

**PELLISSIPPI STATE COMMUNITY COLLEGE  
MASTER SYLLABUS**

**HISTORICAL GEOLOGY  
GEOL 1050**

**Class Hours:** 3  
**Laboratory Hours:** 3

**Credit Hours:** 4  
**Revised:** Spring 2017

**Catalog Course Description**

A study of the interrelated physical and biological changes occurring during Earth's 4.5 billion-year history. Geologic, biologic, and radiometric dating principles are used to interpret the rock and fossil records of change occurring on continents and in ocean basins that have affected the evolution of life on Earth. Course includes three hours of lecture and three hours of laboratory applications each week.

**Prerequisites**

None

**Corequisites**

None

**Textbook(s) and Other Course Materials**

Earth System History, 3<sup>rd</sup> edition (2009), by Steven M. Stanley W.H. Freeman, ISBN-10: 1-4292-0520-2 and Historical Geology Lab Manual, 10<sup>th</sup> edition (2014), by Pamela J.W. Gore, ISBN-978-1-118-05752-0

**Week/Unit/Topic Basis**

<b>Week</b>	<b>Topics</b>	<b>Laboratory</b>
<b>1</b>	Earth as a System	Minerals and Rocks
<b>2</b>	Minerals and Rocks, Plate Tectonics	Weathering of Rocks and the Formation of Sediment
<b>3</b>	Plate Tectonics, Continents and Mountain Chains	Sedimentary Rocks and the Formation of Sediment
<b>4</b>	Sedimentary Environments	Depositional Sedimentary Environments
<b>5</b>	Correlation and Dating	Relative Dating
<b>6</b>	Geochemical Cycles	Stratigraphy and Lithologic Correlation
<b>7</b>	Diversity of Life	<b>Quiz 1</b> and Reading Geologic Maps

<b>Week</b>	<b>Topics</b>	<b>Laboratory</b>
<b>8</b>	Evolution of the Fossil Record	Fossils on the Internet
<b>9</b>	Precambrian Time, Part I	Microfossils and the Tree of Life
<b>10</b>	Precambrian Time, Part II	Invertebrate Macrofossils
<b>11</b>	Paleozoic Era, Part I	Instructor Choice
<b>12</b>	Paleozoic Era, Part II	Fossil Preservation and Trace Fossils
<b>13</b>	Mesozoic Era	<b>Quiz 2</b>
<b>14</b>	Cenozoic Era	
<b>15</b>	Final Exam	

### **Course Goals**

NOTE: Roman numerals after course objectives reference the TBR general education goals.

The course will

- A. Develop an understanding of the nature of science and the scientific method. I.5, III.1
- B. Develop an understanding that Earth is a dynamic planet and its history and features are consequences natural processes that have operated throughout Earth's history. I.5, III.2
- C. Develop an understanding of geologic time and the methods used to interpret earth history. I.5
- D. Develop knowledge of the features of the Earth and the processes by which they form. I.5
- E. Develop an understanding of evolutionary theory. I.5
- F. Develop knowledge of geology sufficient to understand earth science related events and issues presented in newspaper, magazine, radio, or television reports. I.5, VII.1
- G. Develop an understanding of the use of simple techniques and equipment to identify common rocks, minerals and fossils. I.5
- H. Cooperate with student colleagues to research, analyze, and report on a geologically related topic. I.3, III.2, VI.1, III.3

### **Expected Student Learning Outcomes**

NOTE: Capital letters after Expected Student Learning Outcomes reference the course goals listed above.

