University of Windsor

Department of Physics

PHY 64-140 **INTRODUCTORY PHYSICS - I** **WINTER 2015**

Syllabus

Lecturer: Dr Mircea Pantea

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Class time: Monday, Wednesday, Friday 11:30 AM – 12:20 PM; room 3123 Erie Hall
Office hours: Wednesday, Friday 1:30-2:30 or by appointment

Course Description:
Mechanics; properties of matter and heat. A calculus-based course. (Prerequisites: Grade 12"U" Advanced Functions and Introductory Calculus or equivalent.) Recommended co-requisite: 62-140.) (3 lecture hours a week, 2 laboratory hours and 1 tutorial hour every week). Open to students in Human Kinetics, Forensic Science, Bachelor of Arts and Science, , and all programs within in the Faculty of Science; exceptions only with the permission of the Head or designate. (Antirequisites: 64-130, 64-134, and 64-144).

Textbook: Sears, Zemansky, Young and Freedman – **University Physics with Modern Physics**
It is strongly recommended **to read the topics in advance**. The reading section will be posted on CLEW, in advance for each week.

Evaluation:

- Weekly homework - **30%**
- Midterm exams - **30%** (15% each)
- Final Comprehensive Examination – 3 hours (date, time and location to be announced) - **25%**
- Class participation – **5%**
- Laboratory – **10%**

All Assessments are compulsory. There will be no 'make-up' examinations for scheduled tests and examinations without acceptable and verifiable medical (or equivalent compassionate) reasons.
Cell phones must be switched off during the test/exam.

Homework:
Weekly problem assignments to be completed at home will be given out on Wednesday and should be handed in the following Wednesday. The marked home-works will be usually returned to the students one week after they were handed in (next Wednesday). Late assignments will not be graded.

"Midterm" exams
Exam 1: February 11, regular class time and location
Exam 2: March 18, regular class time and location

Course Outline

1.Physical quantities, units, measurement
2. Motion in 1 dimension
3. Motion in 2 and 3 dimensions
4. Dynamics. Newton's laws
5. Work, energy and conservation of energy
6. Momentum, conservation of momentum, collisions
7. Circular motion – kinematics
8. Circular motion – dynamics
9. Rolling, rigid bodies
10. Elastic forces
11. Fluids
12. Thermal phenomena and kinetic theory of gases

Course Evaluation:

The new Student Evaluation of Teaching form will be filled out by students during the last two weeks of the semester.