

PHYSICS 122

- Instructor:** Dr. S. M. Neuder
Contact: E-mail: neuder@umd.edu,
Rm 1214 Physics: Mon 1 – 3 pm; Thurs 1 – 3 pm; or by appointment
Lecture: Spring 2007, Tues 7 – 8:50 pm; Thurs 7 – 7:50 pm
First meeting – Thurs 1/25/07; Rm 1410 Physics
Syllabus: www.physics.umd.edu; academics; courses; physics 122; Dr. Neuder
Text: College Physics, 7th Ed. Vol. 2, Serway/Faughn
Physics 122 Tutorial and Laboratory Manual, Spring 2005 Ed.
Course: This course covers Chapters 15 – 20 and Chapters 22 – 25 in detail.
The course also covers selected topics in Chapters 21, 27, 28, and 29.
Homework: Homework is assigned every week using the exercises found at the
end of each chapter. Homework is due one week after assigned and
should be turned in at the start of the Lecture meeting. Your score
for each assignment will be based on completeness and a randomly
selected problem within the set assigned. You must show your work
on each homework problem. Credit will not be given otherwise.
Solutions will be posted at a time and location to be announced so
that you can check your work. Homework submittals cannot be
accepted after the solutions are posted. You are strongly urged to
do and understand the assigned homework exercises since test
questions will be similar to those assigned.
Attendance: Attendance is required at Lectures, Labs, and Tutorials. Attendance
is a subset of participation and is a part of your final letter grade.
Participation: Participation (which includes attendance) is part of your letter grade.
Participation in Lecture means answering and discussing simple
conceptual or computational questions provided during the Lecture.
Exams: There are 5 exams and a final exam for the semester. Each exam will
cover about two chapters of text material. The final exam will be
cumulative but there will be preparatory guidance as to its focus.
Exams will include questions similar to the homework, as well as
aspects of your work in Lab and Tutorial. Exam time will likely be
less than one hour. Your lowest exam score is dropped.
Missed exams: There are two options for making up a missed exam. These options
will be discussed during Lecture.
Course Grade:
- | | |
|-------------------------------------|------------|
| Final Exam..... | 200 points |
| Tests (best four of five) | 400 |
| Homework..... | 200 |
| Lab..... | 200 |
| Tutorial..... | 200 |
| <u>Participation (Lecture).....</u> | <u>100</u> |
| | 1300 |

It is likely (no guarantee) that students accumulating $\geq 85\%$ will be candidates for an A, $>75\%$ a B, etc.

SYLLABUS

PHYSICS 122

JAN-MAY 2007

DR. S. M. NEUDER

| <u>DATE</u> | <u>CHPT</u> | <u>TOPICS</u> | <u>ASSIGNMENT</u> |
|--------------|-------------|---|----------------------------------|
| Jan 25, 2007 | 15 | Electric Forces and Fields | Ch. 15: 4, 16, 18 |
| Jan 30 | 15 | “ “ “ | 20, 22, 26, 50 |
| Feb 1 | 15, 16 | Electric Energy/Capacitance | Ch. 16: 2, 9, 15 |
| Feb 6 | 16 | “ “ “ | 28, 29, 32, 34 |
| Feb 8 | 16 | “ “ “ | |
| Feb 13..... | | | <u>TEST 1 (Ch 15, 16)</u> |
| Feb 13 | 17 | Current and Resistance | Ch. 17: 23, 26, 32 |
| Feb 15 | 17 | “ “ | 34, 54, 55, 63 |
| Feb 20 | 18 | Direct Current Circuits | Ch. 18: 2, 11, 12, 20 |
| Feb 22 | 18 | “ “ “ | 27, 29, 37, 64 |
| Feb 27..... | | | <u>TEST 2 (Ch 17, 18)</u> |
| Feb 27 | 19 | Magnetism | Ch. 19: 7, 8, 9, 14 |
| Mar 1 | 19 | “ | 18, 26, 30, 31 |
| Mar 6 | 19, 20 | Induced Voltage/Inductance | Ch. 20: 14, 15, 16, 20 |
| Mar 8 | 20 | “ “ “ | 22, 28, 46a,b, 50 |
| Mar 13 | 20 | “ “ “ | |
| Mar 15 | 21 | Electromagnetic Waves | Ch. 21: 43, 49, 51, 52, 65 |
| Mar 20 | - | Spring Break | |
| Mar 22 | - | “ “ | |
| Mar 27..... | | | <u>TEST 3 (Ch 19, 20, Waves)</u> |
| Mar 27 | 22 | Reflection/Refraction of Light | Ch. 22: |
| Mar 29 | 22 | “ “ “ | |
| Apr 3 | 22, 23 | Mirrors and Lenses | Ch. 23: |
| Apr 5 | 23 | “ “ | |
| Apr 10 | 23 | “ “ | |
| Apr 12 | 24 | Wave Optics | Ch. 24: |
| Apr 17..... | | | TEST 4 (Ch 22, 23) |
| Apr 17 | 24 | Wave Optics | |
| Apr 19 | 24 | “ “ | |
| Apr 24 | 25 | Optical Instruments | Ch. 25: |
| Apr 26 | 25 | “ “ | |
| May 1 | 27 | Quantum Physics (selected topics) | Ch 27: |
| May 3 | 28 | Atomic Physics (selected topics) | Ch. 28: |
| May 8..... | | | TEST 5 (Ch 24, 25, 27, 28) |
| May 8 | 29 | Nuclear Physics (Selected topics) | Ch. 29: |
| May 10 | - | Selected review/discussion for the final exam | |
| May 15..... | | | FINAL EXAM |

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| Feb 22 | 18 | “ “ “ | 27, 29, 37, 64 |
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| Mar 15 | 21 | Electromagnetic Waves | Ch. 21: 43, 49, 51, 52, |
| Mar 20 | - | Spring Break | 54, 63, 65 |
| Mar 22 | - | “ “ | |
| Mar 27..... | | | <u>TEST 3 (Ch 19, 20,Waves)</u> |
| Mar 27 | 22 | Reflection/Refraction of Light | Ch. 22: 13, 27, 31, |
| Mar 29 | 22 | “ “ “ | 34, 38, 43 |
| Apr 3 | 22, 23 | Mirrors and Lenses | Ch. 23: 5, 7, 14, 25, |
| Apr 5 | 23 | “ “ | 29, 42, 53 |
| Apr 10 | 23 | “ “ “ | |
| Apr 12 | 24 | Wave Optics | Ch. 24: 7, 12, 14, 22, |
| | | | 24, 30, 39 |
| Apr 17..... | | | <u>TEST 4 (Ch 22, 23)</u> |
| Apr 17 | 24 | Wave Optics | |
| Apr 19 | 24 | “ “ | |
| Apr 24 | 25 | Optical Instruments | Ch. 25: 3, 8, 10, 16, |
| Apr 26 | 25 | “ “ | 17, 28, 37 |
| May 1 | 27 | Quantum Physics (selected topics) | Ch. 27: 2, 13, 14, 19, |
| | | | 24, 30, 35 |
| May 3 | 28 | Atomic Physics (selected topics) | Ch. 28: 8,11,12,27,34,38 |
| May 8..... | | | <u>TEST 5 (Ch 24, 25, 27, 28)</u> |
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