Salt Lake Community College
Syllabus

[redacted]

Required Text: Lab Manual Packet, created by the Physics Department, available at the bookstore.

Prerequisites: Concurrent or previous enrollment in PHYS 2210.

Course Description: Graded laboratory in support of and applying concepts taught in PHYS 2210. Offered Fall, Spring, and Summer semesters.

Overview: To give hands-on experience with the concepts covered in your theory class. The emphasis will be on understanding the concepts rather than calculations although some math will be required. We will be doing computer-assisted labs from a packet available at the bookstore.

GRADING: 90% of your grade comes from the experiment assignments, 10% of your grade is based on attendance during your regular scheduled lab time. No credit will be given for experiments that were not performed in the lab room with an instructor present so do not borrow or invent data and write a report for a lab that you did not attend. You must do your own work. Sharing your data or report completely or partially with another student (past or present) for any reason is cheating and both students will receive a zero for the lab and face disciplinary action. Late assignments are accepted for partial credit, losing 1 point per day late but no more than 50%. If you miss class, there are opportunities to perform a make-up lab with full credit possible on the assignments. All missed labs must be made-up within two weeks and then a late penalty begins. To make-up a lab you must schedule an appointment with the lab coordinator via canvas messaging. All make-up labs are by appointment only. More information on make-up labs is provided on canvas in other documents. 10% of your final grade is based on your attendance in your regular class. Missing class will lose you some of these points that cannot be made-up. Missing class a few times will not hurt your grade, however doing more than two labs during make-up hours, will start to drop your grade.

LAB EXPERIMENT ASSIGNMENTS: Each experiment has 3 assignments. The pre-lab assignment is due before the lab is performed in class. Pre-lab assignments are done individually. During class, you will fill in a report worksheet with your lab partner while you complete the experiment together. This is due by the end of the class period. After class, you have a post-lab assignment that is due one week after you perform the experiment. The post-lab assignment is done individually. More information regarding these assignments, the requirements, and point values are provided in your manual and on canvas. Lab reports must be typed and include data tables and graphs if necessary. It is the student's responsibility to make sure that all information presented in the report worksheet is present and legible. If the instructor cannot read it, it is wrong. More information on lab reports is provided in other documents. Some labs contain extensions, check the extensions list on canvas to know if they should be completed. Some class periods perform more than one experiment. Pay close attention to the posted schedule.

LAB HOURS: Make-up labs are performed with the lab coordinator in SI 275 and an appointment is required. This should allow you to make-up any labs that you missed at a time most convenient to you within the allowed two weeks. **Lab Coordinator:** . Preferred method of contact: Canvas messaging. ******When you miss a lab, contact the physics lab coordinator via canvas messaging to schedule a make-up lab.******

Grading Scale	
A	93 – 100%
A-	90 – 92%
B+	87 – 89%
B	83 – 86%
B-	80 – 82%
C+	77 – 79%
C	73 – 76%
C-	70 – 72%
D+	67 – 69%
D	63 – 66%
D-	60 – 62 %
E	< 59%

Lab Order: a detailed schedule is available on canvas.

#1 Graph Matching	#7 Impulse and Momentum
#2 Gravitational Acceleration	#8 Momentum & Energy of Collisions
#3 Cart on a Ramp & 2D Motion	#9 Centripetal Acceleration
#4 Newton's Laws	#10 Torque
#5 Friction	#11 Archimedes' Principle
#6 Work and Energy	#12 Newton's Law of Cooling

****Students are liable for any equipment they break or that goes missing****

****<u>While many materials have been provided to you in the manual the most up to date versions are made available on Canvas. The student is responsible for any changes made and should check Canvas frequently for notifications about changes.</u>****

<u>COLLEGE-WIDE LEARNING OUTCOMES</u>

The Core Themes of SLCC's Mission focus on Access and Success, Transfer Education, Workforce Education and Community Engagement. As such, all courses and programs address one or more of the below College-Wide Learning Outcomes. Upon successful completion of any program at SLCC, students should:

- Acquire substantive knowledge in their intended major
- Communicate effectively.
- Develop quantitative literacies necessary for their chosen field of study.
- Think Critically and Creatively.
- Develop the knowledge and skills to be a community engaged learner and scholar.
- Develop the knowledge and skills to work with others in a professional and constructive manner.
- Develop computer and information literacy.

COURSE LEARNING OUTCOMES

Students will:

- Apply the scientific method through hands-on experimentation.
- Illustrate understanding of scientific and physics concepts through the proper use and application of applicable terminology.
- Develop scientific writing skills through the experiment reports that compose objectives, formulate procedures, and justify conclusions by demonstrating logic, providing scientific evidence, and proper analysis of data.
- Collaborate in small groups to complete experiment objectives to develop teamwork and interpersonal communication skills.
- Demonstrate the ability to collect, analyze and interpret real data in an ethical and scientifically responsible manner.
- Apply mathematical models to physical systems by fitting appropriate equations to experimental data.
- Account for experimental uncertainties by identifying sources of error and performing error analysis calculations.
- Enhance understanding of physics by reproducing common experiments that demonstrate and test the topics of kinematics, forces, Newton's Laws, momentum, energy, work, conservation laws, rotational motion, torque, density, buoyancy, and thermodynamics.