

PHYS 201 College Physics Fall 2018 MWF 10:20

Course Description: Fundamentals of classical mechanics, heat and sound.

Prerequisites: High school algebra and trigonometry or the equivalent.

Learning Outcomes: Upon completion of PHYS 201 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: mechanics, mechanical waves, and thermodynamics.

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

Office: MPHY 315 **Office Hours:** M 2-3 p.m., T 10- 11, W 1-2 p.m. **Office phone:** 324-2971

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

**The mid-term exams are at 7:00 pm, room to be announced, on the following Thursdays:
September 20 (Chs 1-5), October 11 (Chs 6-8), November 1 (Chs 9-11), and November 29 (Chs 12-16)**

Access Mastering Physics in eCampus

There are prelecture videos and tutorial problems 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%; Lab 7%; 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.

Aug 31 is last day for no record drop. Nov. 16 is the last day to Q-drop.

Final Exam is Tuesday, December 11, 8-10 am

Syllabus: (MC denotes multiple-choice problems)

Wk	Date	Topic	Sect. in Text	Homework problems
1	Aug. 27	Units; Vectors	1: 1-6	1: MC5,6,10
	Aug. 29	Vector Addition; Components	1: 7-8	1: P7,41,42,43,54
	Aug. 31	Velocity; Acceleration	2: 1-3	2: MC3,11; P3,11,19
2	Sept. 3	Constant Acceleration	2: 4-6	2: MC4,9; P33,38,43,47,49,54,62,72
	Sept. 5	Projectiles	3: 1-3	
	Sept. 7	Circular Motion; Rel. Velocity	3: 4-5; 2: 7	3: MC1,7,11; P11,20,36,37,40,48,51
3	Sept. 10	Newton's laws	4: 1-5	4: MC9,13; P11,32,38,44,48
	Sept. 12	Free-Body Diagrams	4: 6	
	Sept. 14	$F = ma$ Examples	5: 1-2	5: MC4,6; P6,11,20,24
4	Sept. 17	Friction; Springs	5: 3-5	5: MC9; P31,38,39,40,54,59,66
	Sept. 19	Examples; Review		
	Sept. 21	Discussion of Exam 1		
5	Sept. 24	Circular Motion	6: 1-2	6: MC2,12; P5,10,14,33,38,51,52
	Sept. 26	Gravity; Satellite Motion	6: 3-5	
	Sept. 28	Work; Energy	7: 1-4	7: MC5; P5,6,14,16,19,20

6	Oct. 1	Conservation of Energy	7: 5-6	7: MC3,10; P26,27
	Oct. 3	Nonconservative Forces; Power	7: 7-8	7: P46,51,59,70,73,75,80,86
	Oct. 5	Momentum; Collisions	8: 1-4	8: MC1,5; P11,13,16,18,27,28
7	Oct. 8	Impulse; Center of Mass	8: 5-7	8: 39,57,71
	Oct. 10	Review		
	Oct. 12	Discussion of Exam 2		
8	Oct. 15	Rotational Kinematics	9: 1-3	9: MC4,10,12; P18,24
	Oct. 17	Moments; Moving Axis	9: 4-5	9: P31,40,44,47,49
	Oct. 19	Torque; Rotational Dynamics	10: 1-2	10: P3,9,11
9	Oct. 22	Work; Angular Momentum	10: 3-5	10: MC6,7; P27,30,33
	Oct. 24	Rotational Statics	10: 6	10: P42,47,55,58,62,65
	Oct. 26	SHM	11: 1-3	11: P1,24,29,30
10	Oct. 29	SHM; Pendulums	11: 4-5	11: MC1,2; P42,58,60
	Oct. 31	Examples; Review		
	Nov. 2	Discussion of Exam 3		
11	Nov. 5	Waves	12: 1--4	12: MC3,4,5,7,9; P4,7,12,18
	Nov. 7	Standing Waves	12: 5--7	12: P19,24,30,32,39,40,47,50
	Nov. 9	Interference; Sound	12: 8--12	
12	Nov. 12	Expansion; Heat	14: 1--6	14: MC4,5,11; P15,27,32,44,56,62,77
	Nov. 14	Heat Transfer; Ideal Gas	14: 7; 15: 1--2	15: MC4,6,8,12; P7,12,22
	Nov. 16	Kinetic Theory; 1 st Law	15: 3--7	15: 37,42,49,52,53,61,70
13	Nov. 19	Heat Engines; 2 nd law; Entropy	16: 1-8	16: MC2,8,9,12
	Nov. 21	No Class		16: P7,13,15,20,23,26
	Nov. 23	Thanksgiving Holiday		
14	Nov. 26	Fluid Statics	13: 1-3	13: MC1,2; P2,19,32,35,57
	Nov. 28	Examples; Review		
	Nov. 30	Discussion of Exam 4		
15	Dec. 3	Review		
	Dec. 5	Review		

Attendance Policy: Lecture attendance is not required. Attendance at exams and weekly attendance at recitation and lab is required. Make-up opportunity or excuse from graded activity is provided if the absence is university approved (student.rules.tamu.edu/rule07) or at the discretion of the instructor with proper documentation.

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: The Aggie Honor Code is "An Aggie does not lie, cheat, or steal or tolerate those who do." For more information, refer to the Honor Council Rules and Procedures on the web at <http://aggiehonor.tamu.edu>