

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 25	Intro & Relativity	1.1-1.5	1,2	Graphical Analysis
27		1.6-1.23	3,4	
29	Length Contraction	1.24-1.31	5,6,7	

Sept. 3	Simultaneity	1.32-1/39	Cont. above	No Lab
5	Vectors	2.1-2.10	1 to 6	

8	Motion	3.1-3.16	1 to 4	Relativity Experiment
10	Motion	3.17-3.33	5 to 7	
12	Calculus of Motion	4.1-4.13	A-1,A-3,A-6	

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

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

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

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Oct 8	Energy	10.1-10.8	1,2,3	No lab
10	Energy	10.8-10.17	4,6,9,10	

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

20	Equilibrium	13.1-13.8	2,3,5	Collision in 2D
22	Equilibrium	13.9-13.12	7,9,10	
24	Oscillations	14.1-14.12	2,3,6,11	

27	Oscillations	14.13-14.34	22,23	Forced Damped Harmonic Motion
29	1 D waves	15.1-15.11	1,2,4	
31	15.12-15.22	5,6,8,9		

Nov. 3	Exam 2	Ch.8-13 (omit 12)		Standing Waves on a String
5	Atomic Processes	17.1-17.11	1,2,4	
7	Atomic Processes	17.12-17.17	5	

10	Atomic Processes	17.18-17.25	6,7	Gas laws
12	Atomic Processes	17.26-17.34	8	
14	Entropy	18.1-18.7	1,2	

17	Entropy	18.8-18.16	3,4,5,6	Gas Law Cycle
19	Entropy	18.17-18.21	7,8,9,10	
21	Entropy	18.22-18.29		

24	Exam 3	Ch. 14-18 (omit Ch 16)		
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Dec 1	Fluid Dynamics	23.1-23.8		Viscosity
3	Fluid Dynamics	23.9-23.18	1,2,3	
5	Fluid Dynamics	23.20-23.23	4,5	

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Date	Topic	Readings	Exercises	Lab
Dec 8	Fourier Analysis	16.1-16.14	1	Fourier Analysis with sound
10	Fourier Analysis	16.15-16.28	2	

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.