THEORETICAL PHYSICS - PHY 5520
Tu Th 10.00 - 11.47 am   Room 187 MSC

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TEXT: MATHEMATICAL METHODS FOR PHYSICISTS by G.B. ARFKEN and H.J. WEBER
(5th edition), Chapters: 1-3, 5-6, 9, 14-15.

GRADE BASIS: Homework:20% , 1 mid-term exam: 40% , Final exam: 40% .
The anticipated relation between exam scores and grade will be:
50% - 1.0, 60% - 2.0, 70% - 2.5, 80% - 3.0, 95% - 4.0.

HOMEWORK : Solutions of homework problems will be distributed in class
on the day the answers are collected.
Homework will NOT be accepted after 11.47 a.m. on due dates.

HOMEWORK FORMAT: use 8"x11" paper, write on only one side, print your
name and set# on the cover page, solve the problems in order, separate
problems by horizontal lines, box the answer, staple at left corner.

EXAMINATIONS: There will be 1 mid-term exam and a final exam. You may use a
one-page list of useful formulae written (NOT printed) by yourself. You may
NOT share it with another student.

                          SYLLABUS

DATE	CHAPTER		DATE	CHAPTER
			30 OCT Tu	5
06 SEP Th	INTRO		01 NOV Th	6 REV(1,2,3) HW 7
11 SEP Tu	1		06 NOV Tu	MID-TERM EXAM (1,2,3)
13 SEP Th	1		08 NOV Th	6
18 SEP Tu	1		13 NOV Tu	9
20 SEP Th	1		15 NOV Th	9 HW 8
25 SEP Tu	2		20 NOV Tu	14
27 SEP Th	2 HW 1,2		22 NOV Th	THANKSGIVING
02 OCT Tu	2		27 NOV Tu	14 HW 9
04 OCT Th	3 HW 3		29 NOV Th	15
09 OCT Tu	3		04 NOV Tu	15
11 OCT Th	3 HW 4		06 DEC Th	REV(5,6,9,14,15), HW 10
16 OCT Tu	3			
18 OCT Th	3 HW 5			
23 OCT Tu	5		11 DEC Th	FINAL EXAM (5,6,9,14,15)
25 OCT Th	5 HW 6			8.00 - 11.00 a.m.

Homework #1 (Chapters 1)   due on SEP.27

Chapter 1   1.4.1, 1.4.16, 1.6.1, 1.7.6, 1.8.16

Homework #2 (Chapters 1)   due on SEP.27

Chapter 1   1.9.12, 1.10.1, 1.10.2, 1.11.8

Homework #3 (Chapters 1)   due on OCT.04

Chapter 1   1.12.1, 1.12.9, 1.13.2, 1.13.7, 1.14.3

Homework #4 (Chapter 2)   due on OCT.11

Chapter 2   2.4.13, 2.5.11, 2.5.18, 2.5.19, 2.5.20

Homework #5 (Chapter 3)   due on OCT.18

Chapter 3   3.2.4, 3.2.7, 3.2.13, 3.2.23, 3.2.28

Homework #6 (Chapter 3)   due on OCT.25

Chapter 3   3.3.12, 3.3.16, 3.4.4, 3.4.7, 3.4.10

Homework #7 (Chapter 3)   due on NOV.01

Chapter 3   3.5.5, 3.5.6, 3.5.18, 3.5.30, 3.6.7, 3.6.18, 3.6.20

Homework #8 (Chapter 5)   due on NOV.15

Chapter 5   5.6.6, 5.6.8, 5.6.15, 5.6.22, 5.7.15, 5.7.16

Homework #9 (Chapter 9)   due on NOV.27

Chapter 9   9.2.6, and two additional problems

Homework #10 (Chapters 14-15) due on DEC.06

Chapters 14-15   14.1.3, 14.3.13, 14.3.14, 15.3.5, 15.3.17a, 15.5.5

<u>Learning Outcomes for PHY 5520:</u>

The learning outcomes for Natural Sciences state that the student will demonstrate:

- Knowledge of major concepts from natural science or technology, including developing and testing of hypotheses; drawing conclusions; and reporting of findings through some laboratory experience or an effective substitute

- Ability to evaluate sources of information in science and technology.

- In addition,

- after PHY 5520 students will develop an ability to formulate the simplest possible, but adequate mathematical models for the description of studied physical phenomena.