

# PHYSICS 114 Syllabus, Fall 2015

- **Instructor:** Milton From
- **Lecture times:** 10am, MTWRF
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- **Office hours:** W11-12, F12-1, F2-3

## General Information:

The text for the course is "College Physics" by Giordano (2nd edition). We will cover chapters 1-9, and 11, however some of the topics may be omitted. I will make it clear what material you are responsible for as we go along. The course will stress both problem solving and conceptual understanding.

The course webpage is <http://www.physics.wvu.edu/from/114.15f/main.html>. You will need to consult this page regularly. It will contain information such as assignment questions, solutions for assignments and tests, lists of material you will be responsible for on tests, photographs/videos of some of the classroom demonstrations, etc.

## Approximate Schedule: (as of September 2015)

Week	Date	Topics	Chapters	Test
1	Sep 24-25	Introduction	1	
2	Sep 28 - Oct 2	Motion, forces, Newton's Laws	2	
3	Oct 5-9	Forces and motion in 1 dimension	3	
4	Oct 12-16	Forces and motion in 2 and 3 dimensions	4	Monday Oct 12
5	Oct 19-23	Circular motion and gravitation	5	
6	Oct 26-30	Work and energy	6	
7	Nov 2-6	Momentum, Impulse, and collisions	7	
8	Nov 9-13 (no class W)	Rotational motion	8	Monday Nov 9
9	Nov 16-20	Energy and momentum of rotational motion	9	
10	Nov 23-24 (no class WRF)	Energy and momentum of rotational motion	9	
11	Nov 30 – Dec 4	Harmonic motion and elasticity	11	
	Tuesday Dec 8			final exam, 8:00- 10:00am

## Homework:

I will assign 10-20 homework problems per week. These problems will **not** be handed in or graded. However it is crucial that you do them since many of the test and quiz questions will be similar to the assigned homework problems.

Two types of homework will be assigned each week:

(i) Long answer questions:

This component of the homework consists of a weekly assignment that is handed out via WWU Canvas. Both the assignment questions and solutions are provided on Canvas. Please complete the assignments

and **check, in detail, your solutions against my solutions!** A good way to prepare for tests is to simply be sure that you can do all assignment problems correctly without having to look at my solutions.

**(ii) Short answer questions:**

This component of the homework assignment is a series of short questions from the back of each textbook chapter. These questions and their numerical answers are listed at the top of each Canvas assignment. If you wish you may do these questions using the web-based software WebAssign.

WebAssign allows you multiple tries at homework problems, each different try using different numerical values. To obtain access to WebAssign please go to [webassign.net](http://webassign.net) and self-enrol during the first week of class. (If you have any difficulties consult WebAssign's [step-by-step self-enrolment procedure](#) or come see me.) If you don't have access to WebAssign, no problem, just do the assigned problems the old-fashioned way, on paper!

In addition you may want to try long answer textbook problems from the back of each chapter. Numerical answers to all odd problems are given in the text. Please feel free to see me during office hours if you have trouble with any of the problems. Before coming to see me though, think carefully about what the problem is asking you to do and work on it for a few minutes. I would prefer if you could explain the problem and/or draw a diagram without reference to the text when you come to see me.

A final word about the homework: Physics is something that takes time to sink in. The best way to succeed in the course is to work on a couple of problems every single day. Trying to do 15 problems on a Sunday night will not work!

### **Tests and quizzes:**

There will be two tests, weekly quizzes (generally on Mondays), and a final exam. Both quantitative and qualitative questions will be asked. Only the final exam is cumulative. You will have 50 minutes to do each test and 2 hours to do the final exam. You may bring a 8.5" x 11" sheet of equations (single side) into the tests to help you. You may bring an 8.5" x 11" sheet (both sides) of equations into the exam. Please staple this sheet to your test/exam before handing it in. Calculators may be used provided they do not have physics formulae or other text in memory.

Quizzes will be multiple choice and will be given in the last 5 or 10 minutes of a class. They will be based on material covered in the previous couple of lectures and/or be **closely related to the previous week's assignment problems.**

In general, missed tests/quizzes will be assigned a mark of zero. However if you miss a test for medical reasons I will try to arrange a makeup test.

**Electronic devices:** please do not use smartphones, computers, or other electronic devices in class unless it is strictly for the purpose of taking notes.

### **Grades:**

Quizzes	20%
2 Tests	20% each
Final Exam	40%

### LETTER GRADE SCALE

Percentage	90-100	85-89	80-84	77-79	73-76	70-72	67-69	63-66	60-62	57-59	53-56
Grade	A	A-	B+	B	B-	C+	C	C-	D+	D	D-