LABETTE COMMUNITY COLLEGE BRIEF SYLLABUS

SPECIAL NOTE:
This brief syllabus is not intended to be a legal contract. A full syllabus will be distributed to students at the first class session.
TEXT AND SUPPLEMENTARY MATERIALS USED IN THE COURSE (if any):

Please check with the LCC bookstore, http://www.labette.edu/bookstore, for the required texts for this class.

COURSE NUMBER: PHYS 205

COURSE TITLE: COLLEGE PHYSICS II

SEMESTER CREDIT HOUR: 5

DEPARTMENT: Physics or Engineering

DIVISION: General Education

PREREQUISITE: MATH 125 Trigonometry and
PHYS 201 and Physics I

REVISION DATE: 12-1-17

COURSE DESCRIPTION:
Physics 205 is the continuation of Physics 201 using the tools of algebra and trigonometry. Topics covered in this course will include electricity and magnetism, waves, optics, and an introduction to modern physics.

COURSE OUTCOMES AND COMPETENCIES:
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.
Kansas Regents Shared Number Course PHY 2020

Students who successfully complete this course will be able to:

> 1. The student will be able to evaluate situations involving Physics II topics by choosing the appropriate conceptual frameworks

- Analyze a physical system and formulate a hypothesis as to the behavior of the system.
- Determine the correct derived unit that results from a mathematical calculation involving measured numbers having units.
- List assumptions that determine the mathematical and conceptual tools to be applied to a topic.

2. The student will be able to 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 Physics II topics.

- Demonstrate the ability to communicate ideas and facts using equations, graphs and other symbolic tools used in science.
- Apply estimation and summation methods in problems in physics.
- Apply algebra and trigonometry in applications and problems in physics.

3. The student will be able to think critically by utilizing problem solving techniques to evaluate and analyze context rich, multi-step problems in Physics II topics, selecting relevant information, selecting an approach to solving the problem and carry out the analysis needed to generate and communicate solution(s).

- Create and solve a mathematical model from the given statement of a problem.
- Create a graph or diagram or analyze a given graph or diagram to solve a problem.
- Determine which physical models or theories are applicable to a given problem.
- Formulate a set of calculations to estimate the solution to a problem.

4. The student will be able to 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 Physics II topics.

- Conduct experiments, and collect data (observation).
- Analyze data collected.
- Draw a conclusion out of the lab performed.
- Use statistical tools to determine accuracy and precision of results.
- Analyze sources of error in lab measurements.