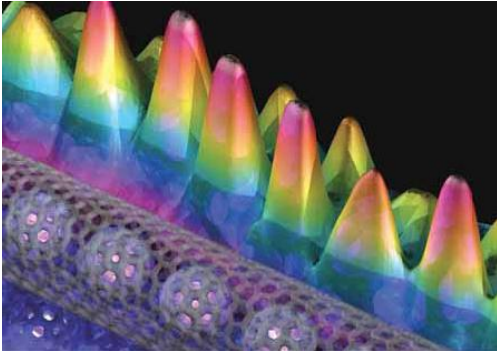


Physics 2213A Modern Physics



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Office hours: after class; call my cell phone!

Required texts: Thornton & Rex, *Modern Physics*, 3rd or 4th ed.
Eugene Hecht, *Schaum's Outline: Optics*

To download the lectures: www.frog.gatech.edu. Choose "Talks" and "Modern Physics".

<u>Topic</u>	<u>Reading</u>
1. Overview—the revolutions of 20 th century physics	-
2. Sound and light waves	Hecht Ch 1
3. Interference	Hecht Ch 6.1-6.3, 6.5
4. The Fourier transform	Hecht Ch 8.1-8.2
5. Diffraction	Hecht Ch 7.1-7.5
6. The birth of modern physics	TRex Ch 1
7. Special relativity 1	TRex Ch 2
8. Special relativity 2	TRex Ch 2
9. Special relativity 3	TRex Ch 2
10. Prelude to quantum mechanics	TRex Ch 3
11. Structure of the atom—the Bohr atom	TRex Ch 4
12. Quantum mechanics 1	TRex Ch 5
13. Quantum mechanics 2	TRex Ch 6
14. The Hydrogen atom	TRex Ch 7
15. Quantum weirdness	-
16. Societal context of 20 th -century physics	-
17. Atomic physics	TRex Ch 8
18. Molecules	TRex Ch 10
19. Blackbodies and lasers	-
20. Nuclei	TRex Ch 12
21. Particle physics	TRex Ch 14
22. General relativity	TRex Ch 15
23. Cosmology	TRex Ch 16

For additional administrative details, see Lecture 0, "Details"