

**STATE UNIVERSITY OF NEW YORK**  
**College at Old Westbury**

**CP 2221 PHYSICS LAB**

**Summer 2018**

Instructor: Dr. Wei Shi (shiw@oldwestbury.edu)

Lab Text Book: *Physics Laboratory Experiments* by J. D. Wilson & C. A. Hernandez (8<sup>th</sup> Ed., Houghton-Mifflin, 2015)

Experiment Time: Monday 1-4 pm

#		Exp No.	Experiment
1		2	Experimental Uncertainty & Data Analysis
2		3	Measurement Instruments
3		4	Simple Pendulum Parameters
4		5	Uniform Accelerated Motion: g- measurements & Linear Air Track
5		6	Vector: The force Table
6		7	Newton's Second Law : The Atwood Mechine
7		11	Friction
8		9	Projectile Motion: Ballistic Pendulum
9		10	Centripetal Force
10		12	Work & Energy
11		8	Conservation of Linear Momentum
12		14	Torques, Equilibrium & Center of Gravity
13		Handout	Rotational Motion & Moment of Inertia

**Lab Report Grade Breakdown**

Advanced Study Assignment = 5%,

Introduction (Purpose, theory and diagram) = 10%

Data (Lab work) = 25%

Analysis (Calculation detail)/Plots/ Discussion = 40%,

Conclusion = 10%,

Questions = 10%

**Lab Guidelines:**

1. EACH STUDENT IS REQUIRED TO HAVE HIS/HER OWN COPY OF THE LABORATORY MANUALS OF THE FIRST SCHEDULED LABORATORY CLASS.
2. Prepare for the laboratory by reading the assigned experiment before coming to class.
3. Each student will write an **INDEPENDENT** lab report. Your lab report cannot be a copy of your lab partner's report, or a copy of any other report or a copy of the lab manual. If copying or duplication is detected, the grades of all reports involved the duplication will be reduced to zero.
4. **Laboratory reports are due as shown in the table above. Late labs are reduced by 10 points (out of 100) for each day late after the submission deadline. Reports more than 4 days late after the deadline will not be accepted and will be assigned a zero score.**

5. **Laboratory Report:**

- I. The report must be printed from a word processor or typed. Print on one side of paper only.
- II. The lab report must have a **cover page** with the name of the experiment, your name, your lab partner's name, and your Instructor's name.
- III. **Dates:** The date the experiment was performed.
- IV. **Purpose :** Scientific Objective of the experiment (Express in your own words)
- V. **Theory:** Explain the theory or law that is proven in this particular experiment including physical formulas or equations.
- VI. **Write your data in ink.**
- VII. **Calculations:** All calculations should be shown (neatly) on a separate sheet of paper. Use correct units and significant figures.
- VIII. **Analysis/Discussion of Results:** A short paragraph **analyzing your results** including a **brief discussion** of any significant discoveries - identify any problems that occurred as well as "new" pieces of information that you gathered as a result of performing the experiment.
- IX. **Conclusion:** Refer to the scientific objectives of the experiment (stated in the Introduction) and describe whether these objectives have been met. Include a summary statement of your results (a conclusion).
- X. Answer the **post-lab Questions** shown in the laboratory manual. Answers must be written on a separate sheet of paper.