

Student Learning Outcomes PHYS 270

15 March 2007

o

	Outcome: At the end of the course the student will be able to	How measured
1	Explain the concept of electro-magnetic waves	Exams, Quizzes, Homework
2	Analyze the propagation of electro-magnetic waves	Exams, Quizzes, Homework
3	Describe the classical model of light as applied to geometrical and physical optics	Exams, Quizzes, Homework
4	Explain and calculate problems involving interference and diffraction	Exams, Quizzes, Homework
5	Describe Einstein's postulates for special relativity and explain the consequences of the postulates.	Exams, Quizzes, Homework
6	Perform relativistically correct kinematical calculations.	Exams, Quizzes, Homework
7	Explain the structure of the atom and the experiments that lead to this understanding.	Exams, Quizzes, Homework
8	Describe the Bohr model of the atom and it's shortcomings.	Exams, Quizzes, Homework
8	Describe the wave nature of matter and experiments that have shown it to exist.	Exams, Quizzes, Homework
9	Perform elementary quantum mechanical calculations	Exams, Quizzes, Homework
10	Describe nuclear structure, stability, and radioactivity	Exams, Quizzes, Homework
11	Perform elementary calculations of nuclear reactions including fission and fusion.	Exams, Quizzes, Homework
12	Describe the fundamental constituents of matter in the framework of the Standard Model	Exams, Quizzes, Homework
13	Analyze and present the results of actual measurements made in the laboratory including an error analysis	Lab Reports
14	Determine if the data taken in the laboratory is described by the theoretical model given and discuss discrepancies	Lab Reports