

Physics 111 2010

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**Text: Physics 2000 (Part 1, Part 2), Calculus 2000 by E.R. Huggins**

**Text: Physics for Science and Engineering Students by Nolan (on disk)**

Date	Topic	Readings	Exercises	Lab
Aug 30	Intro & Relativity	1.1-1.5	1,2	Graphical Analysis
Sept 1		1.6-1.23	3,4	
3	Length Contraction	1.24-1.31	33.12,6,7	

8	Simultaneity	1.32-1/39	33.17,33.35	No Lab
10	Vectors	2.1-2.10, 3.1-3.9	1 to 4, 3.46	

13	Motion	3.1-3.16,	1 to 4	Relativity Experiment
15	Motion	3.17-3.33, 2.1-2.8	5 to 7	
17	Calculus of Motion	4.1-4.13, 4.1-4.2	A-1,A-3,4.7	

20	Mass	6.1-6.15	2 to 4,7	Motion Plotter and Ch. 5 computer problems
22	Cons. Of Momentum	7.1-7.8, 8.1-8.4	2 to 5, 8.28	
24	Cons. Of Angular Momentum	7.9-7.18	8,9	

27	Newton 1	8.1-8.16, 10.1-10.4	2,3,4,8	Newton's Second Law
29	Kepler's Laws	8.16-8.28,10.6-10.8	9,13,15	
Oct 1	Newton 2	8.29-8.37,5.1-5.4	18,20	

4	Exam 1	Ch. 1-7		Centripetal Force
6	Applications to Second law	9.1-9.14, 5.5	2,3,5.38	
8	Cont. above	9.14-9.19, 6.1-6.2	5.39	

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Date	Topic	Readings	Exercises	Lab
13	Energy	10.1-10.8, 7.1-7.6	1,2,3, 7.14	No lab
15	Energy	10.8-10.17, 7.7	4, 9,10	

18	Energy	10.18-10.31, 7.8	12,15, 7.48	Ballistic Pendulum
20	System of Particles	11.1-11.12, 8.5	2,5, 8.20	
22	System of Particles	11.12-11.22, 8.6	11,12, 8.51	

25	Equilibrium	13.1-13.8, 11.1-11.3	2,3,5	Collision in 2D
27	Equilibrium	13.9-13.12, 11.4	9,10	
29	Oscillations	14.1-14.12, 13.1-13.3	2,3,6,11	

Nov 1	Oscillations	14.13-14.34, 13.4-13.6	22, 13.7	Forced Damped Harmonic Motion
3	1 D waves	15.1-15.11, 14.1-14.5	1,2,4	
5	1 D waves	15.12-15.22, 14.6-14.8	5,6,8,9,	

8	Exam 2	Ch.8-13 (omit 12)		Standing Waves on a String
10	Atomic Processes	17.1-17.11, 16.1-16.2	1,2,4,	
12	Atomic Processes	17.12-17.17, 17.1-17.7	5, 17.25	

15	Atomic Processes	17.18-17.25, 17.9	6,7	Gas laws
19	Atomic Processes	17.26-17.34, 15.1-15.3	8, 15.23	
20	Entropy	18.1-18.7, 19.1-19.3	1,2	

22	Entropy	18.8-18.16, 19.4-19.5	3,4,5,6	Gas Law Cycle
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29	Entropy	18.17-18.21,19.10-19.11	7,8,9,10	Viscosity
Dec 1	Entropy	18.22-18.29,19.7-19.9	19.37	
3	Exam 3	Ch. 14-18 (omit Ch 16)		

6	Fluid Dynamics	23.1-23.8,15.4-15.6		Fourier analysis w/ sound
8	Fluid Dynamics	23.9-23.18,15.7-15.8	1,2,3	

Hour exams =25 %

Final exam=25%

Quizzes and problem solutions=25%

Laboratory average=25%

Problem solutions are to be your own work and but cooperation with other students is permitted. Help with problems is available from the instructor, problem sessions and the evening help sessions (run by the Society of Physics Students). Office hours are posted but I am available at any time that I am not in class or working in a laboratory.

Attendance of lectures is important since new material, problem solutions, different approaches from that of the text and computer instructions will be presented during this time.

Students are not permitted to bring their calculators to exams. Scientific calculators will be provided at the exams by the Physics Department. If you wish, you may check out a calculator in order to become familiar with it.

Please download spacetime 4.0 to your windows PC at <http://www.spacetime.us/>. **SpaceTime** for **Windows PCs** is the most powerful cross-platform mathematics software ever developed and is now **free** to download and register! It does symbolic calculations in calculus and has exceptional graphics.