

**Boğaziçi University**  
**Department of Physics**

Phys 311/407

Summer 2015

**Modern Physics I – Advanced Quantum Physics I**

**Instructor:** Prof. Dr. Taylan Akdoğan

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**Course schedule:** TTWWThTh 344556

**Course page:** Can be accessed through “<http://web.boun.edu.tr/akdogan/>”. Problem sets, general course information and other announcements will be distributed through this page.

**About the course:** Modern Physics with an emphasis on physical thinking and order of magnitude estimates. The subjects covered by the first part of this two-term course will include the special theory of relativity, applications of the Schrödinger equation, and the hydrogen atom.

**Prerequisites:** PHYS 202.

**Required text:** *Modern Physics from  $\alpha$  to  $Z^0$*  by Rohlf (Wiley, 1994)

**Recommended text:** *Modern Physics* by Bernstein, Fishbane, and Gasiorowicz (Prentice Hall, 2000)

**Recommended text:** *The Feynman Lectures on Physics* by Feynman, Leighton, and Sands (Addison Wesley).

**Attendance:** I expect you to come to class regularly and on time. You should be prepared to discuss the textbook material and to have worked on the assigned homework problems. I reserve the right to adjust your final course score up or down by a grade step based on the quality and extent of your contributions.

**Homework:** This will be a significant part of the learning process for this class. There will be total of 9 problem sets (in 6 weeks). The problem sets will not be graded, however I strongly urge you to work on these. The solutions will be discussed briefly during the lecture and then, posted on the course page.

I encourage you to work collaboratively on the problems. Do not be shy about coming to me for help with the homework.

**Exams:** There will be one 60-minute midterm and a 120-minute final exam. All exams will be closed book/closed notes. Calculators are neither needed nor allowed.

**Grading:** The **tentative** weights that will determine the cumulative grade are as follows:

	Contribution
Midterm	40%
Final	60%

The final grades will be determined according to the distribution of cumulative grades and the classroom contributions.