HIGHLAND COMMUNITY COLLEGE

Syllabus

PS 215 College Physics I
5 Credit Hours (Lecture and Lab)
Prerequisite/Corequisite: MAT 110
Revision Date: 05/10/2019

Department:

Physics

Course Description:

This course covers the analysis of units, physical quantities and vectors, motion, forces and equilibrium, oscillations and waves, gravitation, work, energy, and thermodynamics. This is an introductory course for students who require calculus-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 PHY1030 Engineering Physics I with Lab**.)

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

1. Evaluate situations involving Engineering Physics I topics by choosing the appropriate conceptual frameworks.
2. Recall relevant physical models and to successfully apply these models using techniques of symbolic and numerical analysis in order to generate solutions to problems in Engineering Physics I topics.
3. Think critically by utilizing problem solving techniques to evaluate and analyze context rich, multi-step problems in Engineering Physics I topics, selecting relevant information, selecting an approach to solving the problem and carrying out the analysis needed to generate and communicate solution(s).
4. Perform measurements using physical apparatus, analyze the collected data including appropriate treatment of errors and uncertainties, generate and communicate conclusions based on the data and analysis for experimental investigations in Engineering Physics I topics.

Course Content:

A. Measurement and Units
B. Motion in a straight line
C. Vectors
D. Motion in two and three dimensions
E. Force and motion
F. Work and energy
G. Rotational kinematics
H. Mechanical properties of matter
I. Gravitation
J. Thermodynamics
K. Oscillations and waves

Learning Assessments:

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

Instructional Materials:

Textbook: Halliday, D., Resnick, R. & Walker, J. (2013). *Fundamentals of Physics* (10th ed.). Hoboken, NJ: Wiley. ISBN-13: 978-1118230718

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" on our Disability Services website.

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.

A Note on Harassment, Discrimination and Sexual Misconduct

Highland Community College seeks to assure all community members learn and work in a welcoming and inclusive environment. Title VII, Title IX, and College policy prohibit harassment, discrimination and sexual misconduct. Highland Community College encourages anyone experiencing harassment, discrimination or sexual misconduct to talk to report to the Vice President for Student Services, the Human Resources Director or complete an online report about what happened so that they can get the support they need and Highland Community College can respond appropriately.

There are both confidential and non-confidential resources and reporting options available to you. Highland Community College is legally obligated to respond to reports of sexual misconduct, and therefore we cannot guarantee the confidentiality of a report, unless made to a confidential resource. Responses may vary from support services to formal investigations. As a faculty member, I am required to report incidents of sexual misconduct and thus cannot guarantee confidentiality. I must provide our Title IX coordinator with relevant details such as the names of those involved in the incident. For more information about policies and resources or reporting options, please review our Equity Grievance Policy.