Spring 2017
PHY 132-001
Electricity, Sound and Light

Robert Friedfeld, Ph.D.
Department of Physics and Astronomy
rfriedfeld@sfasu.edu
(936) 468-2197
Office: 322I
Office Hours: By appointment.
Class lecture: MWF 8:00-8:50 am in Miller Science room 334

Electricity, Sound, and Light (PHYS 1302) - Wave motion, sound and light, basic electrical and magnetic phenomena. Computation of lecture and laboratory grades into one grade; same grade recorded for both lecture and laboratory.
Prerequisite: PHY 131. Co-requisite: PHY 132L.

Text and Materials:

College Physics 10th edition, Hugh D. Young, Philip W. Adams, Raymond J. Chastain
Supplement: Schaum's Outline College Physics
PHY 132 Lab Manual (produced by the Department of Physics and Astronomy and sold only in local bookstores).

Course Requirements:
Homework, 3 exams and a comprehensive final exam.
The co-requisite, PHY132L, has daily labs and a final exam

Course Calendar:

Exam I	Chapters 30*, 11*, 12
Exam II	Chapters 17, 18, 19
Exam III	Chapters 20, 21, 22, 23
Final Exam	Comprehensive Final Exam with focus on Chapters 24, 25, 26

Grading Policy:

The laboratory and lecture grades will be combined to form a single grade for both PHY131 and PHY132L as follows:

(90-100) % A (80-89) % B (70-79) % C (60-69) % D (< 60) % F

Lab Portion 25 %
Exam I 15 %
Exam II 15 %
Exam III 15 %
Final Exam 15 %
Homework 15 %

TENTATIVE SCHEDULE

JANUARY 2017

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16 **MLK**	17	18 Ch 30*	19	20 Ch 30*	21
22	23 Ch 11*	24	25 Ch 11*	26	27 Ch 12	28
29	30 Ch 12	31				

FEBRUARY 2017

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1 Ch 12	2	**3** **Exam I**	4
5	6 Ch 17	7	8 Ch 17	9	10 Ch 17	11
12	13 Ch 18	14	15 Ch 18	16	17 Ch 18	18
19	20 Ch 19	21	22 Ch 19	23	24 Ch 19	25
26	27 Ch 19	28				
31						

MARCH 2017

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1 **Exam II**	2	3 Ch 20	4
5	6 Ch 20	7	8 Ch 20	9	10 Ch 20	**11**
12 Spring	**13** Break	**14** Spring	**15** Break	**16**	**17** Spring	**18** Break
19	20 Ch 21	21	22 Ch 21	23	24 Ch 21	25
26	27 Ch 21	28	29 Ch 22	30	31 Ch 22	

APRIL 2017

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1
2	3 Ch 22	4	5 Ch 23	6	7 Ch 23	8
9	10 Ch 23	11	12 Ch 23	**13** **Easter Break**	**14** **Easter Break**	**15**
16 **Easter**	17 Ch 24	18	**19** **Exam III**	20	21 Ch 24	22
23	24 Ch 24	25	26 Ch 25	27	28 Ch 25	29
30						

MAY 2017

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1 Ch 25	2	3 Ch 26	4	5 Ch 26	6
7	**8** **Final Exam Week**	**9** **Final Exam Week**	**10** **Final Exam Week**	**11** **Final Exam Week**	**12** **Final Exam Week**	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			30
31						

Chapters To Be Covered

* Partial Coverage of Chapter

Ch 30*: Nuclear and High Energy Physics (30.3, 30.4) Ch 11*: Elasticity and Periodic Motion (11.2 – 11.6) Ch 12: Mechanical Waves and Sound	**Exam I**
Ch 17: Electric charge and Electric Field Ch 18: Electric Potential and Capacitance Ch 19: Currents, Resistance and Direct Current Circuits	**Exam II**
Ch 20: Magnetic Field and Magnetic Force Ch 21: Electromagnetic Induction Ch 22: Alternating Current Ch 23: Electromagnetic Waves	**Exam III**
Ch 24: Geometric Optics Ch 25: Optical Instrument Ch 26: Interference and Diffraction + Review Questions/Problems	**Comprehensive Final Exam**

Homework Problems:

Ch 30*: Problems: 15, 23, 31
Ch 11*: Problems: 21, 31, 33, 39, 45, 51, 55
Ch 12: Problems: 1, 3, 7, 9, 19, 27, 31, 33, 39, 45, 53, 57, 63,67
Ch 17: Multiple Choice: odd
Problems: 1, 7, 17, 23, 25, 33, 35, 39, 47, 49, 55, 57, 61, 69
Ch 18: Multiple Choice: odd
Problems 3, 7, 9, 11, 13, 17, 23, 29, 41, 47, 55, 59, 65,69
Ch 19: Multiple Choice: odd
Problems: 1, 3, 11, 17, 19, 25, 29, 33, 35, 40, 47, 51, 55, 57, 63, 65, 73, 83
Ch 20: Multiple Choice: odd
Problems: 1, 3, 9, 13, 17, 23, 27, 31, 33, 35, 39, 41, 49, 51, 55, 61, 69, 71, 75, 77
Ch 21: Multiple Choice: odd
Problems: 1, 5, 9, 13, 17, 21, 25, 29, 33, 37, 41, 47, 51, 53, 55
Ch 22: Multiple Choice: odd
Problems: 1, 7, 15, 25, 27, 33, 37
Ch 23: Multiple Choice: odd
Problems: 7, 11, 21, 25, 31, 35, 39, 43, 47, 51, 53, 61, 65, 71, 73
Ch 24: Multiple Choice: odd
Problems: 1, 5, 9, 13, 17, 23, 31, 35, 39, 49, 53, 55
Ch 25: Multiple Choice: odd
Problems: 1, 11, 15, 21, 23, 27, 31, 35, 41, 47
Ch 26: Multiple Choice: odd
Problems: 1, 3, 7, 15, 27, 37, 45, 51, 53

