Syllabus

Physics 270 – *0301, 0304 & 0306* **Spring 2007**
Prof. H. H. Chen

Lectures: **Sections 0301** TuTh 2:00 – 3:15PMin Physics Rm 1412.
Sections 0304 TuTh 2:00 – 3:15PMin Physics Rm 1412.
Sections 0306 TuTh 2:00 – 3:15PMin Physics Rm 1412.
Recitations: Section 0301: Th 8:00 - 8:50 AM Room 2112, ENG
Section 0304: Th 11:00 - 11:50 AM, Room 4220 in Physics Building
Section 0306: W1:00 - 1:50 PM, Room 4208 in Physics Building

Office: Physics 3102A
Phone: 405-6088, hsinghenchen@yahoo.com
Office Hours: To be announced
Teaching Assistants: Li, Tak Chu

Prerequisites: Physics 260, 261, I also expect you to be proficient in differential and integral calculus as well as vector algebra.
Co-requisite: Physics 271
Textbook: Physics for Scientists and Engineers, Volume II, Sixth Edition, by Raymond Serway and Robert Beichner.

Important Dates – Spring 2007

First day of class	January 24, Wednesday
Mid term #1	February 20, Tuesday
Midterm #2	March 27, Tuesday
Midterm #3	April 24, Tuesday
Last day of this class	May 9, Wednesday
Final Exam	May 16, Wednesday, 10:30 AM – 12:30 PM

Grading

Homework	20%
Lab (271)	25%
Midterms	10% each
Final	25%

Reading Assignments: You should read the text for sections listed in the schedule before coming to the lectures and recitations. Materials in the textbook not fully covered in the class should also be read. All sections listed in the schedule may appear in the exams.

Homework Assignments: Every week a set of homework will be assigned to you. They are due a week later. No credit will be given to late homework unless for a good reason. Since doing homework is the only way to truly learn physics, I strongly urge you to take them seriously. You may form groups to discuss homework problems together. But you should not copy homework

from each other. If you do not do homework you will fail the class for certain. You should write neatly and have the physical reasoning of the problem clearly explained.

Exams: Exams are designed to test your understanding of the materials taught, discussed and assigned to you. You are supposed to memorize certain important facts, including definitions, formulas, principles, laws and theorems. The exam will be closed book. You may bring calculators but no crib sheets. No makeup exams will be given to students for any reason other then being seriously ill with a note from your physician before or immediately after the exam.

Laboratory

Physics 271(previous Physics 263A) is the laboratory part of Physics 270, and meets in room PHYS-3220. This course carries one credit and the grade is folded in with the Physics 270 course grade. You must pass Physics 271 in order to pass the entire course. If you do not pass this part of the course you will be required to repeat the entire course. The labs meet for three hours a week. You are expected to attend each class and will be allowed to make up labs only under exceptional circumstances. For more information on the laboratory portion of this course, consult the course web page, or contact Dr. Boyd. If you have already taken Physics 271(previous Physics 263A) and want that to count for this semester's course, please show the official grade to the instructor.

Course Schedule:

This course will cover Chapters 29-41 of Serway & Beichner, Volume II. The tentative schedule is the following:

Date	**Exams**	**Topics**	**Chapters from Serway**
Wk 1			
1/25		Magnetic Force	29
Wk 2			
1/30		Magnetic Fields	
		Biot Savart Law	29, 30
Wk 3			
2/6		Gauss Law	
		Ampere’s Law	30
Wk 4			
2/13		Faraday’s Law	31
Wk 5			
2/20	Exam	Midterm 1	Ch.29 - 31
2/22		Inductance	32
Wk 6			
2/27		Alternating Current	33

Wk 7			
3/6		Electromagnetic Wave	34
Wk 8			
3/13		Nature of Light	35
Wk 9			
3/20		Spring Break	
Wk 10			
3/27	Exam	Midterm 2	Ch 32 – 35
3/29		Geometric Optics	36
Wk 10			
4/3		Interference	37
Wk 11			
4/10		Diffraction & Polarization	38
Wk 12			
4/17		Relativity	39
Wk 13			
4/24	Exam	Midterm 3	Ch 36 – 39
4/26		Quantum Mechanics	40
Wk 14			
5/1		Quantum Mechanics	41
Wk 15			
5/8		Review	
5/16	Exam	Final Exam	All Chapters

