Course description: A study of the kinds and arrangement of materials composing the earth’s crust, and the geological processes at work on and within the earth’s surface.

Text: *Earth: An Introduction to Physical Geology*, by Tarbuck & Lutgens, 8th Edition. This is a well-written book that will provide detail (sometimes too much), examples, and illustrations regarding topics we discuss in class. In some cases, we will rely on the book to explain some topics that, although important, we will not even talk about in class. Some topics that we will discuss in class are not really covered in the book. The *What-to-Know List* (handed out in class) is your guide to what’s important. I do not recommend the purchase or use of any other materials, such as a study guide, that may be available at the bookstore, since these tend to overemphasize terminology, rather than the material I teach. If such study guides help you learn, go ahead and use them selectively.

My philosophy and teaching method: I believe that science, including geology, should be a fun way of exploring and visualizing our natural world, not a static collection of facts. Accordingly, we will concentrate on understanding natural processes and how we explore and know things, rather than terms and factual trivia. We will do much active, inquiry-based learning, and will learn how to observe, think about, and understand our place in the natural environment. This class will try to develop skills that you can use in any profession and give you an appreciation of how geologic processes impact our environment and society.

*Class time will not simply consist of me repeating via lecture everything that is in the book! It is your responsibility and obligation to complete the required readings prior to exams. Class time may be used for clarifying written materials, introducing new material, small group activity, discussion, independent work projects, and/or identifying and applying principles and concepts.*

Course expectations: My role in this class is to provide a framework that includes theory, best practices, activities, and assignments for you to utilize in development of understanding, knowledge, and skills. I care very much how and what you learn in my class, but I believe that you are responsible for participating in learning from the activities I provide. This class requires a certain amount of outside preparation and reading. It will be impossible to cover all issues in the textbook during class time.

Attendance: Each student is expected to attend all classes. After four unexcused absences, I reserve the right to initiate the withdrawal process. Work missed during officially excused absences (officially excused absences issued by the ASU student services office – see Student Handbook for details) may be made up by prior arrangement with the instructor. It is the student's responsibility to inform the instructor of an officially excused absence as soon as possible. Absences for emergency situations may be excused unofficially by the instructor. Instructor-excused absences must be obtained prior to, or on the day of, the student's absence. Make-ups for such absences will be at the option of the instructor. *There will be absolutely no
make-ups for unexcused absences. Please contact me if you have circumstances arise that conflict with attending class.

**Lab:** In order to receive a laboratory science credit, you must also take the laboratory, GLG 103. The laboratory is *independent* of this class in terms of *registration* and *grades*. The lecture and lab compliment each other by covering different aspects of the same material. GLG 103 can be taken subsequently to GLG 101, but ideally should be taken the same semester.

**Your grade:** Based on the following (approximately 320 points):

(a) **In-class assignments** and **class participation**: together, these are worth a total of approximately 45 points. In-class assignments will include individual or group exercises. Group exercises will require you to use a cooperative, team approach to solve multi-step problems, such as finding oil or determining the origin of a groundwater contaminant. There is no possibility for “make-ups” of in-class assignments if you are absent, arrive late, or leave early.

(b) **Homework assignments** will be worth a total of 55 points: Four homework assignments are due on the day of each exam. You will be given a list of possible exam essay questions from which you will chose two to complete and hand in as your homework assignment. These will involve sketching and labeling concepts (called “concept sketches”) or doing write-ups from the *what-to-know* list. Sketches must be neat and legible, and a short summary of what the sketch represents must accompany the sketch. Summaries must be detailed and legible. Each assignment is worth between 5 and 10 points, depending on the level of difficulty. These homework assignments must be handed in prior to actually taking the exam for that material and will not be accepted after the exam has been administered.

**Other homework** activities will include such things as (1) understanding how important minerals are to our lives, (2) determining the sequence of geologic events, (3) making observations about the scenery of various parts of the state, and (4) determining controls on geologic hazards in various parts of the world. These assignments will be handed out at various intervals during the semester and will be due typically at the beginning of the following class period. These homework assignments will make up the remainder of the 55 points.

(c) **Current events summaries.** You are required to turn in two short write-ups (less than one page, double-spaced, typed) that summarize current events related to geology, geologic hazards, or the environment. Your write-up should include three paragraphs: (1) a summary of the event; (2) a brief discussion of the role that geology plays in the event; and, (3) your analysis of the event. Any local, national, or world current event is acceptable, but must come from a respectable newspaper or magazine. You can use the Internet only if you use reputable online publications such as *The Wall Street Journal*, *The New York Times*, or *The Arizona Republic*. You may also use news sources such as *MSNBC*, *CNN*, and *FoxNews*. A copy of the newspaper, magazine article, or Internet article must accompany your write-up. Points given for each summary will be based on substance, your analysis, grammar, and spelling. These are worth 10 points each for a total of 20 points and have specific due dates (see the course schedule for these dates). Points will be deducted for articles handed in after the due date.

