PHYSICAL SCIENCE I  |  4  |  CLASS - LAB - TOTAL

PREREQUISITES: MAT 101

DESCRIPTION: This is the first of a sequence of courses in physical science and includes an introduction to science with emphasis on science terminology and investigations of the physical world. Topics are selected from astronomy, chemistry, geology, and physics.

TEXTBOOK(S) OR ALTERNATIVE: Fundamentals of Physical Science; 2nd edition, 1996; Shipman, Wilson, and Todd; DC Heath

MATERIALS (specifying those to be purchased by student): The student should purchase the textbook and a scientific hand-held calculator. The student is also responsible for purchasing pencils, erasers, and notebooks.

COLLATERAL READING: Current periodicals such as National Geographic and Discover.

CLASS MANAGEMENT ACTIVITIES (Attendance, tardies, testing, etc.):

Academic dishonesty: Students are expected to do their own work. Please refer to the NETC Student Code and Grievance Procedure for a definition of academic dishonesty and an outline of the disciplinary action that may result therefrom.

Attendance: Students are expected to attend all scheduled classes and laboratories. According to college policy, a student may miss 20% of the scheduled class periods. These hours of absence are allowed for unavoidable situations, such as illness or transportation problems. A lecture absence equals 1 hour absence, and a lab absence equals 3 hours absence. A student missing more than 20% of the scheduled class periods for any reason will be dropped from the course for excessive absences. A grade of "W" or "WF" will be assigned when a student initiates the withdrawal from class. If the instructor initiates the withdrawal due to excessive absenteeism, a grade of "F" will be assigned.

Tardies: A student is considered tardy if he or she arrives for class after the roll has been taken. Three tardies constitute 1 hour of absence.
Testing: Topical or Chapter tests will be given (1 approximately each week) in lecture. No fewer than 5 and no more than 10 lecture tests will be given covering assigned topics or chapters. If a student misses a test or a lab, it cannot be made up unless a "No Questions Asked" certificate is attached; in addition, the work must be completed within two weeks of the original due date. Homework will be assigned from the textbook and will be graded on accuracy and grammar usage. Points will be deducted for incomplete sentences, spelling, and other grammatical errors.

Extra Credit: Students may earn extra credit by turning in any unused “No Questions Asked” certificates at the end of the semester. For each one unused, ½ point will be added to the final average.

RESOURCES (A-V, persons, tools/equipment): Audio-visual materials are an important part of this course, especially in the astronomy, geology, and meteorology components. The following equipment would be necessary: TV, VCR, and an overhead projector. Occasionally a slide projector may also be needed.

COURSE TOPICAL OUTLINE (List topics and sub-topics of course) and Calendar or approximate length of time devoted to topic.

CONTENT OF COURSE:

Week 1 Chapter 1 MEASUREMENT
Week 2 Chapter 2 MOTION
Week 3 Chapter 3 FORCE AND MOTION
Week 4 Chapter 4 WORK AND ENERGY
Week 5 Chapter 11 THE CHEMICAL ELEMENTS
Week 6 Chapter 12 CHEMICAL BONDING
Week 7 Chapter 13 CHEMICAL REACTIONS
Week 8 Chapter 15 THE SOLAR SYSTEM
Week 9 Chapter 16 PLACE AND TIME
Week 10 Chapter 19 THE ATMOSPHERE, WEATHER, AND CLIMATE

LABORATORIES: Laboratories will be selected each week on topics demonstrating the concepts presented in lecture. These labs will include such topics as scientific method, measurement, energy, etc. and may also incorporate field trips to a planetarium, nuclear visitors site, or other community or industrial site.
OBJECTIVES OF COURSE: Students enrolled in PHS 101 will solve problems incorporating critical thinking, reasoning, and creativity. Specific competencies and their assessment that will be addressed include the student's ability to

* collect information needed for a given application
* analyze information
* evaluate information to determine usefulness
* apply knowledge to make decisions and solve problems

Reinforcement of college wide competencies will occur in the areas of communication, information, mathematical/computational, and interpersonal skills.

INSTRUCTIONAL METHODS TO COMPLETE OBJECTIVES: Lectures covering course material will be supplemented by laboratory exercises and projects. Field trips may also be incorporated in the learning experience.

EVALUATIVE METHODS TO APPRAISE OBJECTIVES:
1. Topical or chapter tests will be given covering assigned materials.

2. Each student will also be required to submit a presentation on a selected topic regarding astronomy, geology, meteorology, physics, or chemistry. A written research paper should be completed, and an oral report will be given to the entire class based on the information in the written report. A copy of the handout with requirements will be given to the students.

GRADING ASSIGNMENTS: Grades will be assigned according to the following weighting:

Final Average
65% = Lecture test average
25% = Lab average
10% = Homework, etc.

GRADING SCALE:

90 - 100 = A
80 - 89 = B
70 - 79 = C
60 - 69 = D
Below 60 = F