Homework Assignments (Tentative)

Week number	Homework number	Homework Due Week	Problems
1		--	
2	1	2/6	Chap 29: 4, 12, 14, 23, 31, 39, 44; 48, 68
3	2	2/13	Chap 30: 3, 4, 16, 19, 30, 31, 34, 36, 40
4	3	2/20	Chap 31: 2, 4, 17, 22, 26, 32, 36, 37, 44
5	4	2/27	Chap 32: 4, 11, 14, 16, 24, 31, 36, 42, 52
6	5	3/6	Chap 33: 2, 6, 9, 16, 18, 20, 24, 30, 38
7	6	3/13	Chap 34: 3, 4, 7, 11, 13, 30, 31, 43; 58
8	7	3/20	Spring Recess
9	7	3/27	Chap 35: 2, 3, 5, 13, 16, 27, 31, 38, 39; 43
10	8	4/3	Chap 36: 2, 12, 23, 25, 33; 41, 45
11	9	4/10	Chap 37: 1, 7, 9, 14, 17, 21, 26, 31, 44
12	10	4/17	Chap 38: 1, 8, 14, 17, 23, 31, 36, 38, 52
13	11	4/24	Chap 39: 2, 3, 6, 13, 17, 26, 31, 35, 41, 49
14	12	5/1	Chap 40: 7, 9, 15, 18, 20, 31, 38, 42, 56
15	13	5/8	Chap 41: 3, 11, 14, 15, 17, 21, 26, 31

Syllabus

Physics 270- ***0401 & 0402*** **Spring 2007**
Prof. H. H. Chen

Lectures: **Sections 0401** M 7:00 – 8:50PM, W 7:00 – 7:50PM in Physics Rm 1410.
Sections 0402 M 7:00 – 8:50PM, W 7:00 – 7:50PM in Physics Rm 1410.
Recitations: Section 0401: W 8:00 - 8:50 PM, in Math B0427.
Section 0402: W6:00 - 6:50 PM, Room 4220 in Physics Building

Office: Physics 3102
Phone: 405-6088, hsinghenchen@yahoo.com
Office Hours: To be announced
Teaching Assistants: Li, Tak Chu

Prerequisites: Physics 260, 261, I also expect you to be proficient in differential and integral calculus as well as vector algebra.
Co-requisite: Physics 271
Textbook: Physics for Scientists and Engineers, Volume II, Sixth Edition, by Raymond Serway and Robert Beichner.

Important Dates – Spring 2007

First day of class	January 24, Wednesday
Mid term #1	February 19, Monday
Midterm #2	March 26, Monday
Midterm #3	April 23, Monday
Last day of this class	May 9, Wednesday
Final Exam	May 14, Monday, 7:00 – 9:00 PM, Phys 1410

Grading

Homework	20%
Lab (271)	25%
Midterms	10% each
Final	25%

Reading Assignments: You should read the text for sections listed in the schedule before coming to the lectures and recitations. Materials in the textbook not fully covered in the class should also be read. All sections listed in the schedule may appear in the exams.

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Wk 7			
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Wk 8 3/12		Nature of Light	35
Wk 9 3/19		Spring Break	
Wk 10 3/26 3/28	Exam	Midterm 2 Geometric Optics	Ch 32 – 35 36
Wk 10 4/2		Interference	37
Wk 11 4/9		Diffraction & Polarization	38
Wk 12 4/16		Relativity	39
Wk 13 4/23 4/25	Exam	Midterm 3 Quantum Mechanics	Ch 36 – 39 40
Wk 14 4/30		Quantum Mechanics	41
Wk 15 5/7		Review	
5/14	Exam	Final Exam	All Chapters

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14	12	4/30	Chap 40: 7, 9, 15, 18, 20, 31, 38, 42, 56
15	13	5/7	Chap 41: 3, 11, 14, 15, 17, 21, 26, 31