Students will

1. Discuss the roles of observation and reasoning in applications of the scientific method. A
2. Discuss the concepts of relative and absolute geologic time, and the methods of determining the geologic of geologic events and materials. C
3. Identify common earth materials using simple tests, and provide an explanation of the major processes that operated to create the materials in a laboratory setting. G, B
4. Identify common fossil materials and provide an explanation for the method of

- preservation. B, E, F, G
5. Discuss earth science related issues and events presented in news media reports. E, F, D, C, B
  6. Identify dynamic earth processes (e.g., erosion, flooding, sinkholes, earthquakes, volcanism). B, D, G
  7. Discuss the manner in which dynamic earth processes effect personal safety, health, and financial security. B, D, G7

## Evaluation

### **Lecture Expectations:** 67% of the grade

- Lecture examinations may be any combination of multiple-choice, true-false, matching, short-answer, and essay questions drawn from lectures, handouts, and reading assignments.
- The fourth lecture exam will be given during final exam week and will emphasize material covered since the third exam, but will also include material from previous exams, so is considered comprehensive.
- No make-ups for missed lecture exams.
- No lecture exams or laboratory quizzes will be given early.
- Two laboratory quizzes will contain questions about samples of Earth materials and other lab topics.
- No make-ups for lab quizzes.

The lecture grade is based on four exams (36%) (The comprehensive final is the fourth exam.), four sets of homework (24%), attendance and participation (7%). The total lecture component of the course grade based on the above equals 67%. Any student missing an exam will receive a score of zero for the missed exam, unless documentation for a valid excuse is presented to the instructor. Valid excuses include illness with an original doctor's note, family illness or death, jury duty, and military service. The instructor must be notified by phone before the examination, if possible, and a written excuse will be required.

### **Laboratory Expectations:** 33% of grade

- It is very important that you attend all laboratory sessions and expect to stay the entire lab period.
- Read the assigned pages in the laboratory manual before coming to lab so that you can complete the exercises in the allotted time.
- All lab exercises must be completed and turned in before the end of lab.
- No make-ups for missed labs, but the lowest lab grade will be dropped.

The laboratory grade is based on laboratory exercises (12%), Quiz I (10%) and Quiz II (11%) for a total lab component of the class grade equal to 33%.

**Grading Scale:** 90-100 % A, 87-89 % B+, 80-87 B, 77-79 C+, 70-76 C, 60-69 D, <60 F.

## Policies

### **Attendance Policy**

Pellissippi State expects students to attend all scheduled instructional activities. As a minimum, students in all courses (excluding distance learning courses) must be present for at least 75 percent of their scheduled class and laboratory meetings in order to receive credit for the course. Individual departments/programs/disciplines, with the approval of the vice president of Academic Affairs, may have requirements that are more stringent. In very specific circumstances, an appeal of the policy may be addressed to the head of the department in which the course was taken. If further action is warranted, the appeal may be addressed to the vice president of Academic Affairs.

### **Academic Dishonesty**

Academic misconduct committed either directly or indirectly by an individual or group is subject to disciplinary action. Prohibited activities include but are not limited to the following practices:

- Cheating, including but not limited to unauthorized assistance from material, people, or devices when taking a test, quiz, or examination; writing papers or reports; solving problems; or completing academic assignments.
- Plagiarism, including but not limited to paraphrasing, summarizing, or directly quoting published or unpublished work of another person, including online or computerized services, without proper documentation of the original source.
- Purchasing or otherwise obtaining prewritten essays, research papers, or materials prepared by another person or agency that sells term papers or other academic materials to be presented as one's own work.
- Taking an exam for another student.
- Providing others with information and/or answers regarding exams, quizzes, homework or other classroom assignments unless explicitly authorized by the instructor.
- Any of the above occurring within the Web or distance learning environment.

Please see the Pellissippi State Policies and Procedures Manual, Policy 04:02:00 Academic/Classroom Conduct and Disciplinary Sanctions for the complete policy.

### **Accommodations for Disabilities**

Students that need accommodations because of a disability, have emergency medical information to share, or need special arrangements in case the building must be evacuated should inform the instructor immediately, privately after class or in her or his office. Students must present a current accommodation plan from a staff member in Disability Services (DS) in order to receive accommodations in this course. [Disability Services](#) (<http://www.pstcc.edu/sswd/>) may be contacted via [Disability Services email](#) or by visiting Alexander 130.