



Physics Department

Course Outline General Physics Lab.3 PHYS 211
Summer 2017/2018 (M W 14:00—16:50 in SCI007)

Introduction:

This is the third introductory course in experimental physics. It is not only different from the first experimental course PHYS 111 in content, but also in the philosophy through which it is going to be instructed. The principles of physics in the experiments will be emphasized. However, skills taught in PHYS 111 will be used in this course. More on the teaching strategy will be provided during the first session.

Lab. Reports:

A comprehensive report on each and every experiment has to be submitted by each student towards the end of the lab session.

The first part of the report should be prepared before coming to the lab. This is the preliminary part. It includes the coverage, the abstract, the theory and the procedure. Each student should bring a scientific calculator, graph paper and drawing tools so as to finish the report within the assigned time for the lab session. If you have your own portable notebook (Labtop), please bring it along with you too.

Grades: Your final grade will be calculated as follows:

Lab. Reports:	50%
Quizzes and evaluation:	10%
Final exam:	40%

Laboratory schedule:

- Session 1: Introduction (policy, equipment), computer skills: Excel software

Experiments:

- Exp. 1:** Static Equilibrium of Forces
- Exp. 2:** Freely Falling Objects
- Exp. 3:** Newton's Laws of Motion
- Exp. 4:** Moment of Inertia of a Flywheel
- Exp. 5:** The Helical Spring
- Exp. 6:** Torsional Torques and the Torsional Modulus
- Exp. 7:** Sound Waves
- Exp. 8:** The Thermal Expansion Coefficient of Brass
- Exp. 9:** Thermal Conductivity
- Exp. 10:** Torque of angular momentum
- Exp. 11:** Speed of sound in air
- Exp. 12:** Conservation of angular momentum in rotational collision

Best Wishes