(d) **Exams:** Four exams, worth 50 points each for a total of 200 points, will be given throughout the semester (see course outline). Each exam will last the entire class period. At least 60 percent of all exam questions will be derived from material covered in the book, but perhaps as much as 40 percent will be from lecture topics not fully covered by the book. Some questions may be derived from topics presented in the book or readings, but not
discussed in lecture; in other words, you are expected to read the entire book. Use the What-to-Know List as your guide of what to study. Exam formats include: multiple choice, matching, listing, true/false, short answer, short essay, and concept sketching. 

No exam score will be dropped and you cannot make up an exam; however, if you take all the exams during the semester, you do not have to take the final exam during finals’ week. You do have the option of taking the final exam during test week if you would like to replace one of your exam scores. In the event you score lower on the final exam than any of your other exams, the highest score will remain in place. If you have missed an exam, you are required to take the final exam during finals’ week. The final exam is cumulative.

These assignments, for the most part, have definite due dates as noted in the course outline section of this syllabus. Note: It is your responsibility to consult the course outline for assignment due dates. The instructor will not assume the responsibility of reminding you that an assignment is due or that an exam will be given.

Grades are not assigned by a “curve”. You are competing against my expectations, not your classmates. There is no predetermined percentage of “As”, “Bs”, etc. The exact division between letter grades will not be determined until the final points are totaled.

<table>
<thead>
<tr>
<th>Point Distribution Summary</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>In-class assignments and class participation (approximate)</td>
<td>~45</td>
</tr>
<tr>
<td>Homework assignments</td>
<td>55</td>
</tr>
<tr>
<td>Current events</td>
<td>20</td>
</tr>
<tr>
<td>Exams</td>
<td>200</td>
</tr>
<tr>
<td>Total Points Possible</td>
<td>~320</td>
</tr>
</tbody>
</table>

Field trip: Geology is best seen, learned, and taught outdoors. During the semester, the geology department at ASU offers a field trip for their lab courses (GLG 103). This field trip gives you the opportunity to experience geology first hand. No field trip will be specifically scheduled for this class unless a group of students show an interest in visiting some local mountain range to learn about the geology (e.g. South Mountains, Phoenix Mountains, North Mountain, Dream Draw Park, etc.)

Tardiness: Although tardiness is generally discouraged, minor tardiness (less than 5 minutes) will be tolerated so long as the student does not disrupt the class. You will not, however, be allowed extra time to make-up for the time lost on timed exams. Exams cannot be made up for non-emergency, unexcused absences, or absences that occur without prior notification to the instructor. In-class point missed due to tardiness cannot be made up.

Academic misconduct and academic dishonesty will not be tolerated. Students engaging in misconduct or dishonest practices on exam, quizzes, or other assignments will be dealt with according to the guidelines established in the ASU Student Handbook.

Class disruptions are defined as activities that distract the instructor or other students from the course content. Such activities include talking or whispering about unrelated matters during content delivery; compounding the disruption created by a student's tardiness with comments;
noisily preparing to leave the class prior to the end of the period, etc. Disruptive students will be asked to leave the class. Repeat offenders may be withdrawn.

Audio/Visual recording: Neither audio nor video recording will be permitted except under special circumstances prescribed by the ASU disabled students resource center.

Dates for withdrawals: Withdrawals are not automatic. If you wish to drop the course, it is your responsibility to complete the appropriate paperwork as prescribed by the Admissions Office. Students who withdraw without completing a Drop/Add form may receive a grade of "E" or "Y".

Unrestricted withdrawal deadline: 17 September 2004; to withdraw, obtain and complete a withdrawal form from the registrar. The signature of the instructor is not required.

Restricted withdrawal deadline: 29 October 2004; the withdrawal form requires my signature. The grade of “W” will be given if work to date is passing, i.e. 60% or better. Otherwise, an “E” will be issued. In calculating your grade at the time of the withdrawal, any unexcused absences will be counted as no points. To initiate the withdrawal procedure, give the completed withdrawal form to me. You will then need to pick up the form from the Applied Science Department, allowing a minimum of 2 days for departmental approval. Remember, it is your responsibility to pick up the form and take it to the registrar.

Incomplete grade: A mark of “I” is given only when a student who is otherwise doing acceptable work is unable to complete a course because of an illness or other situation beyond the student’s control. The student is required to arrange for the completion of the course requirements.

