Syllabus

Physics II (PHY 205)

Instructor: Dr. Hayel Shehadeh

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Office Hours: ***Saturday's, Monday's 12:00 – 2:00 pm*** or by appointment.

Text (Required): **Physics**, James Walker. 3rd Edition.
Pearson/Addison Wesley (2007).
Reading and homework assignments will be from this textbook.

Additional Materials:

- A Calculator, preferably scientific, with square roots, trigonometric, exponential, and logarithmic functions. A programmable or charting calculator is not required, but may be used.
- A homework notebook is required for all homework assignments.

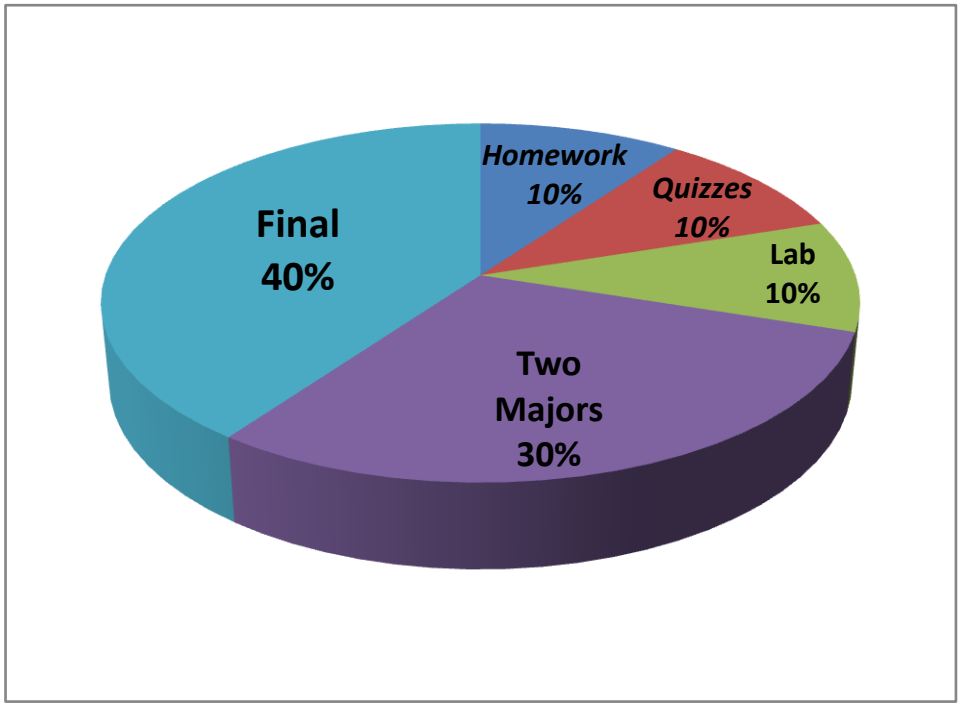
Course Objectives: An introduction to the principles of mechanics, energy, heat, sound and properties of matter. No calculus background is required for this course. But ***a working knowledge of algebra and trigonometry are required***.
The emphasis in this course will be on helping you to develop an understanding of natural phenomena through your own direct observations and reasoning. Learning based only on what you can infer and reason from direct observations is not easy and can be quite frustrating at times. These moments of frustration are usually where the seeds of understanding are planted. I will make every possible effort to help you along this journey in understanding the basic concepts in physics, applying physics laws and in problem solving strategies. I encourage you to discuss and analyze problems with your peers. Such discussions are also an important part in process of understanding the physical concepts of the naturally occurring phenomena.

Course Format:

- **Lecture**: **3** days a week **from 9:00 – 9:50 AM in room FCR-8.** Power point presentations with animation will be used and a printout of each lecture outline will be handed out to you.

Course Grades: Are based on a numerical score determined as follows:

- **Two (one hour) prelims**. Each prelim contributes ***15%*** towards the final grade for a total contribution of ***20%*** towards the final grade.
- **Final comprehensive** Contributes ***40%*** to the final grade.
- **Homework**. Contributes ***10%*** to the final grade.
- **Quizzes** (***closed book, 10 minutes each in previously covered material***) . Contribute ***10%*** to the final grade.
- **Laboratory**: Contributes ***10%*** to the final grade.



Your letter grade will be ***strictly based*** according to the following table:

A+	A	B+	B	C+	C	D+	D	F
95-100	90-94	85-89	80-84	75-79	70-74	65-69	60-64	<60

It is to your advantage to work with other students to learn the material. Helping another student to do well will not adversely affect your grade. Quite to the contrary, the extra effort on your part to think about the material will likely help you to do better on the exam. If you are having difficulties with some of the concepts, another student might help you to understand it better than the textbook or lecturer. I encourage you to work together and perhaps form study group.

