

PHYS 202 College Physics Spring 2019 TR 11:10

Course Description: Fundamentals of electricity, magnetism, optics and modern physics.

Prerequisites: High school algebra and trigonometry or the equivalent. PHYS 201.

Learning Outcomes: Upon completion of PHYS 202 a student will understand the basic laws and concepts of physics in the following areas and will be able to apply them in problems relating to physical situations: electricity, magnetism, optics and modern physics .

Instructor: Lewis Ford **Web page:** faculty.physics.tamu.edu/ford **email :** ford@physics.tamu.edu

Office: MPHY 315 **Office Hours:** M noon - 1 p.m., T 2 - 3 p.m., W 1-2 p.m. **Phone:** 458-7908

Text: Physics 10th ed Volume 2 by Young, Adams and Chastain and with Modified Mastering Physics

The mid-term exams are at 7:00 pm, room to be announced, on the following Thursdays:

Feb. 7 (Chs 17-19), Feb 28 (Chs 20-22), April 4 (Chs 23-26), and April 25 (Chs 28-30)

Access Mastering Physics in eCampus

There are tutorial problems and prelecture videos assigned in Mastering Physics (for grade) in addition to the problems from the textbook that are listed on the syllabus.

Grading: 4 exams 60%; Final (comprehensive) 20%; Lab7%; Recitation 5%; Homework (Mastering Phys) 8%
Scale: 90-100 A, 80-89 B, 60-79 C, 45-59 D, <45 F. Grades may be curved upward. Follow university policy on making up missed work.

You must achieve 70% or better in the laboratory in order to pass the course.

If your grade on the Final Exam is higher than your lowest grade on one of the four exams during the semester, that lowest grade will be replaced by its average with the Final in computing the course grade.

April 16 is the last day to Q-drop. Final Exam is Thursday, May 2, 3:00 - 5:00 p.m.

Syllabus: (MC denotes multiple-choice problems)

Wk	Date	Topic	Sections in Text	Homework problems
1	Jan 15	electric force and field	17: 1--5	MC17: 3,5,6,7,11;
	Jan 17	electric field; Gauss's law	17: 6--9	17: 10,12,14,19,21,32,33,34,40,41 17: 42,54,56,57,62,63,69,70
2	Jan 22	potential; capacitors	18: 1--4	MC18: 2,3,9,11; 18: 1,4,10,13,15,18
	Jan 24	networks; dielectrics	18: 5--7	18: 19,21,30,36,41,45,46, 18: 53,55,56,60,61,63,68,71,72
3	Jan 29	dc circuits	19: 1--4	MC19: 2,4,7,10,11,12; 19: 5,17,27,28
	Jan 31	Resistor networks	19: 5	19: 29,31,38,44,45,46,47,65,68,76
4	Feb 5	multiloop, RC circuits	19: 6, 8	19: 50,52,53,59,60,79,80,82
	Feb 7	Review for Exam 1		
5	Feb 12	magnetic force and torque	20: 1--6	MC20: 1,3,5,6,7,8,9; 20: 4,8,10,14,18
	Feb 14	fields of wires	20: 7--10	20: 23,28,30,33,48,49,51,57,62,73,74,78

6	Feb 19	induced emf	21: 1--6	MC21: 2,5,8,11,12
	Feb 21	inductance; RL and LC	21: 7--12	21: 2,4,7,10,12,13,15,16,20,24,27,28
				21: 31,35,42,43,47,52,53,54,59
7	Feb 26	ac circuits	22: 1--5	MC22: 4,5,6,12; 22: 11,14,16,18
				22: 24,25,26,28,36,37,38
	Feb 28	Review for Exam 2		
8	Mar 5	em waves	23: 1--10	MC23: 2,3,6,9,10; 23: 13,14,16,20,21
	Mar 7	images	24: 1--4	23: 39,44,52,54,61,67,68,71,76
				MC24: 6,12; 24: 8,11,14,15,17,55
		Spring Break		
9	Mar 19	thin lenses	24: 5--6	MC24: 2,3; 24: 20,21,25,26,27
	Mar 21	optical instruments	25: 1--5	24: 30,37,41,43,47,48
				MC25: 7,8; 25: 9,15,17,25,29,35
10	Mar 26	interference	26: 1--2	MC26: 2,5,8,9,11
	Mar 28	thin films	26: 3	26: 3,7,9,19,22,49,51,55
11	Apr 2	diffraction	26: 4--8	MC26: 4,7,12 26: 26,28,33,40,41,43
	Apr 4	Review for Exam 3		
12	Apr 9	photoelectric effect; Bohr	28: 1--4	MC28: 1,7,10
	Apr 11	Compton; de Broglie	28: 5--8	28: 6,9,11,17,23,24,26,33,35,38,40,42,46
13	Apr 16	atoms; nuclei	29: 1--2; 30: 1--2	MC29: 1,9,10; 29: 2,8,14,37
	Apr 18	radioactivity	30: 3	MC30: 3,4,11; 30:4,8,10,12,18,20,60
14	Apr 23	nuclear reactions	30: 5--7	30: 34,38
	Apr 25	review for Exam 4		

Americans with Disabilities Act (ADA) Policy Statement: The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. **If you believe you have a disability requiring an accommodation, please contact Disability Services, currently located in the Disability Services building at the Student Services at White Creek complex on west campus or call 979-845-1637. For additional information, visit <http://disability.tamu.edu>.**

Academic Integrity Statement: "An Aggie does not lie, cheat, or steal or tolerate those who do." The Honor Council Rules and Procedures may be found on the web at <http://www.tamu.edu/aggiehonor>.