

L00 Expectations and Goals

This is a survey course on the development of physics in the late 19th and early 20th century. Although the the topics are older than 100 years, we call them modern physics since our fundamental understanding on nature has not changed since then and all the physical phenomena are understood on those principles and laws. Strictly speaking modern physics refers to the quantum theory or the quantum mechanical paradigm. Einstein's theory of relativity should belong to the classical physics because it still stands on the deterministic view point of nature. However, the topic should be included in this course because it revolutionized the concept of space and time.

In this course I will focus on the development of ideas, conceptual understanding, and their applications to aid your understanding. I may skip some detailed derivations that do not facilitate understanding nor provide insights.

General:

1. Develop mathematical skills that will be used in this course and the higher level courses in the future.
2. Build habit to succeed
 - Do not try to memorize everything (only a few things to memorize in physics).
 - Always try to ask yourself physical meaning of equations or results.
 - Know the limits of validity of a model and/or an equation.
 - Check if your answer makes sense in the dimension, the order of magnitude, and specific limits.

Expectations and goals in this course:

3. Read the textbook preferably before the class.
4. Attend classes and do not fall asleep.
5. Do your HW finishing calculations.
6. Use the office hours wisely. I am here to make you succeed not to grade you out.
7. Quiz: simple, short answer, check if you memorized things that you should. I expect all of you get better than 90% in quizzes
8. Exam: 60 - 70% of exams will be from your HW problems (almost identical). Therefore, I expect you get at least 60% in exams.
9. HW solutions will be provided but HW's will not be graded.
10. This scheme will set my expectation in this course as B or better.
11. In both quizzes and exams, no need to use a calculator since most of the problems would not ask numerical answers. If needed, *1 significant digit answers with the correct order of magnitude* would be sufficient. For example, rather than $324.6 \approx 3 \times 10^2$ or 3.2×10^2 should be good.