

**PELLISSIPPI STATE COMMUNITY COLLEGE  
MASTER SYLLABUS**

**ENVIRONMENTAL SCIENCE W/LAB  
GEOL 1300**

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

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

**Catalog Course Description**

A study of the Earth's environment and the natural and anthropogenic impacts that affect the environment. A review of Earth's geology provides a basis for discussing environmental issues stemming from the rapid increase in world population and the associated demands for resources and energy. Focus is on current environmental issues such as water and air pollution, global warming, managing waste discharges, energy production, and how to manage change to ensure a high quality environment for generations that follow. Environmental issues will be further explored in weekly laboratory exercises

**Prerequisites**

None

**Corequisites**

None

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

Environmental Science 5th edition (2013), by McKinney, Schoch and Yonavjak  
Jones and Bartlett Learning, ISBN: 978-1-4496-6139-7

**Week/Unit/Topic Basis**

| <b>Week</b> | <b>Topics</b>                    | <b>Laboratory</b>                     |
|-------------|----------------------------------|---------------------------------------|
| <b>1</b>    | Overview of Environmental Issues | Lab safety, Minerals and Rocks        |
| <b>2</b>    | Overpopulation, Consumption      | Ecological Footprint, Technology      |
| <b>3</b>    | Natural Hazards                  | <b>Quiz 1</b> and Volcanism           |
| <b>4</b>    | Energy: Fossil Fuels             | Energy                                |
| <b>5</b>    | Energy: Alternative Fuels        | Alternative Energy Lab                |
| <b>6</b>    | Water Resources                  | Aquifer Properties                    |
| <b>7</b>    | Soils, Food and Farming          | Beardsley Community Garden Field Trip |

| <b>Week</b> | <b>Topics</b>                          | <b>Laboratory</b>                     |
|-------------|--|---------------------------------------|
| <b>8</b>    | Pollution                              | Pollution                             |
| <b>9</b>    | Water Pollution                        | Water Pollution                       |
| <b>10</b>   | Air Pollution                          | Air Pollution                         |
| <b>11</b>   | Climate Change                         | Indoor Air Pollution                  |
| <b>12</b>   | Waste and Recycling                    | Waste and Recycling                   |
| <b>13</b>   | Social Solutions: Policy and Economics | <b>Quiz 2</b> and possible field trip |
| <b>14</b>   | Project Reports                        | No lab                                |
| <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 environmental science issues I.5, III.1
- B. Develop an understanding the basic factual data necessary to understand current environmental issues. I.5, III.2
- C. Develop an understanding that the Earth is a dynamic planet involving the complex interaction of the biosphere, lithosphere, atmosphere, hydrosphere and cryosphere. I.5
- D. Develop an understanding of how various aspects of the natural environment interconnect with each other and with human society. I.5
- E. Develop an understanding of sustainability. 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. 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. B
3. Discuss earth science related issues and events presented in news media reports. B, C, D, E, D
4. Identify dynamic earth processes (e.g., erosion, flooding, sinkholes, earthquakes, volcanism). B, C, D
5. Discuss the manner in which dynamic earth processes effect personal safety, health, and financial security. B, D, E

### **Evaluation**

**Lecture Expectations:** 70% 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 (40%) (The comprehensive final is the fourth exam.), Service Learning Hours (15%), attendance and participation (10%), on-line pretests (5%). The total lecture component of the course grade based on the above equals 70%. 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 **before** the examination, if possible, and a written excuse will be required.

This course is registered with the college as a Service Learning course. You will each need to complete 10 service hours for full credit. For every hour over 10 hours, you will have an additional point added to an exam grade with a maximum of 3 points per exam. Service hours must be accomplished outside of class time. Service opportunities will be announced in class or by email within D2L. Proof of activity participation is necessary to obtain service hours. If you have ideas for service learning, propose it ...it may get approved.

**Laboratory Expectations:** 30% 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 (20%), Quiz I (5%) and Quiz II (5%) for a total lab component of the class grade equal to 30%.

**Grading Scale:** 90-100 % A, 87-89 % B+, 80-86 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.