

SYLLABUS FOR PHYSICS 211 - PHYSICS III

Fall Semester, 1998

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Text: Modern Physics for Scientists and Engineers
by John R. Taylor and Chris D. Zafiratos

The first semester of this introduction to quantum physics, Physics III, will cover special relativity and quantum theory through the three-dimensional Schrödinger equation. Following is an **approximate** schedule for the course. Problems you are to work are listed for each chapter. You should begin working the problems when we start a particular chapter and turn them in by the first class meeting after we complete the chapter. The work should be your own, as a portion of your grade will be based on this work.

As you see in the schedule, there will be two quizzes and a comprehensive final examination.

Your final grade in the course will be allocated as follows:

Quizzes: 40%

Problems: 30%

Final Examination: 30%

In case you misplace this syllabus, it may be found on my homepage (address above) under Course Syllabi, Introduction to Quantum Physics.

SCHEDULE AND PROBLEM ASSIGNMENTS FOR PHYSICS III INTRODUCTION TO QUANTUM THEORY

DAY	DATE	CHAPTER	ASSIGNED PROBLEMS
Thursday	August 27	1-Relativity in Classical Physics	1,6,8,10,13,16
Tuesday	September 1	1-Relativity in Classical Physics	

Thursday	September 3	2-The Space and Time of Relativity	3,6,8,13,15,17,20,23,25,28,29,31
Tuesday	September 8	2-The Space and Time of Relativity	
Thursday	September 10	2-The Space and Time of Relativity	
Tuesday	September 15	3-Relativistic Mechanics	1,3,6,9,10,12,21,26,28,34,38
Thursday	September 17	3-Relativistic Mechanics	
Tuesday	September 22	3-Relativistic Mechanics	
Thursday	September 24	First Test - Chapters 1-3	
Tuesday	September 29	4-Atoms	2,8,12,18,20,23,24
Thursday	October 1	4-Atoms	
Tuesday	October 6	4-Atoms	
Thursday	October 8	5-Quantization of Light	6,8,10,12,16,18,20
Tuesday	October 13	5-Quantization of Light	
Thursday	October 15	6-Quantization of Atomic Energy Levels	2,4,8,10,12,15,16,20,22
Tuesday	October 20	Fall Break	
Thursday	October 22	6-Quantization of Atomic Energy Levels	
Tuesday	October 27	7-Matter Waves	6,10,12,14,24,29,32,40,44,48
Thursday	October 29	7-Matter Waves	
Tuesday	November 3	7-Matter Waves	
Thursday	November 5	Second Test - Chapters 4-7	
Tuesday	November 10	8-The Schrödinger Equation in One Dimension	8,12,18,22,28,34,36,38,44,48
Thursday	November 12	8-The Schrödinger Equation in One Dimension	
Tuesday	November 17	8-The Schrödinger Equation in One Dimension	
Thursday	November 19	8-The Schrödinger Equation in One Dimension	
Tuesday	November 24	9-The Three-Dimensional Schrödinger Equation	4,10,20,26,32,34,38,40,44,48
Thursday	November 26	Thanksgiving Break	
Tuesday	December 1	9-The Three-Dimensional Schrödinger Equation	
Thursday	December 3	9-The Three-Dimensional Schrödinger Equation	
Tuesday	December 8	9-The Three-Dimensional	

		Schrödinger Equation	
Saturday	December 12	Final Exam 8:30 - 11	