

Physics 21 & 19

www.lehigh.edu/~physics/21

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General Pattern

General Pattern

- Read assignment before lecture

General Pattern

- Read assignment before lecture
- Hear the lecture

General Pattern

- Read assignment before lecture
- Hear the lecture
- See example in recitation

General Pattern

- Read assignment before lecture
- Hear the lecture
- See example in recitation
- Work homework problem

General Pattern

- Read assignment before lecture
- Hear the lecture
- See example in recitation
- Work homework problem
- Review solution on web

General Pattern

- Read assignment before lecture
- Hear the lecture
- See example in recitation
- Work homework problem
- Review solution on web
- Discuss in recitation

[COURSES](#) > [INTRODUCTORY PHYSICS II](#) > ANNOUNCEMENTS

VIEW TODAY

VIEW LAST 7 DAYS

VIEW LAST 30 DAYS

VIEW ALL

August 12 - 19, 2004



Tue, Aug 17, 2004 -- *Physics 21 Link*

Course documents for Physics 21 can be found at

<http://www.lehigh.edu/~physics/21>



Course Materials

[General information](#)

[Schedule and Assignments](#)

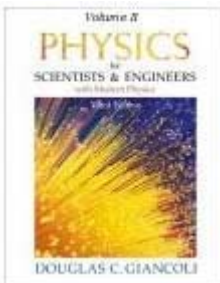
Homework Solutions

1 2 3 4 5
6 7 8 9 10
11 12 13 14 15
16 17 18 19 20
21 22 23 24 25
26 27 28 29 30

Staff

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Textbook



The text is *Physics for Scientists and Engineers, Volume II*, by Douglas C. Giancoli.
The ISBN is 0-13-021519-8

Physics 21 Fall, 2004

General Information

Subject matter: Physics 21, Introductory Physics II, is a continuation of Physics 11. The general topics covered include electrostatics and magnetostatics, DC circuits, Maxwell's equations, waves, geometrical and physical optics.

General Plan: Classes meet four times per week, Tuesday and Thursday in a large lecture (for 50 minutes) and Wednesday and Friday in a small recitation class. Homework is due at most lectures. The homework is collected at the beginning of the lecture. It will be graded and then returned and discussed in the recitation the next day. Occasionally, homework will be due in the recitation class. Two major exams will be given during the semester, at 4:10 pm on Sept. 22 and Nov. 2. The final exam will be scheduled by the registrar.

Textbook: The text is *Physics for Scientists and Engineers*, volume II, by Douglas C. Giancoli, ISBN 0-13-021519-8.

Obtaining Course Materials: Most "handouts" such as the assignments, schedule of lectures, and solutions to homework problems must be downloaded from the course web page:

www.lehigh.edu/~physics/21

Paper copies of these documents will not normally be distributed in class or recitation. It is the responsibility of each student to visit the course web page and obtain the appropriate documents.

Role of Recitation Leader: Each student's primary contact should be with his/her recitation leader. If you have questions or need help with an assignment, first ask your recitation leader. Each recitation leader will set his own office hours.

Grading: Grades are based on the following scheme:

First Exam (Sept. 22)	100
Second Exam (Nov. 2)	100
Quizzes (best 5 out of 6)	50
Homework assignments	50
Recitation leader's assessment	50
Final Exam	200
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Total	550

Homework: Each recitation leader grades the homework of the students in his section(s). The grader's perception of the student's level of effort plays a important role. The point of the homework is to learn how to think through problems and arrive at the solution by a valid method. Just writing down the correct answer is not enough; presenting a thorough analysis of the problem is essential for full credit. Solutions to the homework will be available on the web shortly after the assignments are collected, and students are expected to review these solutions. Since the procedures of the recitation leaders may vary, the homework scores from each section may be adjusted to achieve consistency from section to section.

Quizzes: There will be six quizzes during the semester. They will take place at the beginning of the recitation section on the dates announced in the schedule. The best five scores will determine the contribution of the quizzes to the final score. No makeup quizzes will be given.

Attendance Policy: Attendance at lecture and recitation is expected and will normally be necessary (but not sufficient) for a satisfactory grade. Attendance in recitation may be taken into account by the recitation leader when assessing each student's performance.

Free Advice: Physics 21 is a fast paced course with a heavy workload. Assimilating the material presented each week is essential to understanding the following week's work. Come to class! Take notes! Keep up with the reading and homework assignments!

Physics 19: Physics 19 is a one credit course for students who have taken a three credit course similar to (but less comprehensive than) Physics 21. Students taking Physics 19 should attend the first lecture on August 24, and then all the lectures and recitations beginning October 26. They will take selected parts of the second hour exam and the final exam.

Disability: If you have a disability for which you are or may be requesting accomodation, please contact both your recitation leader and the Office of Academic Support Services, University Center Room 212 (610-758-4152) early in the semester. It is the responsibility of students with disabilities to identify themselves to the appropriate university contact person to provide the required documentation in order to receive accommodations.



