

## General Physics 102 Quiz and Homework:

### Quiz

Chapter 1: 5, 7, 17, 37	Chapter 12: 2, 17, 21, 33, 46
Chapter 2: 1, 9, 25, 49	Chapter 13: 10, 18, 26, 32, 37
Chapter 3: 3, 7, 21, 29	Chapter 14: 7, 22, 27, 47, 53
Chapter 4: 3, 9, 15, 55	Chapter 15: 12, 23, 32, 39, 63
Chapter 5: 3, 9, 33, 63	Chapter 16: 11, 21, 25, 29, 47
Chapter 6: 5, 15, 23, 27	Chapter 17: 1, 15, 29, 37, 45
Chapter 7: 3, 15, 31, 41, 51	Chapter 18: 8, 19, 29, 35, 47
Chapter 8: 6, 16, 23, 40, 65	Chapter 19: 6, 13, 26, 29, 48
Chapter 9: 17, 21, 25, 35, 51	Chapter 20: 15, 20, 35, 38, 50
Chapter 10: 7, 19, 26, 37, 51	Chapter 21: 11, 17, 21, 27, 39
Chapter 11: 11, 18, 25, 31, 42	Chapter 22: 9, 17, 29, 35, 43
Chapter 23: 1, 11, 19, 26, 44, 45, 57, 65, 67, 71	
Chapter 24: 11, 19, 22, 31, 33, 39, 51, 54, 57, 59	
Chapter 25: 9, 15, 23, 31, 45, 46, 52, 55, 59, 70	
Chapter 26: 5, 13, 23, 29, 35, 41, 43, 47, 50, 69	
Chapter 27: 11, 19, 25, 33, 48, 55, 49, 69, 71	
Chapter 28: 5, 11, 22, 27, 39, 43, 51, 53, 61, 67	
Chapter 29: 7, 17, 19, 27, 43, 37, 53, 55, 59, 67	
Chapter 30: 15, 19, 25, 31, 33, 45, 48, 61, 65, 67	
Chapter 31: 11, 13, 19, 27, 37, 41, 53, 61, 63, 74	
Chapter 32: 15, 19, 25, 35, 46, 53, 58, 61, 71	
Chapter 33: 15, 17, 29, 35, 41, 47, 51, 55, 75, 73	
Chapter 34: 15, 27, 37, 41, 46, 51, 55, 63, 67, 71	
Chapter 35: 11, 31, 39, 45, 49, 56, 59, 61, 65, 66	
Chapter 36: 13, 23, 25, 33, 54, 69, 73, 77, 81, 83	
Chapter 37: 13, 19, 29, 39, 47, 57, 63, 67, 73	
Chapter 38: 15, 20, 27, 37, 41, 55, 61, 65, 67, 73	

### Homework:

1. (**Due Oct 29, 2013 in class**) In this assignment, you will visit one professor's lab either in Physics or in Computer Science and engineering department. You could visit other departments too, but the above two are recommended. In the task, you talk to the **students (undergraduate or graduate)** in their research group, find out what they do in their research.

You are asked to hand in an essay as a report on this visit (or you would call it interview). This essay is one page and one page only. You should use 10-12 font size, minimum space; computer typed and prints it out. The content should include (1) the title of you report, (2) Name of the professor's name and the lab name, (3) you name, (4) summary of what they do. Note, in writing item (4), you need to use plain language so people understand what you say. It is advisable that you write a comment on what you learn and how does it relate to the study you will face in the next 4 years. It is possible you will be asked to do an oral report in class, so pay attention to this assignment. Any report does not fit these requirement will be graded with very low points.

2. **(Due Nov 28, 2013 in class)** Use one page and one page only to answer **why the planets have an ellipse orbital, according to Keppler?** Note, you can look up in any reference, but you need to answer this in detail, not just given an answer. You also need to cite reference(s) carefully, not just given a web page. If you only consult one web site, chances are you will get very low point.
3. **(Due Nov 28, 2013 in class)** Please refer to lecture notes, in page P16-5, derive the potential energy of one wavelength of a sinusoidal wave in string is  $U_{\lambda} = \frac{1}{4} \mu \omega^2 A^2 \lambda$ .

### **Second Semester:**

1. **(Due March 20, 2014 in class)** We announced a homework problem on March 13 in class. For this homework, you will need to state the problem clearly in your report as everyone may want to answer different part of the problem. We will not post the problem here, so it will be beneficial to those who attended the class.
2. **(Due March 27, 2014 in class)** Why there are two types of voltage system in the world, 110V and 220V? Why a type AA battery is 1.5 volt, not other voltage?