GEOLOGY 101
INTRODUCTION TO THE EARTH

BULLETIN INFORMATION
GEOL 101 - Introduction to the Earth (4 credit hours)
Course Description:
Origin and nature of the earth with emphasis on internal processes and phenomena such as
earthquakes, volcanoes, and mountain building; surface processes, including landform
evolution.
Note: Three lectures and three laboratory hours each week.

SAMPLE COURSE OVERVIEW
This course introduces the science of Geology, with primary emphasis on the physical processes
that form and transform the Earth.

ITEMIZED LEARNING OUTCOMES
Upon successful completion of Geology 101, students will be able to:
1. Demonstrate basic understanding of the scientific method
2. Explain the principal processes involved in Earth formation and evolution
3. Discuss the fundamental concepts of plate tectonics, the rock cycle, and geologic time
   Interpret the significance of information about the Earth in the popular media
4. Apply the language of science, and in particular, Earth science
5. Discuss the ways in which Earth science impacts society on a daily basis

SAMPLE REQUIRED TEXTS/SUGGESTED READINGS/MATERIALS
1. Jordan & Grotzinger, "The Essential Earth" E-book or hardcopy

SAMPLE ASSIGNMENTS AND/OR EXAM
1. Midterm Exam 1, Midterm Exam 2, Midterm Exam 3, Final Exam
   a. All exams will be based on the lectures and textbook readings. There will be a
total of four exams, including the Final Exam. Each exam will consist of 50
questions. Exam questions may be multiple choice or true or false. The exams
will be given during the normal class meetings, with the exception of the Final
Exam. The Final Exam will be cumulative.
2. Laboratory
3. Attendance and lab completion
4. Weekly quizzes
5. Lab Midterm
6. Lab Final
7. Class Participation
   a. EVALUATION: This course employs a variety of methods to measure student
      performance and mastery of the concepts and principles presented. Weekly
      laboratory exercises are based on hands-on analysis of geologic materials,
      processes, and concepts, and require students to document their work on
      laboratory handouts. Mastery of the lab material is gauged by weekly lab quizzes
      covering the concepts from the preceding week, as well as a comprehensive
      laboratory midterm and final. Lectures involve regular use of a classroom
      response system, both to record student participation in class meetings, as well
      as to evaluate student comprehension of important terminology, concepts, and
      principles. These questions, drawn from the lecture material and assigned
      reading, also serve as a review for material which will appear on regularly
      scheduled exams during the course of the semester.
   b. iCLICKER: This course makes extensive use of a classroom response system
      (called iClicker) to evaluate student progress in mastering concepts. The iClicker
      remote is a required piece of equipment for this class.

SAMPLE COURSE OUTLINE WITH TIMELINE OF TOPICS, READINGS/ASSIGNMENTS,
EXAMS/PROJECTS

Class 1: Introduction - Course Overview
   Ch. 1

Class 2: The Earth System
   Ch. 2  Introduction to Lab

Class 3: Plate Tectonics I
   Ch. 3

Class 4: Plate Tectonics II
   Ch. 3

Class 5: Minerals
   Ch. 4  Minerals

Class 6: The Rock Cycle
   Ch. 4

Class 7: Igneous Processes and Rocks
   Ch. 5

Class 8: Sedimentary Processes and Rocks
   Ch. 6  Igneous Rocks

Class 9: Metamorphic Processes and Rocks
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<tr>
<th>Class</th>
<th>Topic</th>
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<td>Review - Exam 1</td>
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| 11    | EXAM 1  
   Sedimentary Rocks |
| 12    | Mountain Building 
   Ch. 7 |
| 13    | Faults and Folds I 
   Ch. 7 |
| 14    | Faults and Folds II 
   Ch. 7  
   Metamorphic Rocks |
| 15    | Geologic Time I 
   Ch. 8 |
| 16    | Geologic Time II 
   Ch. 8 |
| 17    | Early History of Terrestrial Planets 
   Ch. 9  
   Geologic Time |
| 18    | Evolution of Continents 
   Ch. 9 |
| 19    | Geobiology I |
| 20    | Geobiology II 
   LAB MIDTERM |
| 21    | Volcanoes and Volcanism 
   Ch. 5 |
| 22    | Review – Exam 2 |
| 23    | EXAM 2  
   Topographic maps |
| 24    | Earthquakes I 
   Ch. 13 |
Ch. 14

Class 41: Earth and Society II
Ch. 14

Class 42: Review – Final Exam

FINAL EXAM ACCORDING TO University exam schedule