

PHYS-272-002 Fall 2011---MORSE---DETAILED COURSE OUTLINE---version 1.0 (05/24/11)

<i>week</i>	<i>day</i>	<i>2011 Date</i>	<i>Lec #</i>	<i>Reading due</i>	<i>Lecture</i>	<i>Mastering Physics problem set assigned</i>	<i>HW due</i>
1	Tues	Aug 23	# 1	21.1-3	Charges, conductors, Coulombs Law	#1: Ch 21: Electric Charge & Field	
	Thurs	Aug 25	# 2	21.4-7	Electric Fields		
2	Tues	Aug 30	# 3	22.1-2	Electric Flux	#2: Ch 22: Gauss' law	#1
	Thurs	Sep 01	# 4	22.3-5	Gauss' Law		
3	Tues	Sep 06	# 5	23.1-2	Electric Potential	#3: Ch 23: Electric Potential	#2
	Thurs	Sep 08	# 6	23.3-5	Potential Energy		
4	Tues	Sep 13	# 7	24.1-3	Capacitance	#4 Ch 24: Capacitance	#3
	Thurs	Sep 15	#8	24.4-6	Dielectrics		
5**	Tues	Set 20	#9	25.1-3	Current - Resistance	#5: Ch 25: Currents, Resistance	#4
	Thurs	Sep 22			Exam I (in class) Lectures 1-7		
6	Tues	Sep 27	#10	25.4-5	Power - Energy	#6 Ch 26: DC circuits, Kirchoff Rules	#5
	Thurs	Sep 29	#11	26.1-2	DC Circuits		
7	Tues	Oct 04	#12	26.3-5	Kirchoff's Circuit Rules	#7 Ch 27: Magnetic Fields & Forces	#6
	Thurs	Oct 06	#13	27.1-4	Magnetic Fields		
8	Tues	Oct 11	#14	27.5-7	Magnetic Forces	#8 Ch 28: Sources of Magnetic Fields	#7
	Thurs	Oct 13	#15	28.1-5	Sources of Magnetic Fields		
9**	Tues	Oct 18	#16	28.6-8	Ampere's law - Magnetic materials	#9 Ch 28: Amperes Law	#8
	Thurs	Oct 20			Exam II (in class) Lectures 8-14		
10	Tues	Oct 25	#17	29.1-3	Electromagnetic Induction	#10 Ch 29: Maxwell Equations	#9
	Thurs	Oct 27	#18	29.4-7	Maxwell's equations		
11	Tues	Nov 01	#19	30.1-6	Inductance - Inductors	#11 Ch: 30 Inductance; Ch 31, AC Circuits	#10
	Thurs	Nov 03	#20	31.1-3	AC circuits - reactance		
12	Tues	Nov 08	#21	31.4-6	AC power and resonance	#12 Ch 32: Electromagnetic Waves	#11
	Thurs	Nov 10	#22	32.1-5	Electromagnetic Waves		
13**	Tues	Nov 15	#23	33.1-4	Light: reflection - refraction	#13 Ch 33: Light: reflection, and refraction	#12
	Thurs	Nov 17			Exam III (in class) Lectures 15-21		
14*	Tues	Nov 22	#24	33.5-7	Light : polarization	#14 Ch 33: polarization; Ch 34: mirrors and lenses	#13
	Thurs	Nov 24			*--Thanksgiving--*		
15	Tues	Nov 29	#25	34.1-3	Geometric Optics - Mirrors	#15 Ch 35: Interference;	#14
	Thurs	Dec 01	#26	34.4-7	Lenses - Optical instruments		
16	Tues	Dec 06	#27	35.1-5	Interference	#16 Ch 35: Inteference; Ch 36: Diffraction	#15
	Thurs	Dec 08	#28	36.1-7	Diffraction		
17	Thurs	Dec 15			Final Exam (in class) 9:45--11:45	66% Ch 32-36, Lec 22-28; 33% Ch 21-31 Lec 1-21	#16
*					*Only one lecture this week		
**					**Exam Week --Exam on Thursday		

