

William Paterson University

Department of Physics

PHYS 1100-80 Introduction to Physics 4 credits *Winter 2013* *Course Syllabus*

This course is taught entirely on-line. Every student at William Paterson has a student university e-mail address. Your university e-mail address is attached to Blackboard, and that is the one that will be used to contact you about assignments and other matters related to the course. You must be familiar with attaching files and accessing internet sites. **To take this course you MUST know how to use Blackboard, Microsoft WORD and EXCEL for graphing (see the last page of this syllabus on how to use excel for graphing). **

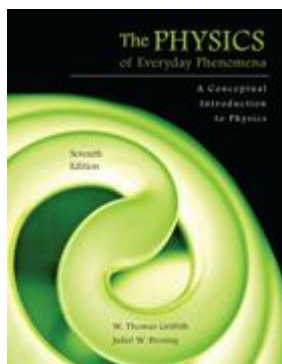
Academic Dishonesty (PLEASE READ CAREFULLY)

Submitting assessment material for this course which does not represent your original effort is a serious form of academic dishonesty. Having a third party (eg. tutor, friend, etc) complete any of the assessments is in violation of the University regulations on academic dishonesty (ww2.wpunj.edu/admroot/adminsrv/hr/facultyhandbook2000/studentcodeofconduct.htm). **A GRADE OF ZERO WILL BE ASSIGNED WHERE THERE IS INDICATION OF VIOLATION OF THIS POLICY**

Instructor: M. Mikhael
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Prerequisites:
None

Text: *The Physics of Everyday Phenomena* 7th ed by Griffith and Broising



Course Objectives:

This is a one semester introductory physics course. A selected number of basic principles of physics are carefully examined and interpreted qualitatively and mathematically. Topics will include learning about the history of physics through the lives of major scientists.

Student Learning Outcomes:

1. Students will be able to learn the basic laws of motions, electricity and magnetism, some elements of modern physics.
2. Students will be able to appreciate the conservation laws of energy and momentum in action in everyday happenings.
3. Students will be able to acquire physical intuition to be more scientifically astute sophisticated.
4. Effectively express themselves in written and oral form.
5. Demonstrate the ability to think critically.
6. Demonstrate the ability to locate and use information.
7. Demonstrate the ability to integrate knowledge and ideas in coherent and meaningful manner.

Communication and Technical Assistance

This course is taught entirely on-line. Please check your WPU email account and the WPU Blackboard on a regular basis for announcements.

ALL QUESTIONS about the course should be directed to me by email:
mikhaielm@wpunj.edu

Grading:

Evaluation will be based on the following work - (marks deducted for late submission of required work):

Assignments:	60%
Lab work:	20%
Essay:	5%
Final Exam:	15% (cumulative and mandatory: last day of class)

Standard Evaluation:

The following grade scale will be used to assign final grades for this course:

<u>Cumulative final grade</u>	<u>letter grade</u>
95-100	A
90-94	A-
87-89	B+
84-86	B
80-83	B-
76-79	C+
72-75	C
68-71	C-
64-67	D+
55-63	D
< 55	F

Course Content:

This course is organized into 6 units. Each unit is comprised of chapters, and each chapter is broken down into two sections: Readings, Lessons.

- Readings – This section includes the learning objectives for the chapter, required readings in the text for this course, and key concepts, which are a summary of the critical information

covered in the chapter. You are encouraged to read more topics on your own during (and after you complete this) course.

- Lessons – Each chapter contains lectures and/or multimedia lessons that provide the material introducing new topics to be studied. Associated with each lesson may be one or more of the following items:
 - Study Sheets – This section includes more information on the lesson topic.
 - Practice Problems – This section includes problems related to the lesson topic. These sets represent the minimum requirement to get to understand the course material.
 - Self-Check – This section usually includes a self-check quiz to help you review and prepare for the assessment.
 - Assessments – This section includes a graded assignments and lab exercises. Make sure you have studied all the material for the Lesson BEFORE attempting the assignment and lab exercise. The lab exercises may involve data analysis, conducting simple experiments using materials that are readily available, and simulation exercises.

Examinations – You are required to complete time-limited final examination.

Units:

0. Introduction – algebra/scientific method/ measurements
1. Classical Mechanics
2. Vibrations and Waves
3. Matter and the Structure of Atoms
4. Fluids and Thermal Physics
5. Electricity and Magnetism
6. Optics

Course Expectations:

- (1) Students are expected to read the textbook and study those topics covered in the lecture.
- (2) Students are expected to complete all assignments and lab exercises.
- (3) There will be a final examination.

Other required materials:

A scientific calculator.

- (1) **help:** I will be pleased to provide help. **Please ask by email:**
mikhaielm@wpunj.edu

Doing Graphs on Excel

Open Excel

Enter data in columns A and B

A is for the independent variable (Usually x-axis)

After data is filled in, go to INSERT tab.

Drop down menu from LINE

Select ALL CHART TYPES

Select X-Y SCATTER

Select box with STRAIGHT LINES and POINTS

Graph will then appear on page

Select LAYOUT

Select CHART TITLE

Select ABOVE CHART

Type in name of Graph

Select AXIS TITLES

For primary X, then primary Y

Type in an appropriate label with units

RIGHT click on the Graph Line

Select ADD TRENDLINE

Select LINEAR, AUTOMATIC, DISPLAY EQUATION ON CHART

Delete legend

Move equation to side of graph so it is not on the line

Record slope from trend-line equation

Open NEW DOCUMENT

COPY graph and PASTE on new document

Expand graph to fill page.