

Santiago Canyon College
Division of Math & Sciences
Physics 100
Course Syllabus – Spring 2021

Course: Conceptual Physics, PHYS-100-92136

Lecture & Lab: Tuesday and Thursday: 8:30 AM – 11:40 AM

Instructor: Mrs. Margaret Leger

Contact information: Email me through Canvas, or leger_margaret@sccollege.edu,

Required Text: Pearson eText Conceptual Physics Access Card, 12th Edition, Paul G. Hewitt. ISBN: 9780135205822, \$47.25

A hardback text of the 12th edition may be used, but to view the embedded videos the student will need a QR reader to scan the QR codes. The QR code reader app may be downloaded to a smart phone or tablet.

Calculators: Students are required to have their own scientific calculator such as a TI30X or similar. Cost is about \$10 or less.

Course Description: A conceptual introduction to physics. The goal is to help you understand and think about the physical world you live in, and while algebra is used, complex math is not the focus of this course. Topics include: mechanics, fluids, thermodynamics, sound, light, electricity, magnetism, and modern physics. The purpose of the laboratory component of this physics course is to enhance understanding of physical principles learned in the lectures. Labs are done using PhET Simulations and Pivot Interactives.

Computer Requirements: For best performance, Canvas should be used on the current or first previous major release of Chrome, Firefox, Edge, or Safari. [See browser and computer requirements for Canvas.](#) A cell phone is not a recommended device for doing the Labs.

Communication:

Teacher to student

Set your notifications in Canvas. Canvas allows you to customize when and where you receive announcements from the instructor. Please set your notifications to get timely updates.

1. View the Announcements. Announcements contain important information about the course.
2. Check your email regularly.
3. Feedback on graded assignments will be given within one week of due date

Student to Teacher

Please don't hesitate to reach out to me, my job is to help you succeed.

1. You may contact me at leger_margaret@sccollege.edu,
2. Send a message through the Canvas Inbox
3. Text/call 719-291-3426 for emergencies
4. Office hours will also be offered through Zoom before class.
5. I will do my best to respond promptly, within 24 hours (Monday through Saturday.)

Student to student – Class discussions, and breakout rooms. Please respect the diverse backgrounds and viewpoints of each member of our community, some may have a more thorough science background than others, but these differences can allow us to learn and grow together.

Critical Thinking

Many students find physics and chemistry difficult because it goes beyond memorization by requiring higher level thinking skills (levels 4 through 6 below). Not only are these skills needed for science, but employers consistently rank critical thinking and problem-solving ability near the top of their list of desired traits in valued employees.

1. At Knowledge Level of Learning a student can define terms.
2. At Comprehension Level of Learning a student can work assigned problems and can example what they did.
3. At Application Level of Learning a student recognizes what methods are used and then uses the methods to solve problems.
4. At Analysis Level of Learning a student can explain why the solution process works.
5. At Synthesis Level of Learning a student can combine the part of a process in new and useful ways.
6. At Evaluation Level of Learning a student can create a variety of ways to solve the problem and then, based on established criteria, select the solution method best suited for the problem.

Student Learning Outcomes

Students who successfully complete this course and its requirements will be able to...

1. Correctly analyze natural phenomena using the concepts of physics.
2. Investigate physical phenomena using appropriate equipment and methods, make valid comparisons with theoretical predictions, and communicate those results.

Disabled Students Programs and Services (DSPS)

I am dedicated to helping all students succeed and am committed to creating an inclusive learning environment. This means helping students with unique physical needs, or diverse learning needs obtain specific accommodations. Students must request services through DSPS and provide documentation of disability or schedule a meeting for an evaluation of accommodation needs at least two weeks before accommodations are needed. You may find the DSPS handbook which gives a thorough description of available services helpful. See link below. Contact me through the Canvas Inbox or leger_margaret@sccollege.edu

[DSPS Handbook](#)

To contact DSPS Call 714-628-4860 or send an email to dsps@sccollege.edu or use [DSPS](#)

