

**DEPARTMENT OF PHYSICS
PHYS 1200
PHYSICS by EXPLORATION**

SPRING 2017

Course Information

Textbook:	Class Notes available in bookstore - Required
Instructor	Tonya Triplett, SER 234, 797-8308, tonya.triplett@usu.edu
Classroom	ESLC 130
Time	1:30-2:45 Tuesday and Thursday Lab as registered
Office hours	T/H 10:00-11:30 or by appointment
Website	Canvas

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 will be graded out of 100 points and tests will comprise 60% of the grade for 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 grade. 13 assignments will be given and you will drop your two 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 keep scores for 8 of them (drop one score). You will receive credit for attendance and for an exit quiz. A total of 25 points per lab is available. If you miss your lab section, you may be able to attend another section during that week. Lab will comprise 20% of the grade.

Journal

At the beginning of each class there will be a thought question about the previous or current day's material or other related topic. Students will answer these questions in a journal format. This completed journal may be turned in at the end of the course for extra credit and is intended to give credit for attendance.

Composition of Final Grade

Chapter Tests	60%	
Homework	20%	
Labs	20%	
Question Journal	0%	EXTRA CREDIT
Total	100%	

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.

Homework Help

This class is scheduled to have an Undergraduate Teaching Fellow (UTF) to assist in homework or concepts. Erika Christensen will run this portion of the class. We plan to hold this either Monday or Wednesday afternoon, depending on when homework is due. It will be held on Monday at 5:00 pm or Wednesday at 3:00 pm in WIDT 046.

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, 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.

Course Calendar

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

Date	Course Material	Homework Due	Assigned Numbers
Jan 9-13	No lab this week		
10	Chapter 1, course information		
12	2-1 through 2-9 Structure of Matter		
Jan 16-20	Lab 1	Race Tracks* Monday lab meets the following week	
17	2-10 through 2-16 Quarks; Bulk Properties of Matter		
19	3-1 through 3-5 Velocity and Acceleration	Homework #1	Chapter 2: 1,2,3,5,7
Jan 23-27	Lab 2	Force Carts* Monday lab meets the following week	
24	3-6 through 3-9 Graphing		
26	4-1 through 4-6 Newton's Laws	Homework #2	Chapter 3: 2,4,5,6,7
Jan 30-Feb3	No Lab	Exam Week	
31	4-6 through 4-11 Newton's Laws		
2	Exam 1	Homework #3	Chapter 4: 2,5,7,10
Feb 6-10	No Lab		
7	5-1 through 5-5 Gravity		
9	5-5 through 6-2 Energy	Homework #4	Chapter 5: 1,2,3
Feb 13-17	Lab 3	Roller Coasters	
14	6-3 through 6-7 Energy Conservation		
16	6-8 through 6-9 Machines, Power	Homework #5	Chapter 6: 1,3,10,13
Feb 20-24	No Lab		
21	Academic Monday – No Class		
23	6-9 through 6-11 Heat	Homework #6	Chapter 6: 14,15,16 (all parts)
Feb 27- Mar3	Lab 4	Heat and Machines	
28	6-12 through 6-14 Momentum, Entropy		
2	Problem solving in conserved systems	Homework #7	Chapter 6: 5,8,9,11
Mar6-10	Spring Break		

Mar 13-17	No Lab	Exam Week	
14	Exam 2		
16	7-1 through 7-4 Charge		
Mar 20-24	Lab 5	Sew Electric	
21	7-5 through 7-9 Voltage		
23	7-10 through 7-14 Ohm's Law	Homework #8	Chapter 7:1,2,3,4
Mar 27-31	Lab 6	Electricity	
28	7-15 through 7-18 Series/Parallel Circuits		
30	7-18 through 7-25 Power and Magnetism	Homework #9	Chapter 7: 5,6,7,8,9,10
Apr 3-7	No Lab	Exam Week	
4	Exam 3	Homework #10	Chapter 7: 11,12,13,14,15,16
6	8-1 through 8-7 Waves		
Apr 10-14	Lab 7	Waves and Music	
11	8-8 through 8-11 resonance	Homework #11	Chapter 8: 1,2,3
13	8-12 through 8-14 Light		
Apr 17-21	Lab 8	Light	
18	Light/Optics	Homework #12	Chapter 8: 4,5,6,7
20	8-14 through 8-16 Optics		
Apr 24-28	Lab 9	Do not go to lab sessions Radioactivity	
25	9-1 through 9-5 Radiation	Lab 9 in class today	Journal Due Today
27	Health Effects of Radiation	Homework #13	Chapter 9: 1,2,3,4
May 1-5	Finals Week	Final covers Chapters 8 and 9 and associated labs, homework, etc. and is NOT comprehensive	
Thur May 4	Final Exam	1:30-3:20 in our regular classroom	