

**HAROLD WASHINGTON COLLEGE
MASTER SYLLABUS – COLLEGE CREDIT COURSE**

1. TITLE, NUMBER, AND

Name of Course Physical Science -
General Course I (with Laboratory)

CLASSIFICATION:

Department Name Physical Science

Number Code 076

Course Number: 0111

2. COURSE TERM: 16 Week Semester

3. CREDIT AND CONTACT HOURS:

(i) credit hours 4 (ii) contact hours per week 5 (iii) types of activities
x Lecture/Discussion
x Lab
Clinical/Work Experience
Other

4. PREREQUISITES - if none check here ; otherwise describe below:

Eligibility for English 101

5. CATALOG DESCRIPTION - write below, as in current college catalog;

Introduction to the scientific method, astronomy, geology, meteorology. Writing assignments, as appropriate to the discipline, are part of the course. 3 lecture and 2 lab hours per week

6. STUDENTS FOR WHOM THE COURSE IS INTENDED:

For liberal arts students who need a laboratory Physical Science course to satisfy the Natural Sciences requirement for Associate degrees or transfer credit or other interested students.

7. COURSE OBJECTIVES:

1. Incorporate the scientific method of problem solving through earth science topics.
2. Relate Earth materials to the internal and external processes of the solid earth.
3. Study of composition and structure of ocean surfaces and waters.
3. Examine the physical properties of the atmosphere and their relationship to weather and climate.
4. State the origin, composition, and properties of the different components of the solar system and the universe.
5. Develop analytical skills through laboratory exercises in each of the three earth science areas.

8. STUDENT LEARNING OUTCOMES

Upon completion of the course, the student will be able to:

1. a. Define and name scientific hypotheses, theories, and laws.
b. Articulate the development of earth science theories through the scientific method, such as the theory of plate tectonics.
2. a. Describe the materials of which the earth is composed.
b. Explain how surface processes alter Earth's surface materials.
c. Relate the plate tectonics theory to earthquakes and mountain building.
d. Summarize Earth's history and the means by which it has been estimated.
3. a. Illustrate the structure of the ocean topography.
b. List the major components in seawater and their sources.
c. Describe wave structures and major ocean currents.
4. a. Integrate the relationship between solar radiation and Earth in generating weather.
b. Describe the role of moisture in the atmosphere, including concepts such as evaporation, condensation, cloud formation, and precipitation.
c. Analyze the concept of atmospheric pressure and its effects on weather and winds.
d. Explain the origin and development of severe weather such as thunderstorms, tornadoes, and hurricanes.
5. a. State the origin, composition and properties of the different components of the solar system and the universe.
b. Summarize the explanations of the origin of the solar system and universe.

9. TOPICAL COURSE OUTLINE:

- I. Geology
 - A. Earth materials
 - B. External processes
 - C. Internal processes
 - D. Earth's history
- II. Oceanography
 - A. Composition and structure of the oceans
 - B. Ocean circulation and waves
 - C. Sea floor topography
- III. Meteorology
 - A. Heating the atmosphere
 - B. Clouds and precipitation
 - C. The atmosphere in motion
 - D. Weather patterns and severe weather
- IV. Astronomy
 - A. Nature of the solar system
 - B. Beyond the solar system

10. TEXTS AND MATERIALS USED: List of books and/or suggested for this course.

Lutgens, Tarbuck, and Tasa, Foundations of Earth Science 4th Edition, Prentice-Hall Publishers, 2004, Chapters 1 – 16 (all)

Laboratory Exercises written and supplied by department.

11. AMOUNT OF WRITING REQUIRED:

Laboratory reports, short answer essay questions, writing assignments

12. METHODS OF EVALUATION: (Direct and indirect)

Exams, quizzes, laboratory reports, and writing assignments.

**13. AUTHORIZED SIGNATURE AND FILE DATE:
DEPARTMENT AND CAMPUS**

**Physical Science Department
Harold Washington College**

5/06