail account)

Information may be found at this web site: <http://www.utexas.edu/computer/email/>

Your ITAC fees support **free** access e-mail for all students through the UMBS (University Mailbox Service). Consult: <http://www.utexas.edu/its/umbs>

To activate your mailbox, go directly to this web site: <http://mail.utexas.edu/login>

You may access your UT UMBS e-mail account (ending with “@mail.utexas.edu”) with several programs including Eudora, Outlook, or Pine, or with a browser by using Webmail. With Webmail, you can access your e-mail from **any** computer using a standard Web browser (Explorer, Safari, etc.) and thus any computer connected to the Internet will do.

A UMBS e-mail account limits the amount of information (messages and attachments) to 100 megabytes. If your “inbox” contains more than this amount, future incoming mail will be returned to the sender. If you send a critical e-mail message to a course instructor when your mailbox is full, that person will be out of touch, unable to respond to you.

### **GEO 303, Computers, and You: a Glossary of Terms**

Note: if a term appears in *italics*, look for a separate heading to describe that term.

Adobe Acrobat Reader: This free software allows you to view and print PDF files, a common format of web documents. Download from: <http://www.adobe.com/products/acrobat/readstep2.html>

Bevoware: UT’s free software bundle that includes many basic utilities such as e-mail, anti-virus, printer drivers, browsers, etc. Consult: <http://www.utexas.edu/its/bevoware/>

Blackboard: a web site for UT courses restricted to enrolled students by *UT-EID*.

CLIPs: *CLass Information Pages*, a web site with information about courses you are enrolled in, including *eGradebook* accessible with *UT-EID*.

Consult: [https://utdirect.utexas.edu/nrport/clips\\_menu.WBX](https://utdirect.utexas.edu/nrport/clips_menu.WBX)

eGradebook: a web site where you can access your grades for this class using your *UT-EID*.

Consult: <https://utdirect.utexas.edu/diia/egb>

IF account: *Individually Funded* user number that permits you to use the University's network services. The IF account is free (for use of computers in the *SMF*), but your IF account will be billed for services such as *TELESYS* (UT’s dial-up by modem service), printing, and data storage.

Consult: <http://www.utexas.edu/cc/account/>

SMF: *Student Microcomputer Facility*, pronounced "Smerf." Located on the second floor of the Flawn Academic Center, UT campus. Also a computer named SMF.

TELESYS: high-speed modem system that provides dial-up access to UT's Computation Center and other computers on and off campus. Cost is \$10/month, or \$45 for the fall semester.

UT Direct: The directory of secure web sites accessible with your *UT-EID*.

UT-EID: *UT Electronic IDentifier* that allows you to use secure services that require you to identify yourself. To gain access to the service (such as Blackboard) you must also use a personal password.

Consult: [https://utdirect.utexas.edu/nlogon/eid\\_suite/faqs/general\\_faq.WBX](https://utdirect.utexas.edu/nlogon/eid_suite/faqs/general_faq.WBX)