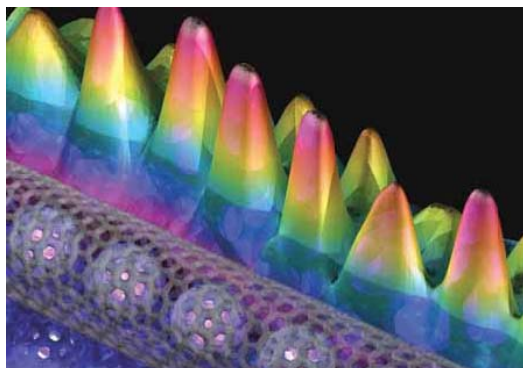


# Physics 2213b: Modern Physics (Honors section)



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Office hours: after class; call my cell phone anytime!

Download the lectures: [www.physics.gatech.edu/frog](http://www.physics.gatech.edu/frog)

Required text:

Thornton & Rex, *Modern Physics*, 3<sup>rd</sup> ed.

Recommended text:

J. F. James, *A Student's Guide to  
Fourier Transforms*

<u>Topic</u>	<u>Reading</u>
1. Overview—the revolutions in 20 <sup>th</sup> century physics	TRex Ch 1
2. Waves	Notes
3. Interference: the Michelson interferometer	Notes
4. The Fourier transform	James
5. Diffraction	Notes
6. The birth of modern physics	TRex Ch 1
7-9. Special relativity 1, 2, & 3	TRex Ch 2
10. The basis of quantum mechanics	TRex Ch 3
11. The Bohr atom	TRex Ch 4
12, 13. Quantum mechanics 1 & 2	TRex Chs 5, 6
14. The hydrogen atom	TRex Ch 7
15. Atomic physics	TRex Ch 8
16. Statistical physics, blackbodies, and lasers	TRex Ch 9 & notes
17. Molecules and solids	TRex Ch 10
18, 19. Nuclei and nuclear interactions	TRex Ch 12 & 13
20. Particle physics	TRex Ch 14
21. General relativity	TRex Ch 15
22. Cosmology	TRex Ch 16

For additional details, see Lecture 0, "Details"