

Physics 211 – Physics for Science and Engineering I

101 Lewis Hall

Tuesdays and Thursdays, 8:00 – 9:15 AM

Prof. Joel Mobley

Email: jmobley@olemiss.edu

Phone: 915-6937

Office Hours:

WHEN: M-W 2:00-4:00

WHERE: 211 Lewis Hall (Note: this is not my official office)

My main office is Room 1025, NCPA.

If you need to see me outside of office hours, please make an appointment.

Textbook:

Fundamentals of Physics, 7th Ed., Halliday, Resnick, and Walker

We will cover Chapters 1-17.

Grading:

The grades are based on the following:

1 Final Exam

2 Midterm Exams

17 Homework Assignments (The worst two scores are not counted)

9 Quizzes (The worst two scores are not counted)

Extra credit

This is detailed later on in the syllabus. At best, the extra credit can improve your grade by one letter.

For each homework assignment, a subset of problems will be singled out for detailed grading. The quizzes will be based very closely on the other ungraded problems given as homework.

The quizzes will consist of 1 to 3 problems.

Rules:

Attendance is expected.

The deadline for homework is the beginning of class (8 AM).

No electronic devices of any kind are allowed on Exam days (this includes calculators).

Be prepared to show your student ID or Driver's License on Exam days.

Goals:

The central goal is for you to learn how to think about and apply physical concepts. This class will primarily focus on the laws of mechanics (how and why things move, and how to predict those movements). You should become technically competent, that is, be able to work physics problems. You should also develop physical intuition, that is, be able to discuss the fundamental ideas of physics (e.g., inertia, energy, power, forces) with some understanding.

Physics is inherently mathematical. A strong grasp of algebra and trigonometry are essential. You will also be expected to make use of calculus, as it is the “universal language” of physics. Read ahead of the lectures. Get enough sleep, relax and get ready to stretch your brain.

Extra Credit

The student will write a report based on a published scientific article. The student must get my approval of the subject matter/article before beginning. Each student attempting this must have a unique subject/paper. Subjects will be awarded on a first-come, first-served basis.

The criteria by which these will be judged are as follows:

It must attempt to explain the subject matter and conclusions of the paper in terms that are comprehensible to at least one other classmate. It may be given to others in the class for evaluation.

It must be grammatically correct and follow the general form of introduction/body/conclusion. I will not accept a paper with substandard grammar or style.

It must have a short abstract (<100 words) summarizing the content.

All sources of information must be documented, including internet sources (include http link).

Syllabus for Physics 211

The student must make a photocopy of the article in question that will be turned in with the paper. (Go to the library and make the photocopy. Printed out copies from electronic documents are not acceptable.)

The journals that you can use are:

American Journal of Physics

The Journal of the Acoustical Society of America

Physics in Medicine and Biology

Medical Physics

Physical Review (A-E, Letters)

Good sources of background material:

The Physics Teacher

Physics Education

Physical Review Focus

Industrial Physics

Physics Today

Physics World

Scientific American, Discover, New Scientist

Syllabus for Physics 211

Schedule (This is subject to change)

Date			Material
August	23	Intro, Check-up	Chap 1, Chap 2
	25		Chap 2
	30		Chap 3, Chap 4
September	1	Quiz	Chap 4
	6		Chap 4, Chap 5
	8	Quiz	Chap 5
	13		Chap 5, Chap 6
	15	Quiz	Chap 6
	20		Chap 7
	22	Quiz	Chap 7, Chap 8
	27		Chap 8, Exam Review
	29	EXAM	
October	4		Chap 8, Chap 9
	6		Exam Discussion, Chap 9, Chap 10
	11		Chap 10
	13	Quiz	Chap 11
	18		Chap 11, Chap 12
	20	EXAM	
	25		Chap 12, Chap 13
	27	Quiz	Exam Discussion, Chap 13
November	1		Chap 13, Chap 14
	3	Quiz	Chap 14
	8		Chap 14, Chap 15
	10	Quiz	Chap 15
	15		Chap 15, Chap 16
	17	Quiz	Chap 16
	22	BREAK	
	24	BREAK	
	29		Chap 17
December	1		Chap 17, Exam Review
	9		Final Exam