Physics-272 Fall 2011 Course Information

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June 03, 2011

Grading:

Midterms (3 exams-15% each)	45%
Final Exam	25%
Problems--Mastering Physics	15%
-- Turned-in (Grader)	10%
Quizzes / i-clickers	5%

Total 100%

Grades (are based on curve)

A (+/-) 4.0	top 15% > 1.04 sigma
B (+/-) 3.0	next 25% > 0.26 sigma
C (+/-) 2.0	next 40% > -0.85 sigma
D (+/-) 1.0	next 15% > -1.65 sigma
F (fail) 0.0	lowest 5% < -1.65 sigma

These percentages are approximate guidelines which depend upon the class grade distributions.

Exams

The exams will be designed to be hour exams, but you can have the full 75 minutes of the lecture period. Exams will generally consist of 4 problems similar to the **Problems** in the textbook. You may bring in an 8 1/2" x 11" Crib-sheet (both sides) with anything you want on it. A library of old exams with solutions can be found on the web-site

Final Exam

The **Final** will be 2 hours long and may have 6 problems on it. Four of the problems will be on the material covered since the 3rd midterm, and the last two problems will be from material covered by the three midterms. The final exam problems will be similar to the problems given in the regular midterm exams. **Save your crib-sheets** from the 3 midterm exams, as you can bring them into the final-xam as well as any crib-sheet that you have prepared for the final.

Mastering Physics Homework

Four problems--marked as for-credit--will generally be assignment using the **Mastering Physics program**. These problems general carry a value of 2 points. Problem sets are assigned each Tuesday and are to be completed by 10:30am on the following Tuesday. In each assignment you will also see problems marked as for-practice. See the following note concerning Graded Homework. A complete schedule of 16 *problem-sets* can be found when you sign into Mastering Physics.

Graded Homework

In each HW assignment certain problems will be designated as “*practice*” and are “*to be turned in for grading*”. A problem designated as “*practice*” should be worked out on paper and passed in on the due date at the beginning of the Tuesday lecture. These problems will be graded by the Phys-272 grader. Generally two problems per assignment will be designated “*practice*” problems.

Late Homework—Mastering Physics or Grader HW

Late HW is discouraged, but as an incentive to do it, it can be turned in late with reduced credit. Remember doing HW provides the best practice, because it quickly and clearly illustrates to you *what you don't know, but you thought you did!* To get reduced MP credit you have to clear it with me so I can enter your additional points. For the Grader-HW, just pass it in on a later Tuesdays and marked it as late.

Mastering Physics Exam Practice Problems

Within the Mastering Physics assignment schedule you will find four assignments marked as Exam-Practice. The problems are chosen to provide an review for the scheduled exam. They need not be turned in, but you should be familiar with the techniques needed to solve them.

Study Hints

The book is a good book, so you should read it with pencil and paper in hand. Every chapter has a general concept theme and you should try to **write** a paragraph succinctly describing exactly what those concepts are. Then study in detail the worked examples that follow, and finally try and work the problems. Then repeat the whole process until you get really good at it. Just like your piano lessons when you were a kid. Practice does make perfect.

Calculus---will I need it?

You bet you will need it. This is a professional level physics course in electricity and magnetism and calculus is the lingua-franca of physics! It is expected that you are familiar and facile with 3-dimensional vector calculus! I will always provide a rapid review of the concepts but you had better keep your advanced calculus book close by.

Tutoring Sessions

Be sure to check the Physics-272 Tutoring Services. See the Phys-272 webpage <http://www.phys.hawaii.edu/~morse/physics272.html>

Office Hours (WAT-325)

M 3:00 – 4:00 pm
R 1:30 – 3:00 pm
F 10:30 – 12:00 pm (noon)

Or by Appointment—call 956-7051 or e-mail morse@phys.hawaii.edu

Or “take a chance” and just Drop-In , or checkout the Tutoring Services

Browser:

Your *browser* should be equipped with **Java-Script**, **Adobe flash-player**, and should accept **cookies** and **pop-up**'s.

Additional Items: to be added here. You should check this location periodically.