North Hennepin Community College

NSCI 1061: Solar System Lab

A. COURSE DESCRIPTION

Credits: 1

Lecture Hours/Week: 0

Lab Hours/Week: 0

OJT Hours/Week: *.*

Prerequisites:
This course requires the following prerequisite
NSCI 1060 - The Solar System

Corequisites: None

MnTC Goals: Goal 03 - Natural Science

An optional course laboratory course designed to complement The Solar System lecture class. It will involve investigation of the process of astronomy through the analysis of astronomical data. Computer simulation software, internet exercises, videos and observational sessions may be used within the course. (2 hrs/week)
Prerequisite: Prior or concurrent enrollment in Phys/NSci 1060 AND Math 0902 or equivalent. If taking this course concurrently with PHYS 1060, you must obtain instructor permission and complete appropriate paperwork for pre-requisite override.

B. COURSE EFFECTIVE DATES: 05/24/2010 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

1. Experiments and exercises related to chief topics discussed in the Solar System lecture course. Examples may include, but are not limited to:
   Scale of the Solar System
   Keplers Laws of Planetary Motion
   Celestial Coordinates & the Celestial Globe
   Time and Seasons: Motion of the Sun in the Sky
   Transit of Mercury
   Lunar Eclipses
   Optical Telescopes
   Measuring the Mass of Jupiter
   Plotting the Orbit of an Asteroid
   Investigation of Differences and Similarities of the Planets and moons of the solar system.
   Meteors and comets.
   Solar system albedos.

D. LEARNING OUTCOMES (General)

1. Demonstrate knowledge of how astronomical information can be collected, analyzed and interpreted. (MnTC Goal 3, Competencies a and b; MnTC Goal Area 2, Competencies a, b, and c)
2. Clearly communicate their experimental findings, analyses, and interpretations both orally and in writing. (MnTC Goal 3, Competency c)
3. Demonstrate that they can organize and present scientific material in a coherent manner. (MnTC Goal 3, Competency c)
4. Evaluate and make predictions regarding astronomical phenomena, particularly based on the results and implications of their experiments (MnTC Goal 3, Competencies a and b; MnTC Goal 2, Competencies a, b,
   and c).

E. Minnesota Transfer Curriculum Goal Area(s) and Competencies

Goal 03 - Natural Science

1. Demonstrate understanding of scientific theories.
2. Formulate and test hypotheses by performing laboratory, simulation, or field experiments in at least two of the natural science disciplines. One of these experimental components should develop, in greater depth, students' laboratory experience in the collection of data, its statistical and graphical analysis, and an appreciation of its sources of error and uncertainty.
3. Evaluate societal issues from a natural science perspective, ask questions about the evidence presented, and make informed judgments about science-related topics and policies.

F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus

G. SPECIAL INFORMATION

None noted