Assignment: The weekly assignments are due on each Wednesday and are to be turned in at the beginning of the class period. The homework solutions will be presented in class on Saturday's lecture. You must show all your work in your solution in a well-organized presentation. A box including **UNITS** and **SIGN** (i.e. positive or negative) should mark your final answer. These problems will be graded on the following scale: **5 (excellent), 4 (good), 3 (adequate), and 0-2 (unacceptable)**. To receive full credit you must provide **a complete explanation** for how you obtained your answer.

NO LATE ASSIGNMENT WILL BE ACCEPTED.

Attendance and Absences: ***You are responsible for the material covered in each class. No make-up of either Prelims or Quizzes will be allowed.*** Students, who miss a test, a Quiz, or a laboratory because of unexpected illness or other unforeseen emergencies, should send a message (by phone, voice-mail, personally, or e-mail) to me. If the absent student is able to provide a legitimate reason.

- ☞ **Students should not miss any lecture without a legitimate excuse.**
- ☞ **If a student misses a class because of a legitimate excuse, he should notifies the Student's Affairs Office within a week.**
- ☞ **A "D N" Grade will be automatically issued to the student who misses 13 lectures. After 13 missed lectures, you are not allowed to either attend the lecture or to take any exam:**
  - **1st warning is issued after 6 absences.**
  - **2nd warning is issued after 11 absences.**
- ☞ **You should attend each lecture on time.**
- ☞ **Attendance is usually taken during the first 5 minutes. If you enter the lecture room after the first 5 minutes, you will be recorded as an absent for that lecture.**

Academic Honesty: All students must be familiar with Prince Sultan University policies on cheating, plagiarism, and student ethical conduct according to the student conduct code in the Prince Sultan University Student Handbook. ***The policies will be strictly enforced.***

Accommodation of Disabilities: This course supports the policy of the Reasonable Accommodation for Persons with Disabilities. I will try to do my utmost to help students with disabilities in this course. Please contact the Student's Affairs Office.

Lecture Schedule (Tentative) & Prelims Dates:

Week	Chapter & Topic/ Sections	Homework Assignment
Feb. 12th	Introduction Ch.19 "Electric Charge, Forces & Electric Fields"	
Feb. 19th	Ch. 19 - Continues	Ch.19.Conceptual Questions: 4, 8, 14, 18. Conceptual Exercises: 2, 6, 10. Problems: 2, 14, 24, 36, 44, 54.
Feb. 26th	Ch. 20 "Electric Potential & Electric Potential Energy"	Ch.20.Conceptual Questions: 4, 6, 10. Conceptual Exercises: 4, 9, 16. Problems: 4, 8, 11, 18, 34, 39, 52.
Mar. 5th	Ch. 21 "Electric Current & Direct Current Circuit"	
Mar. 12	Ch. 21. Continues	Ch.21. Conceptual Questions: 2, 10, 18. Conceptual Exercises: 2, 18, 28. Problems: 6, 18, 25, 36, 52, 66.
Mar. 19th	Ch. 22. "Magnetism"	
Major Exam I on Monday March 21st 2011. Covers Chapters 19, 20, and 21		
Mar. 26th	Ch. 22- Continues	Ch.22. Conceptual Questions: 2, 4, 6. Conceptual Exercises: 6, 10, 16, 20. Problems: 8, 14, 28, 36, 44.
Apr. 2nd	Ch. 23 "Magnetic Flux & Faraday's Law of Induction"	
Midterm Vacation Apr. 9th – Apr. 13th .		
Apr. 16th	Ch. 23 - Continues.	Ch.23. Conceptual Questions: 6, 8, 12. Conceptual Exercises: 2, 6, 12. Problems: 2, 8, 20, 27, 30, 42, 48, 52.
Apr. 23rd	Ch. 24. "Alternating Current Circuits"	
Apr. 30th	Ch. 24 - Continues	Ch.24. Conceptual Questions: 4, 10. Conceptual Exercises: 6, 10. Problems: 4, 14, 24, 40, 48, 58.
May 7th	Ch. 25. "Electromagnetic Waves"	
May 19th. Second Exam covering Chapters 22, 23 and 24.		
May 14th	Ch.25 – Continues.	Ch.24. Conceptual Questions: 2, 8. Conceptual Exercises: 4, 8. Problems: 4, 14, 24, 34, 53, 70.
May 21st	Ch. 26 "Geometrical Optics"	

May 28th	**Ch.26 – Continues.**	**Ch.24. Conceptual Questions: 4, 10.** **Conceptual Exercises: 4, 18.** **Problems: 6, 14, 18, 40, 55, 60.**
June 1st	**Review**	
June 4th – June 14th Final Comprehensive Exam.		