

Class	Date	Topics:
I. Special relativity		
1. W	19 Jan	Experimental basis of SR, Einstein's postulates
2. F	21 Jan	Simultaneity and Lorentz transformations
3. M	24 Jan	Time dilation and length contraction
4. W	26 Jan	Minkowski's spacetime diagrams
5. F	28 Jan	Spacetime interval and metric
6. M	31 Jan	Paradoxes of special relativity
7. W	2 Feb	Relativistic momentum and energy <i>(last day to add a course)</i>
Th	3 Feb	<i>(last day to drop a course without penalty)</i>
8. F	4 Feb	Mass/energy conversion; antiparticles
9. M	7 Feb	Remarks on general relativity
II. Introduction to quantum physics		
10. W	9 Feb	Quantization of charge and energy
11. F	11 Feb	Black body radiation
12. M	14 Feb	The photoelectric and Compton effects
13. W	16 Feb	Rutherford and the atomic nucleus
14. F	18 Feb	Bohr's model of the atom
15. M	21 Feb	De Broglie's hypothesis and wave/particle duality
16. W	23 Feb	Wave packets
17. F	25 Feb	First midterm exam covering sessions 1–14
18. M	28 Feb	Uncertainty principle; probability amplitudes
19. W	2 Mar	Schrödinger's equation in 1 dimension
20. F	4 Mar	Particle in an infinite square potential well
	5–13 Mar	<i>Spring recess</i>
21. M	14 Mar	Particle in a finite square potential well
22. W	16 Mar	Expectation values and operators <i>(last day to withdraw from a course)</i>
23. F	18 Mar	Simple harmonic oscillator; symmetries
24. M	21 Mar	Reflection and transmission in collisions
25. W	23 Mar	Barrier penetration and tunneling
III. Fundamentals of atomic and subatomic physics		
26. F	25 Mar	Schrödinger's equation in 3 dimensions
27. M	28 Mar	Angular momentum; hydrogen atom
28. W	30 Mar	Hydrogen quantum numbers and energy levels
29. F	1 Apr	Electron spin; the Stern–Gerlach experiment
30. M	4 Apr	Spectroscopic notation; periodic table of elements
31. W	6 Apr	Identical particles and the Pauli principle
32. F	8 Apr	Fundamental interactions and classification of particles
33. M	11 Apr	Nature of the N - N force; the deuteron
34. W	13 Apr	Nuclear binding, structure and stability
35. F	15 Apr	Second midterm exam covering sessions 15–29
36. M	18 Apr	Conservation laws and symmetries
37. W	20 Apr	The Standard Model: a new table of elements
38. F	22 Apr	Matter at extremely short length scale
39. M	25 Apr	Beyond the Standard Model
40. W	27 Apr	Early universe and stellar evolution
41. F	29 Apr	On gravitation and cosmology
42. M	2 May	Review
Fr	6 May	14:00–17:00 Final exam covering sessions 1–42