

SYLLABUS

PHS 1420

COLLEGE PHYSICS I

4 HOURS

Semester: Fall 2009

INSTRUCTOR: Dr. George Saum
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 Office Hours:: 12:00 MTWF 10:00 R

SCIENCE DEPT CHAIR: Mr. Scheidt AS 212B 573-518-2314

An introduction to the nature of physical science in which the areas of physics of mechanics (motion , equilibrium, energy, gravity), fluids, waves (acoustics, sound,), and thermodynamics (heat and temperature) are studied.

Course Schedule:

Lecture	M W F	2:00 – 2:50
Lab	W	3:00 - 4:50

Reference Materials:

Text: Physics
 By D. C. Giancoli, 6th edition, 2005 Prentice Hall
 ISBN 0 – 13- 060620 - 0

Lab: Handouts provided in class

Other Materials: Scientific Calculator (TI 30 Xa or Casio fx 260 solar will be fine)

A 3-ring notebook for homework problems

Course Content:

Week	Chapter	Content
1	1,2	Introduction to motion, Kinematics in 1 Dimension
2	3	Kinematics in 2-Dimensions, Vectors
3	3	Kinematics in 2-Dimensions, Vectors
4	4	Motion and Force: Dynamics
5	5	Circular Motion, Gravity
6	6	Work and Energy
7	7	Linear Momentum
8	8	Rotational Motion
9	9	Equilibrium
10	10	Fluids
11	10	Fluids
12	11	Vibration and Waves
13	12	Sound
14	13	Temperature and Kinetic Theory
15	14	Heat
16	15	Thermodynamics

Evaluation:

Homework	10 %
Lab	20 %
Tests	70%

Attendance:

Disciplined attendance is strongly encouraged.
School policy requires dropping students with excessive absences.
Poor attendance will severely impact your classroom performance.

American Disabilities Act

If you have special needs as addresses by the American Disabilities Act and you need any test or course materials provided in alternative format, notify your instructor immediately.
Reasonable efforts will be made to accommodate your special needs.

MAC's Policy for Disciplinary Action

"...College discipline shall be exercised when student misconduct adversely affects the college's pursuit of its educational objectives. Misconduct for which students are subject is defined as follows: Dishonesty, such as cheating, plagiarism, or knowingly furnishing false information to the college" (Mineral Area College Board Policy Manual, section 5.72, IA., p. 99).

SCHEDULE FOR: PHS142 A FALL 2009

WK	DAY	CHAPTER	SECTION	PROBLEMS		
1	Aug – 17	INTRO	1-1 to 1-8	1 - 3,9,12,13,16,20		
	19	Kinematics	2-1,2,3,4	2 - 3,7,11,13,16	$a=4.25 \text{ m/s}^2$	
	21		2- 5,6	2- 21,23,25		
2	24		2-7	2 - 33,35,37		
	26	Kinematics	3-1,2,3,4	3 - 1,7,9,11		
	28		3 – 5,6	3 - 17,21,23,27,31		
3	31		Review Ch 1,2,3			
	Sept 2	TEST Ch 1,2,3				
	4	Dynamics	4-1,2,3,4,5,6	4 - 1,3,5,9,13,18	$v=8.74 \text{ m/s}$	$F = -2293 \text{ N}$
4	Sept- 7	LABOR DAY				
	9	Dynamics	4-7	4 - 23,25,31,34	$v = 2.56 \text{ m/s}$	$h=.333+3.6 \text{ m}$
	11		4-8	4 – 39,45,47,49		
5	14	Circ. Motion	5-1,2,3,6	5 - 1,5,7,9,13,30,37	$"g"=1.62\text{m/s}^2$	
	16	Circ. Motion	5-1,2,3,6			
	18	Work/Energy	6 -1,3,4,5	6 - 1,3,19,23,31		
6	21	Work/Energy	6 -1,3,4,5	6 - 1,3,19,23,31		
	23	Work/Energy	6 - 6,9,10	6 - 35,43,49,63,69		
	25	Momentum	7 -1,2,3	7 - 1,5,9		
7	28		Review Ch 4-5-6			
	30	TEST CH 4,5,6				
	OCT 2		7 – 4,5,6,8	7 - 15,17, 33,47		
8	5	Rotation	8 - 1,2,	8 - 5,15,21		
	7		8 - 3,4	8 - 29,31		
	9		8-5,6,7,8	8 - 35,50	$v=8.22 \text{ m/s}$	
9	12	Equilibrium	9-1,2,3	9 - 13,19,23,27		
	14		9-4,6,7	9 - 39,41,43		
	16		9-4,6,7			
10	19	Review	CH 7,8,9			
	21	TEST CH 7,8,9				
	23	Fluids	10-1,2,3,4,5	10- 7,9,16,20	.34 kg	$1.6 \times 10^4 \text{ N}$
11	26		10-6,7,8,9	10- 22,23,27, 35,38,43	2999kg/m ³	9.5m/s
	28	Vibrations	11-1,2,3,4	11- 3,9,29		
	30		11-6,7,8,12	11- 41,44,57	$1.9 \times 10^7 \text{ km}$	
12	NOV 2	Sound	12-1,2,5,8	12- 3,6,9,16	430 m	990W,280m
	4		12-1,2,5,8	12 - 25,27,51		
	6	BREAK				
13	9	Temp.	13-1,2,4,5	13- 3,7,9,15		
	11	Review	Ch 10,11,12			
	13	TEST Ch 10,11,12				
14	16		13-6,7,8,9	13- 29,31,33,35		
	18		13-10,11	13 – 47,55		
	20	Heat	14-1,2,3,4,5	14- 1,5,9,15		
15	23		14-6,7,9	14- 21,31,33,40,45	$1.7 \times 10^{17} \text{ W}$	278K
	25	Thermo	15- 1,2,3	15- 1,2,7,9		
	27	THANKSGIVING				
16	30		15-4,5	15-17,19,23,		
	DEC 2		15-7,12	15 - 35,37,48,50		
	4		Review Ch 13,14,15			
	DEC 9	2:00 PM TEST Ch 13,14,15				

SCHEDULE OF LAB EXPERIMENTS

Aug 19	Measurements
Aug 26	Pendulum / Scientific Method
Sept 2	Measurement of "g"
Sept 9	Vectors
Sept 16	Friction
Sept 23	Centripetal Force
Sept 30	Conservation of Momentum
Oct 7	Work / Energy
Oct 14	Equilibrium
Oct 21	Moment of Inertia
Oct 28	Archimedes' Principle
Nov 4	Velocity in String
Nov 11	Velocity of Sound
Nov 18	Coefficient of Expansion
Nov 25	Specific Heat
Dec 2	Latent Heat, Absolute Zero