

Physics 335-0 Syllabus

Instructor: David Taylor
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Office Hours: almost anytime, by appointment
Textbook: Modern Physics for Scientists and Engineers, 3rd Edition, Thornton and Rex
Class URL: <http://courses.physics.northwestern.edu/Phyx335> (case sensitive!)
Grade: 15% laboratories, 10% homeworks/quizzes, 35% midterm, 40% final

Day / Date	Chapters	Lecture Topic	Lab
Wed 9/21	1.1 – 1.6	Review Of Physics Circa 1895	
Fri 9/23	3.1, 3.2, 3.4, 3.5	The Electron, Blackbody Radiation	
Mon 9/26	3.3, 3.6, 3.7	Review of Spectra, Photoelectric Effect	Lab 1 – Electron Diffraction
Wed 9/28	4.1 – 4.5	Early Atomic Models	
Fri 9/30	4.6 – 5.3	X-Rays, Electron Scattering	
Mon 10/3	5.4 – 5.7	Probability Waves	Lab 2 – Planck's Constant
Wed 10/5	6.1 – 6.4	The Schrodinger Equation	
Fri 10/7	6.5 – 6.7	Quantum Tunneling	
Mon 10/10	7.1, 7.3	The Hydrogen Atom	Lab 3 – Pulsed NMR
Wed 10/12	7.4 – 7.6	Spin, Magnetism In Atoms	
Fri 10/14	2.1 – 2.5	The Ether, Space & Time Contraction	
Mon 10/17	2.6 – 2.10	Relativistic Speed, Doppler Shift	
Wed 10/19	2.11 – 2.14, 3.9	Relativistic Dynamics	
Fri 10/21		Midterm Exam	
Mon 10/24	12.1 – 12.4	Basic Nuclear Physics	Lab 4 – α , β , and γ Radiation
Wed 10/26	12.6 – 12.8	Radioactivity	
Fri 10/28	8.1, 10.2, 11.3	Periodic Table, Lasers, LEDs	
Mon 10/31	9.1 – 9.4	Classical Statistical Physics (Ideal Gas)	Lab 5 – Spectrum of β Source
Wed 11/2	9.6 – 9.7	Fermi-Dirac & Bose-Einstein Statistics	
Fri 11/4	13.1 – 13.4	Nuclear Fission	
Mon 11/7	13.5	Nuclear Reactors	Lab 6 – Scintillation Detector
Wed 11/9	13.6 – 13.7	Nuclear Fusion, Nuclear Applications	
Fri 11/11	16.3	Stellar Evolution	
Mon 11/14	14.1 – 14.3	Elementary Particle Physics	Lab 7 – Half-life of Radon
Wed 11/16	14.4 – 14.7	Quarks, Neutrinos	
Fri 11/18	15.1 – 15.3	General Relativity	
Mon 11/21	15.3 – 15.5	Gravitational Waves, Warped Space	
Wed 11/23	16.1, 2, 5, 6	The Big Bang	
Fri 11/25		Thanksgiving Vacation	
Mon 11/28	16.4, 16.7	Amazing Stuff In The Universe	
Wed 11/30	none	Planets, Life?	
Fri 12/9		Final Exam, 3–5 PM	