

Physics 111 Syllabus

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

Date	Topic	Readings	Exercises	Lab
Aug 31	Intro & Relativity	1.1-1.5	1,2	Graphical Analysis
Sept 2		1.6-1.23	3,4	
4	Length Contraction	1.24-1.31	5,6,7	

9	Simultaneity	1.32-1/39	Cont. above	No Lab
11	Vectors	2.1-2.10	1 to 6	

14	Motion	3.1-3.16	1 to 4	Relativity Experiment
16	Motion	3.17-3.33	5 to 7	
18	Calculus of Motion	4.1-4.13	A-1,A-3,A-6	

21	Mass	6.1-6.15	2 to 4,7	Motion Plotter and Ch. 5 computer problems
23	Cons. Of Momentum	7.1-7.8	1 to 5	
25	Cons. Of Angular Momentum	7.9-7.18	8,9,10,14	

28	Newton 1	8.1-8.16	2,3,4,8	Newton's Second Law
30	Kepler's Laws	8.16-8.28	9,13,15	
Oct 2	Newton 2	8.29-8.37	18,20,22	

5	Exam 1	Ch. 1-7		Centripetal Force
7	Applications to Second law	9.1-9.14	1,2,3	
9	Cont. above	9.14-9.19		

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Date	Topic	Readings	Exercises	Lab
14	Energy	10.1-10.8	1,2,3	No lab
16	Energy	10.8-10.17	4,6,9,10	

19	Energy	10.18-10.31	12,13,15	Ballistic Pendulum
21	System of Particles	11.1-11.12	2,3,5	
23	System of Particles	11.12-11.22	11,12,13	

26	Equilibrium	13.1-13.8	2,3,5	Collision in 2D
28	Equilibrium	13.9-13.12	7,9,10	
30	Oscillations	14.1-14.12	2,3,6,11	

Nov 2	Oscillations	14.13-14.34	22,23	Forced Damped Harmonic Motion
4	1 D waves	15.1-15.11	1,2,4	
6	15.12-15.22	5,6,8,9		

9	Exam 2	Ch.8-13 (omit 12)		Standing Waves on a String
11	Atomic Processes	17.1-17.11	1,2,4	
13	Atomic Processes	17.12-17.17	5	

16	Atomic Processes	17.18-17.25	6,7	Gas laws
18	Atomic Processes	17.26-17.34	8	
20	Entropy	18.1-18.7	1,2	

23	Entropy	18.8-18.16	3,4,5,6	Gas Law Cycle
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30	Entropy	18.17-18.21	7,8,9,10	Viscosity
Dec 2	Entropy	18.22-18.29		
4	Exam 3	Ch. 14-18 (omit Ch 16)		

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7	Fluid Dynamics	23.1-23.8		Fourier analysis
9	Fluid Dynamics	23.9-23.18	1,2,3	w/ sound

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.