PHYS112: Introductory Physics
Course Syllabus - Spring 2013

Instructor: Dr. Kelly Krieble Office: Room 109, Collier Hall of Science Phone: ext. 1437 e-mail: kriebleke@moravian.edu	Class: Collier 202; M W F 7:50-8:40am Problem Session: T 10:20-11:10am or Th 9:10-10:00 am Lab: Collier 105, M or T 12:45-3:45pm Office Hours: M W F 9:00-10:00am

Goals of the Course:

The primary aim of this course is to provide students with a working knowledge of the basic concepts of physics. Students will learn and develop mathematical and physical techniques for solving a wide range of problems. In the laboratory portion of the course students will learn about experimental design and gain experience using a variety of equipment for making physical measurements.

General Information:

It is suggested that you purchase a large 3-ring binder for notes, handouts, homework, and labs. Also, bring books and graphing calculators to class each day.

Required course text: **Physics 2000 (Part 1 & 2), Calculus 2000, E. R. Huggins**
Nolan Physics CD (N)

Course Content and List of Topics:

Topic	*Approximate Time Span*
I. Electrostatics a. Properties of electric charges b. Electric Fields c. Coulomb's law and Gauss's law d. Electric Potential e. Capacitance	3 weeks
II. DC Circuits a. Electric current b. Resistance and Ohm's law c. Kirchhoff's rules d. RC Circuits	2 weeks
III. Magnetostatics a. The magnetic field b. Magnetic force c. Motion of a charged particle in a magnetic field	1 week
IV. Sources of the magnetic field a. The Biot-Savart law b. Ampere's law	1 week
V. Electromagnetism a. Faraday's law of induction b. Inductance	1 week
VI. Physical Optics a. Interference b. Diffraction c. Polarization	2 weeks
VII. Geometric Optics a. Reflection and Refraction b. Lenses and Images c. Dispersion	2 weeks
VIII. Nuclear Physics a. Radioactivity b. Carbon dating c. Fusion and Fission	1 week

Grading Policy:

A = 90%-100%
B = 80%-89%
C = 70%-79%
D = 60%-69%
F = below 60%

Note: It is within the rights of the instructor to apply qualitative judgment in determining grades for an individual assignment or for the course.

Assessment:	% Weight
Reading Quizzes	15
Homework	10
Lab reports	20
Exams	30
Final Exam	25

Homework Problems and Worksheets: The problem sets are designed to give you practice and experience in solving a wide variety of physics problems – random problems from each week's assignment will be collected in problem session. Thus, it is imperative that you work out the problem solutions yourself, however, cooperation with other students is permitted. You will be expected to participate in the problem sessions, when homework is reviewed. Help with problems is available from the instructor, during problem sessions, and evening tutoring sessions.

Reading Quizzes: short quizzes will be given approximately every Friday morning on the reading assignments and homework.

Lab reports: Refer to your lab instructor and the handout on laboratory information.

Exams: There will be three major unit exams throughout the semester. Approximate dates are indicated on the course schedule.

Academic Honesty Policy: All material that you turn in should be your own work, unless specific assignments such as lab reports are designated as group projects. Like all courses at Moravian College, the College's policy on academic honesty will be enforced. Refer to the Student Handbook and the Policy on Academic Honesty and Guidelines for Honesty.

Final comprehensive exam: An exam on all material covered during the semester.

BlackBoard (course site): http://blackboard.moravian.edu/

Various information and announcements will be listed on this site, along with grades. Please endeavor to log in and check this site daily.

Attendance Policy: Students are expected to come to class. To that end, I WILL take attendance, and reserve the right to raise/lower your grade based on your attendance. Should you miss a major event (lab, exam, etc.) you will need a valid excuse form (illness, etc.) to make up the work.

Students who wish to request accommodations in this class for a disability should contact Elaine Mara, assistant director of learning services for academic and disability support at 1307 Main Street, or by calling 610-861-1510. Accommodations cannot be provided until authorization is received from the Academic Support Center.

The Writing Center is located in a building that is not accessible to persons with mobility impairments. If you need the services of the Writing Center, please call 610-861-1392.

Subject to revision.