

## Physics 112 Syllabus

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

Date	Topic	Readings	Exercises	Lab
Jan 17	Coulomb's law	24.1-24.5, N 20.5-20.6	1,3,4, N17	Electrostatics Demonstrations
19	Line of charge	24.6-24.9, N20.6-20.7	5,6,N25	
21	Electric Field	24.10-24.19,N21.1-21.4	7,N4	

24	Gauss' law	24.20-24.25,N22	8,10,N 16	Electrostatic
26	Gauss' law	24.26-24.29,N22	9,11	problems
28	Field plotting	25.1-25.12,N23	2,4,N34	

31	Conductors	26.1-26.10,N22.7-22.8	1,3,4, N20 (Ch22)	Field plotting
Feb 2	Conductors	26.11-26.17	6,7,10,	
4	Electric circuits	27.1-27.10,N24.1-24.10	1, N27,N29	

7	Kirchhoff's laws	27.10-27.13,N24.11	2,3, N44	Charge/discharge
9	Capacitors	27.14-27.32,N25.1-25.2,N25.5-25.10	5,6,N46	of a capacitor
11	Magnetism	28.1-28.17,N26.1-26.2	2,3, N6	Read 27.22-27.28

14	Exam 1	Ch. 24-27		Magnetic field
16	Particles in B fields	28.18-28.23	4,5	of a coil
18	Relativistic E & P	28.24-28.33	8,9,10	

21	Ampere's law	29.7-29.13,N26.8-26.11	4,5,6,	e/m
23	Ampere's law	29.14-29.18	7,8	
25	Faraday's law	30.1-30.10,N27.2	1, N5	

28	Faraday's law	30.11-30.20,N27.3-27.4	2,3,4,N11	Faraday's law
Mar 2	Faraday's law	30.21-30.26	5,6,8,N16,N17,N18	and magnetic force on a
4	Light	33.1-33.11,N32.1-32.2	1,2,3,4,N3	conductor

14	Diffraction grating	33.12-33.19,N32.6	5,6,9,N44	Spectrometer
16	Doppler & grating	33.20-33.30,N32.5	10,13,14,N40	
18	Photons	34.1-34.9	1,2,3,	

21	Exam 2	Ch 28-33	Omit Ch 31,32	Diffraction of
23	Interference -- Thin Films	Norlan 32.4	N23,N26,N35	slits
25	Continue above		N31	

28	x-ray diffraction	36.1-36.7	1,2,3	x-ray
30	Photons	34.1-34.16	4,6,7,10	diffraction
Apr1	No Class			

4	Electron diffraction	35.10-35.12, 36.8-36.14	ch36.4,5&6	Snell's law
6	Lasers	37(all)	1,2,4	
8	Reflection and refraction	Optics 1-18, N30.1-30.2,N31.1-31.6	1a,1b,2,3	

11	Lenses	Optics 18-30,N31.8-31-13	6,7,8	Lenses
13	Lenses	Cont.	9,11,12,13	
15	Bohr Theory	35.1-35.12	1,2,5	

18	continue		7,8,9,10	Radioactive
20	Exam 3	Ch 34-Optics		decay
22				

25				No Lab
27	Nuclear matter	20.1-20.8	1	
28	Review	Course evaluation		

May 5th	Final Exam	1:30	Formula sheet allowed	
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Hour exams =25 %

Quizzes and problem solutions=25%

Final exam=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 who wish to request accommodations in this class for a disability should contact Mr. Joe Kempfer, Assistant Director of Learning Services for Disability Support, 1307 Main Street (extension 1510). Accommodations cannot be provided until authorization is received from the office of Learning Services.