

MERCER COUNTY COMMUNITY COLLEGE

Science and Health Professions

University Physics III  
PHY 225

Summer 2012

**Course Description**

This course is the third semester of a three-semester, calculus-based physics sequence, and is a study of mechanics (motion, forces, and the conservation laws). It covers kinematics, dynamics, statics, energy, momentum, oscillations, gravity, and the properties of solid and fluids. The laws of physics are investigated and applied to problem solving. Lec 3hrs/lab 3hrs.

**Prerequisites/Co-requisites**

Prerequisite: PHY 215

**Student Learning Outcomes**

1. Students will be able to gain knowledge of a broad introduction to physics at the beginning college level and develop physical intuition and problem-solving skills.
2. Students will learn to handle a variety of instruments and development critical thinking skills through hands-on laboratory experience.

**Course Materials**

A text book is required for the lecture, laboratory, as well as the homework.

Required textbook: Halliday & Resnick: Fundamentals of Physics Extended, 9th Edition  
Publisher: John Wiley & Sons

Course website includes course information. <http://www.mccc.edu/~huangi/>

Mercer email will be used to enhance the communication for the course. Please check regularly.

Computer lab MS 211 is available for students to use for course-related work.

A note book and three pens are needed. Scientific calculator is required for lecture, laboratory and tests. Calculators CAN NOT be shared during any test.

Using of cell phone during class or test/quiz in any manner is considered distractive to class and may results in lower grade.

**Evaluation & Requirements of Students**

Lecture Tests	60%
Lecture classroom participation	-5% +5%
Lab report	20%
Lab tests	10%
Laboratory participation	-5% +5%

There is NO make-up test; the lowest grade is dropped.

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**Class Attendance Policy**

Students are required to attend all classes and should sign attendance sheet each day. In case of transportation, medical or other emergencies, relevant documentation is required to be submitted to instructor. Such documents include car repair invoice, doctor's note, court note, etc.

**Student Dress Policy**

Students are required to dress appropriately. Please keep in mind that the class will share limited space and you'll need to sit, stand, stretch, bend over, and crawl sometimes. Should your shirt/pants have shrunk, we suggest that you put on a large shirt over them.

**Supporting Services**

Our faculty provides office hours to help students with questions. The best way to take advantage of the time is to go prepared with specific questions to ask.

Name	Email

Our library holds the text book for in-library use.

Our tutoring center provides tutors for Physics. Please walk over behind the bookstore to check out the tutoring schedule.

There is an open computer lab MS 211.

**Campus Security**

Emergency number for campus security is (609) 570-2222. The non-emergency number for campus security is (609) 570-3503. You may call security to have a classroom unlocked prior to a class. Please store these numbers in your cell phone.

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***Schedule of Lecture and Experiments***

<b>Unit</b>	<b>Dates</b>	<b>Lecture</b>	<b>Experiment</b>	<b>Homework Assignments</b>
<b>1 Heat</b>	5/21-5/31	18	Introduction & Course Planning	
		19	Calorimeter & Specific Heat	Design and carry out a calorimetry experiment.
		20	Heat of Fusion	
		Review	Thermal Expansion	Research Project: Design an experiment to measure expansion of gasoline
		Test 1		
<b>2 Optics &amp; Relativity</b>	6/4-6/14	33	Refraction of Light	
		34	Mirrors	
		35-36	Thin Lenses	
		Review	Diffraction Grating	
		Test 2		
		37	Solar Energy	<b>Field Trip New York Hall of Science</b>
<b>3 Modern Physics</b>	6/18-6/27	38-39	Solar Energy	
		40	Fuel Cells	
		Review	Fuel Cells	
		Test 3		
		41	Semiconductor	
		42-43	Radiation	<b>Field Trip Princeton Plasma Physics Laboratory</b>
Test 4				
	6/28	Final Exam Cumulative		

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