

OBR	
Received(time)	
Date	

**Ohio Articulation Number (OAN)
Course Submission Form
2005-2006**



College/Univ Youngstown State University
ersity _____

Course(s) Submitted(Title & Course #) General Physics Laboratory 1 for
Ohio Articulation Number OSC 016

Date 5/19/06 Course Phys. 2610L of a 2 Course OAN mapping.
2 of 2

Name and title of individual submitting on behalf of the college/university

Name William Sturuss Title Chair Department of Physics & Astronomy

Address One University Plaza,
Youngstown, OH 44555

E-mail wsturuss@cc.ysu.edu

Phone 330-941-7113

Fax 330-941-3121

Credit Hours 1 qtr _____ sem X

Lecture Hours _____

Laboratory Hours 1 (if applicable)

Pre-Requisites(s) Course work : PHYS 2610 OR 2601

Placement Score:

(

(Domain) (Score)

Catalog/Course Description (Includes Course Title and Course #)

<p>2610L. General Physics Laboratory 1 Experimental work designed to supplement the PHYS 2610, 2611 sequence. Three hours per week. Prereq. or concurrent: PHYS 2610 or 2601 for 2610L. 1 S.H.</p>
--

This is a resubmission. The previous submission lacked the weekly lab schedule. This schedule is now in the "Additional Materials" section at the end of this document.

Texts/Outside Readings/Ancillary Materials

The Physics Lab Manual 1: Experiments to Accompany Physics 2610
Laboratory – Youngstown State University

Course Objectives and/or Plan of Work

The primary objectives of this laboratory course are:

- to illustrate the physical principles covered in the lecture course.
- to familiarize students with basic laboratory equipment and proper laboratory technique.
- to gain experience in data analysis and reporting of experimental results.
- to develop group problem solving and interaction skills.

This course is a General Education course in the Natural Sciences Domain and emphasizes general education goals: (2) acquiring, processing, and presenting quantitative and qualitative information using the most appropriate technologies, including computers; (3) reasoning critically, drawing sound conclusions, and applying those conclusions to one's life and society; (6) understanding the scientific method, forming and testing hypotheses as well as evaluating results; (7) realizing the evolving relationships among science, technology, and society; and (13) understanding and appreciating the natural environment and the processes that shape it.

Description of Assessment and/or Evaluation of Student Learning

Understanding and/application of the following topics using calculus concepts and methods where appropriate:

1. Kinematics – one and two dimensional
2. Vectors – vector Arithmetic
3. Force and Newton's Laws of Motion
4. Work, Energy, Conservation of Energy
5. Linear momentum
6. Collisions
7. Rotational kinematics and dynamics
8. Angular momentum and rotational energy
9. Simple harmonic motion
10. Waves and sound

Master Syllabi and Working Syllabi (if both are used)

Syllabus - Physics 2610L
General Physics Lab 1

Text: The Physics Lab Manual: Experiments to Accompany Physics 2610
Laboratory – Youngstown State University

Prereq or concurrent 2610 OR 2601

Course Objectives:

1. Illustrate and enhance the understanding of physical principles taught in the related course.
2. Familiarize the student with basic laboratory equipment and proper laboratory technique.
3. Gain experience in analysis and reporting of experimental results in written form.
4. Develop group problems solving and interactive skills.

This course is a General Education course in the Natural Sciences Domain and emphasizes general education goals: (2) acquiring, processing, and presenting quantitative and qualitative information using the most appropriate technologies, including computers; (3) reasoning critically, drawing sound conclusions, and applying those conclusions to one's life and society; (6) understanding the scientific method, forming and testing hypotheses as well as evaluating results; (7) realizing the evolving relationships among science, technology, and society; and (13) understanding and appreciating the natural environment and the processes that shape it.

Properties

Learning Outcomes:

1. Kinematics – one and two dimensional
2. Vectors – vector Arithmetic
3. Force and Newton's Laws of Motion
4. Work, Energy, Conservation of Energy
5. Linear momentum
6. Collisions
7. Rotational kinematics and dynamics
8. Angular momentum and rotational energy
9. Simple harmonic motion
10. Waves and sound

Lab Groups:

Students will work in groups of three or four. One formal lab report will be submitted by the group for each experiment. Each member of the group will participate in conducting the experiment, collecting data, and analyzing data. Each group will select a captain each week and the captain will have the responsibility of coordinating the efforts of the members of the group and compiling the final report, which is to be typed. The choice of captain will rotate from week to week so that each member of the group has that responsibility at least twice. Every student will keep a set of data for each experiment, regardless of the choice of captain for the experiment. A spiral notebook should be obtained for this purpose and brought to lab each week starting

with the first experiment.

General:

Each lab will be graded on a 100 pt. scale. Each error in the lab unless previously specified otherwise will result in a 1 pt deduction. The average of all the labs will be used to determine the final grade. The following grading scale will be used for the final grade:

90-100% = A 80-89% = B 70-79% = C 60-69% = D 0-59% = F

Students have the opportunity to re-do any lab report that is not satisfactory. The revised report should be submitted no later than one week after the return of the original report. The maximum possible score on a re-done lab is 90/100.

Final Exam: All students are required to take a final exam in this course which tests basic skills such as measurement and graphing, precision, accuracy, uncertainty, unit conversions, and significant figures. A passing grade on this exam will allow the score for the lab reports to determine the student grade. This exam may be taken more than once to attain a passing grade.

In accordance with University procedure, if you have a documented disability and require accommodations to obtain equal access in this course please contact me privately to discuss your specific needs. You must be registered with the Center for Student Progress (CSP)/Disability Services office located at Wick House (on the corner of Wick Avenue and the Access Road) and provide a letter of accommodation to verify your eligibility. You can reach the CSP/Disability Services at 330-941-1372.

Additional Documentation

Weekly Experiment Schedule

Week 1	Organize Lab Partner Groups/ Discuss Lab Report Requirements
Week 2	Measurement Precision and Distributions
Week 3	Free Fall and Measurement of g
Week 4	Empirical Relations: Free Fall
Week 5	Projectile Motion
Week 6	Static Forces in Equilibrium
Week 7	Friction
Week 8	Make up Date-Lab Exams
Week 9	Rotation and Newton's Second Law
Week 10	Ballistic Pendulum
Week 11	Uniform Circular Motion
Week 12	Simple Harmonic Motion

Week 13 Wave Motion
Week 14 Speed of Sound and Standing Sound Waves
Week 15 Make-up Date

OBR Use	Action
Approved	
Additional Information Requested	
Rejected	
Date	