



**Syllabus**  
**Physics II (PHY 205)**

**Instructor:** Dr. Hayel Shehadeh

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**Office:** Room # 341

**Phone:** 454-8489. Ext. 8964 or 494-8964

**Office Hours:** Saturday, Monday and Wednesday 12:00 – 1:00 pm or by appointment.

**Text (Required):** **Physics**, James Walker. 4<sup>th</sup> Edition.  
Pearson/Addison Wesley (2010).

**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.***

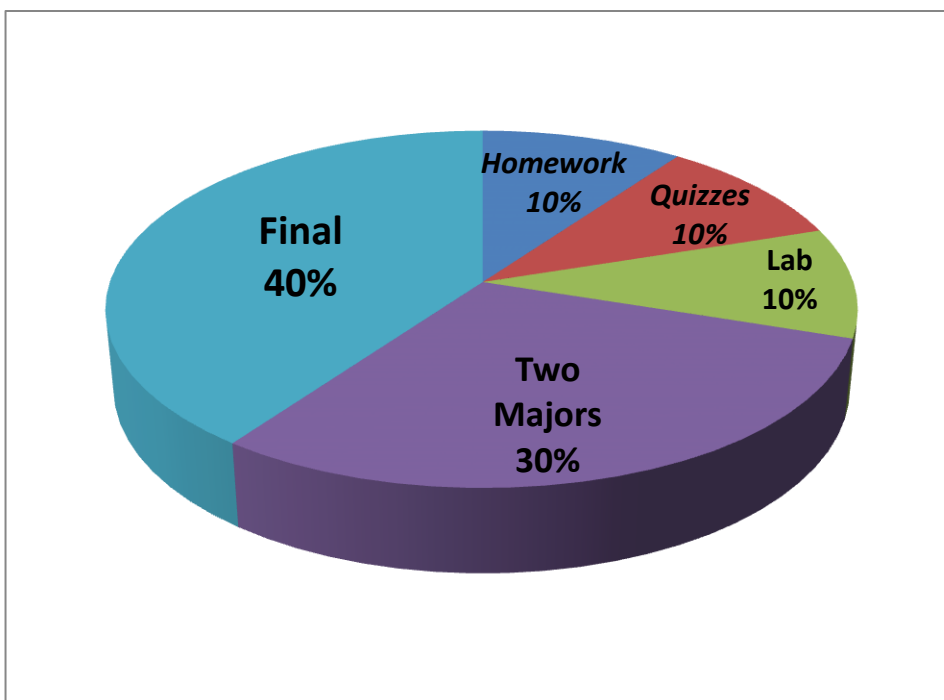
The emphasis in this course will be on helping you to develop an understanding of natural phenomena through your own direct observations and reasoning. Learning based only on what you can infer and reason from direct observations is not easy and can be quite frustrating at times. These moments of frustration 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:** **From 1:10 – 2:00 PM in room FCR-8 sections 229 & 291 and From 10:00 Am – 12:00 PM in room FCR-8 sections 230 & 301.** 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) exams.** Each exam contributes **15%** towards the final grade for a total contribution of **30%** towards the final grade.
- **Final comprehensive** Contributes **40%** to the final grade.
- **Homework.** Contributes **10%** to the final grade.
- **Quizzes (closed book, 5 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:

<b>A+</b>	<b>A</b>	<b>B+</b>	<b>B</b>	<b>C+</b>	<b>C</b>	<b>D+</b>	<b>D</b>	<b>F</b>
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 one week after finishing the chapter. 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 according to 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 notify 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:**
  - **1<sup>st</sup> warning is issued after 6 absences.**
  - **2<sup>nd</sup> 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:**

<b>Week</b>	<b>Chapter &amp; Topic/ Sections</b>	<b>Homework Assignment</b>
Jan. 28 <sup>th</sup>	Introduction Ch.19 “Electric Charge, Forces & Electric Fields”	
Feb. 4 <sup>th</sup>	Ch. 19 - Continues	Ch.19. Conceptual Questions: 4, 8, 10, 18. Problems & Conceptual Exercises: 2, 7, 11, 16, 20, 24, 31, 35, 48, 57, 63, 80, 94.
Feb. 11 <sup>th</sup>	Ch. 20 “Electric Potential & Electric Potential Energy”	
Feb. 18 <sup>th</sup>	Ch. 20 - Continues	Ch.20. Conceptual Questions: 4, 6, 10. Problems & Conceptual Exercises: 2, 8, 12, 16, 22, 30, 37, 47, 58, 82.
Feb. 25 <sup>th</sup>	Ch. 21 “Electric Current & Direct Current Circuit”	
Mar. 3 <sup>rd</sup>	Ch. 21- Continues	Ch.21. Conceptual Questions: 2, 10, 18. Problems & Conceptual Exercises: 2, 9, 16, 18, 22, 28, 33, 36, 38, 49, 54, 58, 61, 68, 75, 102.
<b>Major Exam I on Wednesday March 7<sup>th</sup> 2012. Covers Chapters 19, 20, and 21</b>		
Mar. 10 <sup>th</sup>	Ch. 22. “Magnetism”	
Mar. 17 <sup>th</sup>	Ch. 22 - Continues.	Ch.22. Conceptual Questions: 2, 4, 6. Problems & Conceptual Exercises: 4, 8, 16, 21, 26, 34, 38, 44, 55, 58, 64, 81, 86, 91.
<b>Midterm Vacation Mar. 24<sup>th</sup> – Mar. 28<sup>th</sup> .</b>		
Mar. 31 <sup>st</sup> – Apr. 1 <sup>st</sup>	Ch. 23 “Magnetic Flux & Faraday’s Law of Induction”	
Apr. 7 <sup>th</sup>	Ch. 23 – Continues.	Ch.23. Conceptual Questions: 6, 8, 12. Problems & Conceptual Exercises: 2, 4, 10, 12, 16, 20, 22, 26, 29, 32, 38, 42, 46, 54, 62.
Apr. 14 <sup>th</sup>	Ch. 24. “Alternating Current Circuits”	
Apr. 21 <sup>st</sup>	Ch.24 – Continues.	Ch.24. Conceptual Questions: 2, 4, 6, 10. Problems & Conceptual Exercises: 4, 6, 7, 12, 14, 24, 27, 32, 38, 46, 50, 60, 66, 82, 89.

<b>Apr. 28<sup>th</sup></b>	<b>Ch. 25. “Electromagnetic Waves”</b>	
<b>Major Exam II on Wednesday May 2<sup>nd</sup> 2012. Covers Chapters 22, 23, and 24</b>		
<b>May 5<sup>th</sup></b>	<b>Ch.26 – Continues.</b>	<b>Ch.25. Conceptual Questions: 2, 4, 8, 10. Problems &amp; Conceptual Exercises: 4, 9, 12, 16, 25, 30, 36, 47, 54, 62, 68, 88.</b>
<b>May 12<sup>th</sup></b>	<b>Ch. 26 “Geometrical Optics”</b>	
<b>May 17<sup>th</sup> – May 29<sup>th</sup> Final Comprehensive Exam.</b>		