Cellular telephones/text messaging/pagers: Please turn off all cellular telephones and pagers during class time – this includes text messaging. If your work situation requires that you be “on call”, please notify the instructor prior to class.

Help along the way: Many students enter this class with a bit of anxiety. Other students may have various disabilities, including test anxiety, which may make traditional classroom environments very difficult. Fear not, almost all such students before you have actually passed this course – many with very high grades! The success of many of these students, though, was in part because they took advantage of the instructor’s office hours or obtained help from the teaching assistant. If you are having difficulty understanding the course work, please contact either your instructor or the teaching assistant immediately. Also, ASU offers many programs to address the various needs of students. Please see me if you would like to be directed to learning centers, disability resource centers, counseling centers, or child care centers.

*All due dates and distribution of grade points is subject to change according to class needs.
# Course Outline for GLG 101

*This schedule is subject to changes*

<table>
<thead>
<tr>
<th>Week</th>
<th>Dates</th>
<th>Topic</th>
<th>Readings, Etc.</th>
</tr>
</thead>
</table>
| 1    | Aug 23 – 27 | Overview of Class and Class Operations  
Intro to Geology  
Scientific Method | Not in book  
Chapter 1  
Chapter 1 |
| 2    | Aug 30 – Sep 3 | Plate Tectonics  
Plate Tectonics  
Plate Tectonics | Chapter 2  
Chapter 2  
Chapter 2 |
| 3    | Sep 6 – 10  | Veterans’ Day (Monday)  
Plate Tectonics  
Matter and Minerals | No School  
Chapter 2  
Chapter 3 |
| 4    | Sep 13 – 17 | Exam 1 Homework Due – Exam 1 (Monday)  
Igneous Rocks  
Volcanoes and Volcanic Hazards | None  
Chapter 4  
Chapter 5 |
| 5    | Sep 20 – 24 | Volcanoes and Volcanic Hazards  
Volcanoes and Volcanic Hazards  
Out of Class Activity | Chapter 5  
Chapter 5  
None |
| 6    | Sep 27 – Oct 1 | Weathering and Soil (Current Event 1 due)  
Weathering and Soil  
Sedimentary Rocks | Chapter 6  
Chapter 6  
Chapter 7 |
| 7    | Oct 4 – 8   | Sedimentary Rocks  
Metamorphic Rocks and Metamorphism  
Exam 2 Homework Due – Exam 2 (Friday) | Chapter 7  
Chapter 8  
None |
| 8    | Oct 11 – 15 | Geologic Time – Relative Dating  
Geologic Time – Relative Dating  
Geologic Time – Absolute Dating | Chapter 9  
Chapter 9  
Chapter 9 |
| 9    | Oct 18 – 22 | Geologic Time – Absolute Dating  
Crustal Deformation  
Earthquakes and Earth’s Interior | Chapter 9  
Chapter 10  
Chapter 11, 12 |
| 10   | Oct 25 – 29 | Earthquakes and Earth’s Interior  
Earthquakes and Earth’s Interior  
Divergent Boundaries: The Ocean Floor | Chapter 11, 12  
Chapter 11, 12  
Chapter 13 |
| 11   | Nov 1 – 5  | Divergent Boundaries: The Ocean Floor  
Convergent Boundaries: Mountain Building  
Convergent Boundaries: Mountain Building | Chapter 13  
Chapter 14  
Chapter 14 |
| 12   | Nov 8 – 12 | Exam 3 Homework Due – Exam 3 (Monday)  
Mass Wasting  
Running Water | None  
Chapter 15  
Chapter 16 |
| 13   | Nov 15 – 19 | Running Water/Groundwater  
Groundwater  
Groundwater | Chapter 16, 17  
Chapter 17  
Chapter 17 |
| 14   | Nov 22 – 26 | Glaciers and Glaciation (Current Event 2 due)  
Glaciers and Glaciation  
Thanksgiving (Friday) | Chapter 18  
Chapter 18  
No School |
| 15   | Nov 29 – Dec 3 | Deserts and Wind  
Energy and Mineral Resources  
Energy and Mineral Resources | Chapter 19  
Chapter 21  
Chapter 21 |
| 16   | Dec 6 – 10 | Exam 4 Homework Due – Exam 4 (Monday)  
Reading Day (Wednesday) | None  
None |
|      | Dec 13 – 17 | Wednesday, December 15 (2:40-4:30 p.m.) | Final Exam |

*Course content may vary from this outline to meet the needs of this particular group. The instructor reserves the right to alter the schedule via verbal announcements or instructions in class. The student is responsible for noting such changes and acting accordingly, even if the student was absent on the day such announcements were made.*