Truman College Mission Statement: *To deliver high-quality, innovative, affordable and accessible educational opportunities and services that prepare students for a rapidly changing and diverse global economy.*

**Truman College**
**Physical Science 111 LM**
Spring Semester 2012

**Schedule** Friday, 8:30-11:20 (lecture) with break; 11:30-1:30 (lab). Rm 3974.

**Instructor** Mr. Likwan Cheng
Office: 3-3630. Phone: 773 907-4077
lcheng6@ccc.edu

**Office Hours** 1:30-2:00 Friday after class or by appointment.

**Required Text** *Earth Science*, 12th or 13th ed, by Tarbuck and Lutgens, Prentice-Hall.

**Online Resources** Textbook website: www.prenhall.com/tarbuck. Study materials on the website are strongly recommended.

**Catalog Description** General Course I—Introduction to the scientific method, astronomy, geology, meteorology. Writing assignments, as appropriate to the discipline, are part of the course. 3 lecture hours and 2 lab hours per week. 4 credit hours.

**Grading**

- 4 Quizzes (6 quizzes given; drop lowest 2 scores) 25%
- Weekly Lab Exercises (drop lowest 2 scores) 25%
- Midterm (Covering the first half of the course) 25%
- Final (Covering the second half of the course) 25%

*Homework*. Homework questions will be regularly assigned. They will be discussed in class; they are not graded but will likely appear in subsequent quizzes.

*Lab Grading*. Lab write-ups will be graded based on (1) correctness of answers, (2) quality of writing, and (3) level of participation. Arrival at a lab session after it has started will receive a reduction in score.

*Exit Exam*. An Exit Exam is required for this course. The Exit Exam is given in two parts as part of the Midterm and Final Exams. The passing score for the Exit Exam is 40%; the passing score is *required* for a C or better grade for the course.

Grading: Generally A(80%), B(70%), C(60%), D(50%), F(below50%).

**Policy**

1. There will be no makeup quizzes or labs. Exceptions may be granted for medical emergencies, legal obligations, or critical professional activities with written document from physicians or law-enforcement or other officials, and *only after* having exhausted the allowed drops.
2. Normal attendance is expected. Excellent attendance will be rewarded with extra credit points in the course grade. Starting with the 4th, each unexcused absence will drop course grade by 4% point.

3. Good classroom disciplinary conducts are expected, as defined under Standards of Conduct in the Student Policy Manual, p. 41. Misconducts, including specifically "all forms of dishonesty", "intentional obstruction or disruption of teaching,", such as talking during class, and conducts that lead to "hostile learning environment," will be penalized in the course grade. No extra credit of any type will be given to students with incidents of conduct violations.

**Course Objectives**

1. Cultivate in students the ability to think analytically, critically, methodically, and responsibly.
2. Familiarize students with the scientific method.
3. Familiarize students with the scientific facts of the major geological phenomena on and near earth's surface, in earth's atmosphere, specifically in the framework of the rock cycle and the hydrologic cycle.
4. Introduce the solar system from an geologic perspective
5. Help students understand the impacts of geological phenomena on the environment, human life and society. Help students understand the impacts of human activities on the environment.

**Student Learning Outcomes**

1. Be able to describe the procedure of the scientific method and apply it.
2. Be able to identify and categorize minerals and rocks.
3. Be able to describe the rock cycle and the major geological phenomena associated with the rock cycle, and their physical impacts to life.
4. Be able to describe the hydrological cycle and the atmospheric processes, including their impacts on weather and the climate.
5. Be able to characterize the planets, describe the evolution of the terrestrial atmosphere, the structure of the Sun and energy generation in the Sun.

**Active Pursuit Policy**

Students who do not actively pursue the course, as defined as failing to submit at least 2/3 of the turn-in work (quizzes and labs) and maintain a 2/3 attendance by the midterm time, are eligible to be given a midterm grade of ADW, and thereby *dropped from the course*.

**Academic Integrity Statement**

Cheating in a test or lab write-up will nullify the score. Generally, a student involved in any cheating incident will have his or her course grade lowered by one letter grade. Serious cases will be reported to the Registrar.

**Disability Statement**

According to the Rehabilitation Act of 1973, no otherwise qualified individual with a disability in the United States shall, solely by reason of her or his disability, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance.

Truman's Disability Access Center is located in Room 1428. Office hours: Monday-Thursday 9:00 am - 7:00 pm, Fridays, 9:00 am - 4:00 pm. Phone: (773) 907-4725.

Phy Sci 111 LM Spring 2012

**Lecture and Lab Schedule**

(Actual progress and contents may vary slightly)

| *Dates* | *Topics* | *Reading*, 12th ed. (13th ed.) | *Lab Exercises* |
|---|---|---|---|
| 1/27 | Ch 1: Scientific Method; Ch 2: Minerals; Ch 3: Rocks | 6-9 (5-8); 30-44 (28-43) | Identifying minerals |
| 2/3 Q | Ch 3: Rocks; Ch 4: Weathering. | 52-75 (52-75); 84-93 (84-93) | Identifying rocks |
| 2/10 | Ch 5: Rivers & Groundwater Ch 6: Glaciers | 117-146 (118-146); 150-152 (150-152);154-166 (158-171) | Making copper metal from malachite mineral |
| 2/17 Q | Ch 9: Volcanoes & Intrusive Structures | 250-259 (259-270); 266-270 (273-282) | Profiling Mississippi River gradient using Google Earth |
| 2/24 | Ch 10 & 11: Mountains and Geologic Time | 284-292 (298-301,304-306); 310-316 (324-329) | Truman permeable patio: Rock and sediment porosity measurements |
| 3/2 Q | Ch 7: Plate Tectonics; Ch 8: Earthquakes | 189-205 (195-197, 201-204, 209); 220-221 (228-229); 225-228 (234-236) | Geologic models; Review for midterm exam |
| 3/9 | *Midterm Exam, including Exit Exam part 1*; Ch 16: Atmosphere | | Greenhouse Effect |
| 3/16 | Ch 16: Atmosphere; Ch 20: Climate Change | 448-464 (462-480); 586-590 (594-601) | Heating of land and water experiment |
| 3/23 Q | Ch 17: Moisture, Clouds, Precipitation | 480-489 (490-502); 492-497 (506-509); 501-505 (512-515) | Latent heat of ice melting experiment |
| 3/30 | Ch 18: Winds and Storms. Ch 19: Weather. | 516-527 (529-533, 535-540); 544-549 (552-559) | Middle latitude cyclone: Interpreting weather map |
| 4/13 Q | Ch 21: General Astronomy | 605-611 (616-622); 615-620 (625-631) | TBD |
| 4/20 | Ch 22: Solar System | 626-649 (636-640); 665-670 (646-653, 655-659) | Cassini and Mars Rover missions online exercises |
| 4/27 Q | Ch 23: The Sun | 665-670 (678-683) | Review for final exam |
| 5/4 | *Final Exam, including Exit Exam part 2* | | |