

SYLLABUS

PHS 1130

PHYSICAL SCIENCE
SPRING 2012

5 HOURS

Instructor: Dr. George Saum
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PHYSICS LAB AS 112
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Office Hours: 12:00 MTWR 10:00 F

Science Department Chair: Dr. Gamble
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Course Description

An introductory survey course for non-science majors. It is designed with elementary education majors in mind. The major emphases are physics and chemistry. Topics covered include the scientific method, motion, energy, matter, heat, electricity and magnetism, waves, the nucleus, the atom, the periodic table, crystals, ions, solutions, chemical reactions, and organic chemistry.

Prerequisite: Elementary Algebra MAT 095, or ASSET > 41
or Consent of Instructor

Required Materials:

Text: Krauskopf and Beiser; The Physical Universe, 14 th Edition, McGraw Hill, New York, 2010.
ISBN 978-0-07-351216-7

Lab Manual: Laboratory instructions, data sheets, and worksheets provided in class

Scientific Calculator TI 30 Xa or Casio fx 260

Safety Goggles, with shatterproof lenses and chemical splash guards. MAC Bookstore has these.

Class Time:

Lecture	:	MTWF	2:00 to 2:50
Lab		T	3:00 to 4:50

Evaluation Procedure:

A 90-100

B 80-89

C 70-79

D 60-69

F

Hourly Exams and Worksheets	70 %
(Class worksheets count as one hourly test)	
Laboratory	20%
Homework	10%

Attendance Policy

The school policies require that a student to be dropped if combined absences in lecture and lab exceed 4 absences. Disciplined attendance is necessary to achieve a good grade.

American Disabilities Act:

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

Honors: Honors option not offered

PHS 1130 SCHEDULE SPRING 2012

WEEK	DATE	CHAPTER	SUBJECT	PGS	LAB EXPERIMENT
1	JAN 11-13	1	The Scientific Method	1-31	Data/Graphs
	JAN 16	MLK DAY			
2	JAN 17-23	2	Motion	32-69	Pendulum
3	JAN 24-27	3	Energy	71-93	Work/Power
	JAN 27	TEST CH 1/2			
4	JAN 30-FEB 3	3/5		93-102/153-173	Archimedes
	FEB 1	WYSE	(No Physics Class)		
5	FEB 6-10	5	Matter and Heat	153-198	Equilibrium
6	FEB 13-17	6	Electricity and Magnetism	200-277	Ohm's Law
	FEB 17	TEST CH 3/5			
	FEB 20	PRESIDENT'S DAY			
7	FEB 21-24	6/7		227-260	Transformers
8	FEB 27-MAR2	7	Waves	260-288	Velocity of Sound
9	MAR 5-9	8	The Nucleus	288-310	Index of Refraction
	MAR 9	TEST CH 6/7			
	MAR 12-16	SPRING BREAK			
10	MAR 19-23	8/9	The Atom	310-340	Nuclear Radiation
11	MAR 26-30	9	The Atom	340-360	Physical/Chemical Changes
12	APR 2-4	10	The Periodic Law	360-284	Unknowns
	APR 4 APR 6	TEST CH 8/9			
13	APR 9-13	10/11		384-416	pH
14	APR 16-19	11	Crystals, Ions, Solutions	416-448	Salts
	APR 19	NO CLASSES			
15	APR 23-27	12	Chemical Reactions	448-466	Displacement Reactions
	APR 27	TEST CH 10/11			
16	APR 30-May 4	13	Organic Chemistry	466-498	Organic Molecules
	MAY 14	2:00 – 3:40	TEST CH 12/13		

EXERCISE NUMBER:

Chapter 1	Scientific Method	26,28,29,31
Chapter 2	Motion	1,5,9,15,31,47,57,73,75
Chapter 3	Energy	5,11,13,19,23,33,39,51
Chapter 5	Matter and Energy	5,13,15,23,,51,55,,95
Chapter 6	Electricity and Magnetism	13,17,29,31,39,41,43
Chapter 7	Waves	5,6,13,15,28,29,71
Chapter 8	The Nucleus	5,15,17,19,27
Chapter 9	The Atom	13,15,19,21,29,33
Chapter 10	The Periodic Law	31,47,49,51,61
Chapter 11	Crystals, Ions, and Solutions	29,45,47,49
Chapter 12	Chemical Reactions	19,23,46,50
Chapter13	Organic Chemistry	16,17,37,39,41