Department:

Physics

Course Description:

This course includes the study of electricity, magnetism, electromagnetic induction, electromagnetic waves, optics, and atomic and nuclear physics. This is a second semester course for students who require algebra-based physics.

Course Competencies:

The learning outcomes and competencies detailed in this syllabus meet or exceed the learning outcomes and competencies specified by the Kansas Core Outcomes Groups for this course as approved by the Kansas Board of Regents. (Kansas Regents Shared Number Course and Title: KRSN Course PHY 2020 Physics II and Lab.)

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

1. Explain the basic concepts, definitions, units, and general nature of electric, magnetic, optical, atomic, and nuclear phenomena.
2. Describe the scientific models and laws that govern the physical interactions of electric, magnetic, optical, atomic, and nuclear phenomena.
3. Demonstrate problem solving skills by applying those scientific models and laws to physical situations involving electric, magnetic, optical, atomic, and nuclear phenomena.
4. Use appropriate measurement and laboratory techniques.

Course Content:

A. Wave Optics
B. Ray Optics
C. Optical Instruments
D. Electric Fields and Forces
E. Electric Potential
F. Current and Resistance
G. Circuits
H. Magnetic Fields and Forces
I. Electromagnetic Induction and Electromagnetic Waves
J. AC Electricity
K. Quantum Physics
L. Atoms and Molecules
M. Nuclear Physics

Learning Assessments:
Course competencies will be assessed by exams, quizzes and lab reports.

**Instructional Materials:**


**Guidelines for Requesting Accommodations Based on Documented Disability or Medical Condition**

It is the intention of Highland Community College to work toward full compliance with the Americans with Disabilities Act, to make instructional programs accessible to all people, and to provide reasonable accommodations according to the law.

Students should understand that it is their responsibility to self-identify their need(s) for accommodation and that they must provide current, comprehensive diagnosis of a specific disability or medical condition from a qualified professional in order to receive services. Documentation must include specific recommendations for accommodation(s). Documentation should be provided in a timely manner prior to or early in the semester so that the requested accommodation can be considered and, if warranted, arranged.

In order to begin the process all students **must** complete the “Disabilities Self-Identification Form” at this link: [https://highlandcc.edu/pages/disability-services](https://highlandcc.edu/pages/disability-services).

This form can also be accessed at the Highland Community College homepage under Students Services/Student Resources/Disability Service or by contacting the Disabilities Coordinator.