August 22, 2004

Date	Class	Topic	Reading	Homework
8-24 (Tu)	L-1	Electric force and electric fields for point charges, using vectors		
8-25 (W)	R-1	Work ex. 21-4 and 21-8 using vector notation; go over HW-1	21 §1–6	HW-1: 21 Q 10,12; P 8,9
8-26 (Th)	L-2	Electric fields due to continuous charge distributions	21 §7–10	HW-2: 21 Q 16,27; P 12,30,38 P 12: find force on one charge
8-27 (F)	R-2	Work ex. 21-9 and 21-11; go over HW-2		
8-31 (Tu)	L-3	Gauss's Law	22 §1–4	HW-3: 21 P 45,48,74,84
9-1 (W)	R-3	Work ex. 22-4,5; go over HW-3		
9-2 (Th)	L-4	Electric potential and potential difference	23 §1–5	HW-4: 22 Q 6,7,10,13; P 22
9-3 (F)	R-4	Work ex. 23-2a,7; go over HW-4		
9-7 (Tu)	L-5	Electrical energy and capacitance	23 §6–9 24 §1–4	HW-5: 23 Q 11,18; P 8,16,33
9-8 (W)	R-5	Quiz 1 ; work ex. 24-3; go over HW-5		
9-9 (Th)	L-6	Electric current and batteries	24 §5,6 25 §1–6	HW-6: 24 Q 10; P 6,24,28 P 6: the two Cs are in parallel
9-10 (F)	R-6	Work Ex. 24-8; go over HW-6		
9-14 (Tu)	L-7	Kirchoff's rules	25 §8 26 §1–3	HW-7: 24 P 59 and 25 P 37,54,58,62
9-15 (W)	R-7	Work ex. 26-3,8; go over HW-7		
9-16 (Th)	L-8	RC circuits	26 §4,5	HW-8: 26 P 25,27,31,42
9-17 (F)	R-8	Work ex. 26-13; go over HW-8		
9-21 (Tu)	L-9	Review for first hour exam		HW-9: 26 P 44,80
9-22 (W)	R-9	Answer questions; go over HW-9		
	E-1	FIRST HOUR EXAM at 4:10 pm on September 22		
9-23 (Th)	L-10	Magnetic force	27 §1–3	HW-10 27 Q 2; P 1
9-24 (F)	R-10	Go over exam		

Classes are Lectures (L), Recitations (L), or Exams (E). Reading should be completed before the associated class. **22** §4 means chapter 22, section 4 of text. Homework assignments HW-*n*, which are due at the beginning of class, are P (Problems) or Q (Questions) from the text. **23** P 3,5 means chapter 23, problems 3 and 5.

Date	Class	Topic	Reading	Homework
9-28 (Tu)	L-11	Torques on current loops;magnetic field sources,Biot-Savart Law	27 §4-7 28 §6	HW-11
9-29 (W)	R-11	Quiz 2 go over HW-11		
9-30 (Th)	L-12	Ampere's Law	28 §1-5	HW-12
10-1 (F)	R-12	Go over HW-12		
10-5 (Tu)	L-13	Magnetic Materials	28 §7-10	HW-13
10-6 (W)	R-13	Go over HW-13		
<i>PACING BREAK: Note Recitation on Monday 10-11</i>				
10-11 (M)	R-14	Faraday's Law	29 §1-3	
10-12 (Tu)	L-14	Faraday's Law	29 §4-7	HW-14
10-13 (W)	R-15	Go over HW-14		
10-14 (Th)	L-15	Inductance	30 §1-4	HW-15
10-15 (F)	R-16	Quiz 3; go over HW-15		
10-19 (Tu)	L-16	AC circuits: transients and steady state	30 §5,6 31 §1-5	HW-16
10-20 (W)	R-17	Go over HW-16		
10-21 (Th)	L-17	Steady state AC circuits; displacement current	31 §6 31 §1-5	HW-17
10-22 (F)	R-18	Go over HW-17		
10-26 (Tu)	L-18	Start waves	Notes — Part I	HW-18
10-27 (W)	R-19	Go over HW-18	Notes — Part II	HW-19
10-28 (Th)	L-19	Superposition of waves; Review		
10-29 (F)	R-20	Quiz 4; go over HW-19		

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Date	Class	Topic	Reading	Homework
11-2 (Tu)	L-20	Light as an E&M wave	32 §6-9	HW-20
	E-2	<i>SECOND HOUR EXAM at 4:10 pm on November 2</i>		
11-3 (W)	R-21	Go over HW-20		
11-4 (Th)	L-21	More on E&M waves		HW-21
11-5 (F)	R-22	Go over exam; go over HW-21		
11-9 (Tu)	L-22	Geometric optics I	33 §1-4	HW-22
11-10 (W)	R-23	Quiz 5 ; Go over HW-22		
11-11 (Th)	L-23	Geometric optics II lenses	33 §5-8 34 §1,2	HW-23
11-12 (F)	R-24	Go over HW-23		
11-16 (Tu)	L-24	Optical instruments; start physical optics	34 §3-10	HW-24
11-17 (W)	R-25	Go over HW-24		
11-18 (Th)	L-25	Interference and diffraction	35 §1-4,6,7	HW-25
11-19 (F)	R-26	Go over HW-25		
11-23 (Tu)	L-26	Diffraction and polarization	36 read all except §2,6,9	HW-26
		<i>THANKSGIVING BREAK</i>		
11-30 (Tu)	L-27	Quantum mechanics	39 §1-3	HW-27
12-1 (W)	R-27	Quiz 6 ; go over HW-26 and HW-27		
12-2 (Th)	L-28	Catch up		HW-28
12-3 (F)	R-28	Go over HW-28		
	E-3	<i>FINAL EXAM will be scheduled by Registrar</i>		

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- Come to class
- Take notes
- Keep up with the homework

Grading Scheme

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Electroscope

