PRINCIPLES OF PHYSICAL SCIENCE
Doane College
Grand Island, Nebraska

COURSE OUTLINE AND SYLLABUS

Course Number: PHS 105-7
Credit Hours: 4

Instructor: Charles Carpenter  B.S., M.S.
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Materials Required:
ISBN: 0321753348
ISBN: 0321776569

Other supplemental materials will be supplied by the instructor as required.

Course Description:
A survey of topics selected from physics and chemistry designed for the non-science major. Some physics topics to be studied include: the nature of light and color, electrical phenomena, heat and energy, as well as other topics necessary for understanding much of the phenomena associated with everyday life. Chemistry topics include the nature of matter at a macroscopic level and at an atomic level. Social issues with a scientific or technological component are discussed. All topics are developed through laboratory exercises.

Course Objectives:
Upon completion of the course the student will be able to:
- Determine what is meant by the “degree of laziness” of an object.
- Describe what is “really” the difference between mass and weight.
- Evaluate if an object is in motion whether you have to apply a force to keep it going.
- Understand what impulse, free fall, and bashing power are.
- Examine how a person can run over a bed of hot coals, or why an astronaut can float in the space shuttle when gravity is present.
- Determine how temperature affects hot and cold properties of objects.

Course Outline
This course will introduce the student to the basic concepts of physical science. The course will be divided into three parts. The student will gain an understanding of motion, forces, and thermal energy. We will have an introductory look at motion, Newton’s Laws, speed, velocity, and acceleration. The study of forces will include what a force is, the kinds of forces, and real world application as to what forces can do. Thermal energy will include the study of methods of heat transfer, differences between temperature and heat, as well as thermal energy. The class will include lecture, discussion, and labs (working with a lab partner or in groups).

Class Attendance
Attending classes is imperative. Even if you are not participating in the lab component of this class, activities and discussion are such that missing out will put you at a disadvantage. A portion of your grade will be based on attendance. If you must miss a class, you are expected to notify the instructor prior to class, complete all work, gather notes, and complete labs.

Course Requirements/Grading:
1. Because of the nature of this class, your daily work, group tests, and individual test scores will be added together and your final score will be based on total points.

2. **Attendance:** REMEMBER - your attendance is a must - any emergencies that arise will be dealt with on a case by case basis. You need to contact me if you are going to be gone on my cell phone. ATTENDANCE will affect your grade!!!

3. **Team Tests:** These tests will focus on a topic included in the course. You will work on these tests with a partner or partners.

4. **Individual Tests:** These tests will be completed individually and will not involve lab work. Tests will be objective in nature.

5. **Grading scale:** 90-100=A, 80-89=B, 70-79=C, 60-69=D, below 60=F

* Late papers/assignments will be accepted as long as they are received by the instructor prior to the next class time.

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**Doane College Academic Integrity Policy**

The Doane College Academic Integrity Policy will be adhered to in this class. All projects and tests will represent your own work. Any use of others' ideas and words without proper citation of sources is plagiarism and will result in penalties to be determined by the instructor and/or the dean of undergraduate studies.