

DEPARTMENT OF PHYSICS
PHYX 1200
PHYSICS by HANDS-ON EXPLORATION
FALL 2016

Course Information

Textbook:	Class Notes available in bookstore - Required
Instructor	Tonya Triplett, SER 234, 797-8308, tonya.triplett@usu.edu
Classroom	ESLC 130
Time	10:30-11:45 Tuesday and Thursday Lab as registered
Office hours	T/H 1:30-3:30 and by appointment
Website	Use USU's Canvas program

Course Goal

The goal of this course is to acquaint you with some of the "big ideas" in physics, to let you see those ideas in action in your own experimentation, and to convince you that physics can (at least some of the time) be fun. The course will also attempt to acquaint you with some of the major players in science, the people who came up with the big ideas, how they did it, and how and on what scientists are working today.

Tests

This course will have four exams over four general areas. These tests will be given in class as listed on the calendar. Each one is equally weighted such that tests will comprise 60% of the total points in the course. Tests will be in written format, will cover concepts, labs, and problem solving. The last test will be given as the scheduled final and will NOT be comprehensive.

Homework

Homework will be assigned approximately weekly. Each homework assignment will be graded out of 20 points. Homework will be worth 20% of the total score. 13 assignments will be given; you may drop your three lowest scores. Assignments are listed on the calendar. The answers to homework will be posted on Canvas, so late homework will not be accepted.

Labs

Labs are your chance to "try it out". They will be held in SER 110 during your scheduled lab time. A total of 9 labs will be held during the semester and you will drop your lowest score. You will receive credit for attendance and for an exit quiz. All labs will be graded out of 25 points. If you miss your lab section, you may be able to attend another section during that week. Lab points will comprise 20% of the total score.

Journal

At the beginning of each class there will be a thought question about the previous or current day's material. Students will answer these questions in a journal format. This completed journal may be turned in at the end of the course for up to 2.5% of extra credit. (These points will be recorded as test points meaning each day of journal is one test point.)

Composition of Final Grade

Chapter Tests	60%	
Homework	20%	
Labs	20%	
Question Journal	0%	up to 2.5 %
Total	100%	up to 102.5%

The assignment of letter grades will be as shown in the table below:

Letter grade	A	A-	B+	B	B-	C+	C	C-	D+	D
Percent Score	94.0	90.0	87.0	84.0	80.0	77.0	74.0	70.0	67.0	60.0

The scores represent the lower bound for the adjacent letter grades. Marks of 59.9% and below will be graded F.

Undergraduate Teaching Fellow (UTF)

This class is scheduled to have a UTF to assist individuals or groups. More information about times and contact will be given soon. Another UTF will assist with materials, grading and classroom projects.

Lab Fee

A lab fee has been assessed for this course to pay for lab materials and upkeep. It should have been paid at registration.

Materials for Persons with Disabilities

Students with ADA-Documented physical, sensory, emotional or medical impairments may be eligible for reasonable accommodations. Veterans may also be eligible for services. All accommodations are coordinated through the Disability Resource Center (DRC) in Room 101 of the University Inn. (435)797-2444 voice, (435)797-0740 TTY, (435)797-2444 VP, or toll free at 1-800-259-2966. Please contact the DRC as early in the semester as possible. Alternate format materials (Braille, large print or digital) are available with advance notice.

Honor Code

The honor code will be strictly enforced in this course. Any suspected violations of the honor code will be promptly reported to the honor system. For more information please visit:

<http://www.usu.edu/policies/PDF/Acad-Integrity.pdf>

Course Calendar

All calendar dates are tentative and may be changed to meet course objectives.

Date	Course Material	Homework Due	Assigned Numbers
Aug 28-Sep 2	No lab this week		
Aug 29	Chapter 1, course information		
Sept 1	2-1 through 2-9		
Sep 5-9	Lab 1	Race Tracks* Monday lab meets the following week	
6	2-10 through 2-16		
8	3-1 through 3-5	Homework #1	Chapter 2: 1,2,3,5,7
Sep 12-16	Lab 2	Force Carts* Monday lab meets the following week	
13	3-6 through 3-9		
15	4-1 through 4-6	Homework #2	Chapter 3: 2,4,5,6,7
Sep 19-23	No Lab	Exam Week	
20	4-6 through 4-11		
22	Exam 1	Homework #3	Chapter 4: 2,5,7,10
Sep 26-30	No Lab		
27	5-1 through 5-5 Gravity		
29	5-5 through 6-2 Energy	Homework #4	Chapter 5: 1,2,3
Oct 3-7	Lab 3	Roller Coasters	
4	6-3 through 6-7 Energy Conservation		
6	6-8 through 6-9 Machines, Power	Homework #5	Chapter 6: 1,3,10,13
Oct 10-14	Lab 4	Heat and Machines	
11	6-9 through 6-11 Heat	Homework #6	Chapter 6: 14,15,16 (all parts)
13	6-12 through 6-14 Momentum, Entropy		
Oct 17-21	No Lab	Exam Week	
18	Exam 2	Homework #7	Chapter 6: 5,8,9,11
20	FALL BREAK- No Class		
Oct 24-28	Lab 5	Sew Electric	
25	7-1 through 7-4 Charge		
27	7-5 through 7-9 Voltage		
Oct 31-Nov 4	Lab 6	Electricity	
Nov 1	7-10 through 7-14 Ohm's Law	Homework #8	Chapter 7:1,2,3,4
3	7-15 through 7-18 Series/Parallel Circuits		
Nov 7-11	No Lab	Exam Week	
8	7-18 through 7-25 Power and Magnetism	Homework #9	Chapter 7: 5,6,7,8,9,10
10	Exam 3	Homework #10	Chapter 7: 11,12,13,14,15,16
Nov 14-18	Lab 7	Waves and Music	
15	8-1 through 8-7 Waves		
17	8-8 through 8-11 resonance	Homework #11	Chapter 8: 1,2,3
Nov 21-25	No Lab		
22	8-12 through 8-14 Light		
24	Thanksgiving- No Class		
Nov 28-Dec 2	Lab 8	Light	

29	8-14 through 8-16 Optics	Homework #12	Chapter 8: 4,5,6,7
Dec 1	9-1 through 9-5 Radiation		
Dec 5-9	Lab 9	Do not go to lab sessions	Radioactivity
6	(Lab 9 in class this day)		Journal Due Today
8	Health Effects of Radiation	Homework #13	Chapter 9: 1,2,3,4
Dec 12-16	Finals Week		
Tue Dec 13	Final Exam	11:30-1:20 in our regular classroom	