Physics 214: Introduction to Quantum Mechanics
Spring 2013
Problem Set 1

Due: Wed 30 Jan 2013

Announcements: As announced in class, 214 laboratory begins this week. Please meet at 1:10 pm on Thursday in Room 154.

Reading: Today in class, we covered Sec. 1.1 and part of Sec. 1.3 in Townsend. Please read those sections. In addition, please read the following sections before coming to class.

Fri 1/25: Townsend Appendix A.

Mon 1/28: Townsend Secs. 1.2.

Wed 1/30: Townsend Secs. 1.4 and 1.5.

Appendix A is on special relativity. The main result from special relativity that we will need in this class is the energy momentum relation \( E^2 = p^2 c^2 + m^2 c^4 \).

Problems (continued on other side):

1. The wave equation. Townsend Problem 1.1.

2. Photon energy and power. Townsend Problem 1.4.

3. Photon flux. Townsend Problem 1.5.


7. Feedback. By Thursday of each week, please send me an email message to provide feedback on the class and on your reading. (My email address is mbschulz at brynmawr.edu).
For example: Which parts were easier or harder to understand? Do you have any questions that you would like to clarify or areas where you would like more practice in recitation section? Was there something that you found particularly interesting or uninteresting? Was the problem set of reasonable length and difficulty. If you have any thoughts on how to improve the textbook for future students using future editions, please let me know and I will pass that information on to the author, John Townsend. The purpose of the feedback is to help you to reflect on your learning process and to provide me with brief but valuable information that will help to make this class the best possible experience for everyone.