COURSE SYLLABUS

LAST REVIEW	Fall 2022	
COURSE TITLE	General Physical Science	
COURSE NUMBER	NASC-0103	
DIVISION	Math, Science, Business & Technology	
DEPARTMENT	Physical Sciences	
CIP CODE	24.0101	
CREDIT HOURS	5	
CONTACT HOURS/WEEK	Class: 3	Lab: 4
PREREQUISITES	None	

COURSE PLACEMENT None

COURSE DESCRIPTION

This is an introductory course in the areas of the physical sciences that includes physics and astronomy, chemistry, and earth science. This course is designed to acquaint the student with the scientist's approach to the world. This course includes the laboratory portion of the physical science.

KANSAS SYSTEMWIDE TRANSFER: PHY1010

The learning outcomes and competencies detailed in this course outline or syllabus meet or exceed the learning outcomes and competencies specified by the Kansas Core Outcomes Groups project for this course as approved by the Kansas Board of Regents.

General Education Learning Outcome

- Basic Skills for Communication
- Mathematics
- Humanities
- Natural and Physical Sciences
 - Social and Behavioral Sciences

Institutional Learning Outcomes

- Communication
- Computation and Financial Literacy
- Critical Reasoning
- 🛛 Technology and Information Literacy
- Community and Civic Responsibility
- Personal and Interpersonal Skills

TEXTBOOKS

http://kckccbookstore.com/

METHODS OF INSTRUCTION

A variety of instructional methods may be used depending on content area. These include but are not limited to: lecture, multimedia, cooperative/collaborative learning, labs and demonstrations, projects and presentations, speeches, debates, panels, conferencing, performances, and learning experiences outside the classroom. Methodology will be selected to best meet student needs.

COURSE OUTLINE

- I. Motion of Objects
 - A. Distance & Displacement
 - B. Velocity and acceleration
 - C. Newton's Laws
- II. Momentum
 - A. Impulse & Momentum
 - B. Conservation of Momentum
- III. Energy
 - A. Potential & Kinetic Energy
 - B. Work & Energy
 - C. Conservation of Energy
- IV. Gravity, Projectile and Satellite Motion
 - A. Universal law of gravitation
 - B. Satellite motion
 - C. Weight & Weightlessness
 - D. Projectile Motion
- V. Thermal Energy
 - A. General description and phenomena
 - B. Applications to other areas
- VI. Electricity and Magnetism
 - A. Fundamentals
 - B. Interactions
- VII. Waves Mechanics
 - A. General description and phenomena
 - B. Applications to other areas
- VIII. Atomic and Nuclear science fundamentals
 - A. Description of the atomic nucleus
 - B. Description of radioactive materials

- C. Applications to other areas
- IX. Basic Concepts of Chemistry
 - A. The atom as it relates to matter.
 - B. Use and organization of the periodic table.
 - C. Basics of chemical reactions
- X. Earth Sciences
 - A. Basis of geology.
 - B. The structure of the earth.
 - C. Meteorology in brief.
- XI. Astronomy
 - A. The solar system.
 - B. The stars.
 - C. Galaxies and the Universe.

COURSE LEARNING OUTCOMES AND COMPETENCIES

The course outline is indicated below and is subject to change as course development dictates.

Upon successful completion of this course, the student will:

- A. The learner will be able to explain the scientific method.
- B. The learner will be able to describe the scope of the physical sciences.
- C. The learner will be able to interpret scientific data to demonstrate basic problem solving.
- D. The learner will be able to explain everyday phenomena in terms of basic physical science concepts.
- E. The learner will be able to explain and critique science as presented in the media.
- F. The learner will be able to perform measurements using physical apparatus.
- G. The learner will be able to analyze the collected data including appropriate treatment of errors and uncertainties.
- H. The learner will be able to generate and communicate conclusions based on the data and analysis for experimental investigations.

ASSESSMENT OF COURSE LEARNING OUTCOMES AND COMPETENCIES

Student progress is evaluated through both formative and summative assessment methods. Specific details may be found in the instructor's course information document.

COLLEGE POLICIES AND PROCEDURES

Student Handbook https://www.kckcc.edu/files/docs/student-resources/student-handbook-and-code-ofconduct.pdf College Catalog https://www.kckcc.edu/academics/catalog/index.html

College Policies and Statements

https://www.kckcc.edu/about/policies-statements/index.html

Accessibility and Accommodations

https://www.kckcc.edu/academics/resources/student-accessibility-supportservices/index.html.