

**Syllabus of PHYS 202 – 01**  
**- GENERAL PHYSICS II -**  
**SPRNG 2007**

**Instructor:** Dr. A. Karoui

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**Course Meeting time:** T. Th. 10:00-12:30,

**Course Location:** 310 Roberts Science Hall

**Office Location:** 309 Roberts Science Hall

**Office Hours:**– T TH: 9:00 — 10:00 a.m.. and 3:30 — 5:00 p.m.

**Textbook:** Serway & Jewett, Principles of Physics Sixth Ed., Brooks/Cole

**General Description:** General Physics II is a calculus-based physics course, generally taken by physics, mathematics, computer science, and engineering majors. This course has two parts. **PART - I: ELECTRICITY AND MAGNETISM**, which covers: Electric Fields, Gauss's Law, Electric Potential, Capacitance and Dielectrics, Current and Resistance, Direct Current Circuits, Magnetic Fields, Source of the Magnetic Field, Faraday's Law, Inductance, Alternating Current Circuits, Electromagnetic Waves and **PART - II: THERMODYNAMICS**, which covers: Temperature, Heat and the First Law of Thermodynamics, The Kinetic Theory of gases, Heat Engines, Entropy, and the Second Law of Thermodynamics. **PART - III: SPECIAL TOPIC:** Photovoltaics.

**Course Objectives:** After completing this course successfully, a student should be able to do the following:

1. To know and understand basic physical processes and phenomena in electricity, magnetism and thermodynamics.
2. To be able to solve simple physics problem by applying both theoretical and experimental techniques.
3. To acquire skills needed to read physics literature and to work with tables and physical quantities.
4. To be able to understand and to use physical laws governing real process and to describe them mathematically.
5. To get acquainted with one science and technology problem given as special topic.

**Special Topic:**

Students will work on mini-projects on photovoltaic to consolidate what they learned in general physics. Photovoltaics bridges several physics areas. Students will choose to work on Electricity and Optics or Electricity and Thermodynamics, or Physics of electronic circuits,.... At the end of the semester they will give a presentation.

**Main Supporting Material:** The class lectures, Homework, and Labs will be hosted in Blackboard.

**Additional Materials:** scientific calculator, ruler, protractor, and compass

**Homework, Test, Laboratory exercises, and Laboratory reports:** Homework will be assigned every week and will be due the one week after it has been assigned unless otherwise posted. For each laboratory, the report will be due the one week after the Lab has been done, unless otherwise posted. Credit will be given for both the laboratory attendance and the corresponding report, the combined graded will be marked on the report. There will be three tests given based on groups of chapters (i.e.. From Ch. 1 to Ch. 4). The final will be cumulative.

**Evaluation:**

- **Homework** 20% of final grade
- **Tests (3):** 30% of final grade
- **Final Exam:** 20% of final grade
- **Laboratory Reports:** 20% of final grade
- **Presentation:** 10% of final grade for presentation on the Special Topic

**Suggested References:** D. Halliday and R. Resnick, Fundamentals of Physics, John Wiley & Sons, Inc., 1991

**Bonus:** up to 5% can be added to a student's final grade for good student's participation in the class or Lab sessions. It will be counted towards his or hers final grade.

**Lateness:** Late work will only be accepted up to one week after the assignment is due. Five(5) points lost per day (i.e., 35 points will be lost after one week delay). No credit will be given to assignments after one week.

**Attendance:** Attendance will be taken at each class.

Any student who has 6 or more unexcused absents will be marked down by one grade.

Tardiness and leaving early the classroom are not tolerated unless in critical situations, which must be documented.

**Calendar:** will be in Blackboard