This course has been selected to be part of Stephen F. Austin State University's core curriculum. The Texas Higher Education Coordinating Board has identified six objectives for all core courses:

1) Critical Thinking Skills
2) Communication Skills,
3) Empirical and Quantitative Skills,
4) Teamwork,
5) Personal Responsibility, and
6) Social Responsibility.

SFA is committed to the improvement of its general education core curriculum by regular assessment of student performance on these six objectives.
Assessment of these objectives at SFA will be based on student work from all core curriculum courses. This student work will be collected in D2L through LiveText, the assessment management system selected by SFA to collect student work for core assessment. LiveText accounts will be provided to all students enrolled in core courses through the university technology fee. You will be required to register your LiveText account, and you will be notified how to register your account through your SFA e-mail account. If you forward your SFA e-mail to another account and do not receive an e-mail concerning LiveText registration, please be sure to check your junk mail folder and your spam filter for these e-mails.
If you have questions about LiveText call Ext. 1267 or e-mail SFALiveText@sfasu.edu.

The chart below indicates the core objectives addressed by this course, the assignment(s) that will be used to assess the objectives in this course and uploaded to LiveText this semester, and the date the assignment(s) should be uploaded to LiveText. Not every assignment will be collected for assessment every semester. Your instructor will notify you which assignment(s) must be submitted for assessment in LiveText this semester.

Core Objective	Definition	Course Assignment Title	Date Due in LiveText
Empirical and Quantitative Skills (**CO 3**)	To include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions.	Measurements Lab (Lab 2)	Feb. 20

Attendance Policy:
If you are going to miss class for a university excused absence you should notify the instructor in advance. It is your responsibility to make arrangements to make up any missed work. If you are sick it is your responsibility to abide by university guidelines in dealing with your absence.

Program Learning Outcomes:
There are no specific program learning outcomes for the physics program addressed in this course.

General Education Core Curriculum Objectives (EEOs):
1. To understand and apply method and appropriate technology to the study of physical science
2. To recognize scientific and quantitative methods and the differences between these approaches and other methods of inquiry, and to communicate findings, analyses, and interpretation both orally and in writing
3. To identify and recognize the differences among competing scientific theories
4. To demonstrate knowledge of the major issues and problems facing modern science, including issues that touch upon ethics, values, and public policies
5. To demonstrate knowledge of the interdependence of science and technology and their influence on, and contribution to, modern culture

Student Learning Objectives:
By the end of the course, successful students will be able to:
Solve problems using principles derived from Maxwell's Equations
Analyze DC and AC circuits
Demonstrate an understanding of fundamental wave motion as applied to mechanical and electrical waves
Solve problems involving geometrical and physical optics

Academic Integrity (*A-9.1*):
Academic integrity is a responsibility of all university faculty and students. Faculty members promote academic integrity in multiple ways including instruction on the components of academic honesty, as well as abiding by university policy on penalties for cheating and plagiarism.

Definition of Academic Dishonesty:
Academic dishonesty includes both cheating and plagiarism. Cheating includes but is not limited to (1) using or attempting to use unauthorized materials to aid in achieving a better grade on a component of a class; (2) the falsification or invention of any information, including citations, on an assigned exercise; and/or (3) helping or attempting to help another in an act of cheating or plagiarism. Plagiarism is presenting the words or ideas of another person as if they were your own. Examples of plagiarism are (1) submitting an assignment as if it were one's own work when, in fact, it is at least partly the work of another; (2) submitting a work that has been purchased or otherwise obtained from an Internet source or another source; and (3) incorporating the words or ideas of an author into one's paper without giving the author due credit.
Please read the complete policy at http://www.sfasu.edu/policies/academic_integrity.asp 3

Withheld Grades *Semester Grades Policy (A-54):*

Ordinarily, at the discretion of the instructor of record and with the approval of the academic chair/director, a grade of WH will be assigned only if the student cannot complete the course work because of unavoidable circumstances. Students must complete the work within one calendar year from the end of the semester in which they receive a WH, or the grade automatically becomes an F. If students register for the same course in future terms the WH will automatically become an F and will be counted as a repeated course for the purpose of computing the grade point average.

Students with Disabilities:

To obtain disability related accommodations, alternate formats and/or auxiliary aids, students with disabilities must contact the Office of Disability Services (ODS), Human Services Building, and Room 325, 468-3004 / 468-1004 (TDD) as early as possible in the semester. Once verified, ODS will notify the course instructor and outline the accommodation and/or auxiliary aids to be provided. Failure to request services in a timely manner may delay your accommodations. For additional information, go to http://www.sfasu.edu/disabilityservices/.