



**Prince Sultan University**  
**Department of Mathematical Science**

***SYLLABUS***  
**PHYSICS 105**  
**(Term 112)**

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

**Reading and homework assignments will be from this textbook.**

**Instructor: Dr. Muaffaq Nofal**

**Objectives:**

The students are expected to develop an understanding of natural phenomena through direct observations and reasoning. In addition students are expected to learn problem solving strategies and analyzing problems.

**Course Grades:**

**Two Major exams:** Each exam contributes **15%** towards the final grade.

**Final comprehensive Exam:** Contributes **40%** to the final grade.

**Homework:** Contributes **10%** to the final grade.

**Quizzes:** At least 10 quizzes will be given which Contribute **10%** to the final grade.

**Laboratory:** Contributes **10%** to the final grade.

**Attendance and Absences:**

*You are responsible for the material covered in each class. No make-up of either Major Exams or Quizzes will be allowed.*

◆ 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.

◆ 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.

### **Homework Assignment:**

There will be an assignment at the end of each chapter which has to be handed one week after the end of 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 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.**

### **Lecture Schedule (Tentative) & Exams Dates**

<b>Week #</b>	<b>Date</b>	<b>Chapter &amp; Topic/ Sections</b>	<b>Homework Assignment</b>
1	January 28 – Feb. 01	<b>Ch.1” Introduction to Physics” / 1.1 – 1.8</b>	<b>Ch.1: Problems &amp; Conceptual Exercises: 2, 6, 10, 12, 16, 21, 30, 37, 46, 51.</b>
2	February 04 – 08	<b>Ch.2 “One-Dimensional Kinematics” / 2.1 – 2.7</b>	<b>Ch.2: Problems &amp; Conceptual Exercises: 3, 5, 10, 18, 23, 30, 38, 42, 54, 68.</b>
3	February 11 – 15	<b>Ch. 3 “Vectors in Physics” / 3.1 – 3.6</b>	
4	February 18 – 22	<b>Ch. 3 – Continues Ch. 4 “Two-Dimensional Kinematics” / 4.1 – 4.5</b>	<b>Ch.3: Conceptual Questions: 2, 6, 10 Problems &amp; Conceptual: 1, 6, 10, 17, 22, 24, 32, 44, 44, 46, 54, 62, 64.</b>
5	February 25 – 29	<b>Ch. 4 - Continues</b>	<b>Ch.4: Conceptual Questions:2, 4, 6, 10. Problems &amp; Conceptual Exercises: 4, 8, 12, 18, 24, 26, 28, 37, 46, 56, 72.</b>
6	March 03 – 07	<b>Ch.5 “Newton’s Laws of Motion” / 5.1 – 5.7</b>	
<b>First Major Exam , To be Announced Later</b>			

7	March 10 – 14	<b>Ch. 5 - Continues</b>	<b>Ch.5: Conceptual Questions: 6, 6, 18, 24. Problems &amp; Conceptual Exercises: 4, 6, 11, 16, 20, 24, 30, 40, 44, 48, 54, 58, 80.</b>
8	March 17 – 21	<b>Ch. 6 “ Applications of Newton’s Laws” / 6.1 – 6.5</b>	
<b>Midterm Vacation – Saturday, March 24-Wednesday, March 28</b>			
9	March 31 – April 04	<b>Ch. 6 - Continues</b>	<b>Ch.6: Conceptual Questions: 2, 10, 14, 16. Problems &amp; Conceptual Exercises: 2, 8, 10, 20, 26, 28, 34, 36, 38, 40, 48, 52, 62, 70.</b>
10	April 07 – 11	<b>Ch. 7 “Work &amp; Kinetic Energy” / 7.1 – 7.4</b>	
11	April 14 – 18	<b>Ch. 7 - Continues</b>	<b>Ch.7: Conceptual Questions:2, 6, 8, 10. Problems &amp; Conceptual Exercises: 4, 8, 16, 20, 24, 34, 38, 42, 46, 54,72, 84.</b>
12	April 21 – 25	<b>Ch. 8 “ Potential Energy &amp; Conservation of Energy” / 8.1 – 8.5</b>	
<b>Second Major Exam , To be Announced Later</b>			
13	April 28 – May 02	<b>Ch. 8 - Continues.</b>	<b>Ch.8: Conceptual Questions:4, 6, 8, 10 Problems &amp; Conceptual Exercises: 2, 4, 14, 20, 24, 26, 30, 36, 40, 56, 78.</b>
14	May 05 – 09	<b>Ch. 9 “Linear Momentum &amp; Collisions” / 9.1 – 9.7</b>	
15	May 12 – 16	<b>Ch. 9 - Continues</b>	<b>Ch.9: Conceptual Questions: 2, 8, 10, 14. Problems &amp; Conceptual Exercises: 2, 6, 15, 20, 26, 36, 38, 48.</b>
<b>May 17 ---- 29 : Final Exams</b>			