Title IX: Santiago Canyon College (SCC) faculty are committed to supporting our students and providing an environment free from sex or gender-based harassment or discrimination as outlined by Title IX of the Education Amendments Act of 1972. Therefore, if a student chooses to confide in a member of SCC's faculty regarding an issue of sexual misconduct, sexual harassment, stalking, intimate partner violence, or other forms of gender-based discrimination or harassment, that faculty member is obligated to tell the Title IX Coordinator. Faculty members are considered "responsible employees" under Title IX and are required to report all details of an incident (including the identities of both the victim and alleged perpetrator) to the Title IX Coordinator. This disclosure allows the college to take immediate action to protect the victim and take steps to correct and eliminate the misconduct. If a student does not wish to report an incident to a responsible employee but wishes to speak to someone confidentially, the student can speak to the College Psychologist. Only psychologists within the Student Health Center are required by law to maintain near or complete confidentiality. The College Psychologist is located in the Student Health & Wellness Services in T-102 or call 714-628-4773. [Online Confidential Counseling & Health Services](#)

Student Conduct: All students are responsible for maintaining appropriate conduct while enrolled in classes through the Rancho Santiago Community College District (RSCCD). Guidelines for student conduct are set forth in the RSCCD "Standards of Student Conduct" policy. Detailed information regarding student discipline and rights within this policy is available in the college catalog and student handbook. Students who violate the Standards of Conduct are subject to disciplinary action which includes, but is not limited to, removal from class, suspension and expulsion.

Academic Honesty

Homework and activities are individual assignments. You may look up answers or how to work a problem, but you must understand the concepts and show work. Correct answers without showing work on how the answer was arrived at get zero credit. Since members of this class have highly diverse strengths and weaknesses, you are encouraged to help each other and learn from each other. But it is never okay to copy homework problems or lab/activity reports or give another person your data. It is OK to

make a reasoned mistake; it is wrong to copy. No credit will be given for copied work. It is also subject to the district rules regarding plagiarism and cheating. During exams only the course textbook and course notes may be used. Using other internet sources is considered dishonest. Please refer to the ACADEMIC HONESTY POLICY in the SCC catalog for information.

Attendance & Drop Policy: Students are expected to attend all scheduled classroom hours (Zoom meetings). Students who fail to submit regular homework, labs, and assignments may be dropped from the class even if they attend class. Completing an assignment on the first day of the class may also be required in order to avoid being dropped from the class. Students who do not submit assignments by Sunday, Feb 21 will be dropped from the course even if they attend Zoom classes

Homework: Written assignments will be announced in class and posted as Assignments in Canvas. In addition to posted assignments, students are expected to read the chapters that accompany lectures and look up information as needed.

In-class Labs and Activities: Have access to your textbook and calculator during class time. You will be turning in completed activities each day. Your lowest lab score will be dropped.

Grade Breakdown: Your semester grade is a weighted grade. The approximate categories are listed below. The weight assigned to each category is subject to change. Grades are updated weekly in Canvas.

Homework & In-class Assignments	20%
Lab Activities	20%
Unit Exams	40%
Final Exam	20%

Exams: There will be four midterm exams and a cumulative final exam in this course. The exams may consist of both multiple choice and free response problems. There will be no make-up midterm exams. Your lowest nonzero test score will be dropped. You may not skip the last exam and have the zero dropped.

Students are encouraged to create handwritten study sheets to use with the exams. These may be submitted for up to 4 extra credit points (1 point per page). One of these sheets may be the Exam Study Guide.

Grade Breakdown: A = 100 - 90.00 %, B = 89 - 80.00 %, C = 79 - 70.00 %, D = 69 - 60.00 %, and F for below 60%.

Physics 100 Spring 2021 Tentative Schedule

Please check Canvas for up-to-date information.

Wk	Day	Date	Lecture and Lab	Day	Date	Lecture and Lab
1	T	2/9	Chapter 1 About Science Science or Nonsense – Lab Activity	TH	2/11	Chapter 2 Newton's First Law of Motion Inertia, Scientific Notation and Significant Digits – Lab Activity
2	T	2/16	Chapter 3 Linear Motion Introduction to Measurements-PI	TH	2/18	Chapter 4 Newton's Second Law
3	T	2/23	Chapter 5 Newton's Third Law Rolling Ball Lab PI	TH	2/25	Chapter 6 Momentum
4	T	3/2	Review Hockey Slapshot Impulse/momentum PI	TH	3/4	Exam 1: Chapter 1-6
5	T	3/9	Chapter 7 Energy Blowdart Cart Collision PI	TH	3/11	Chapters 8 Rotational Motion
6	T	3/16	Chapter 9 Gravity Conservation of Energy Skatepark Basics PI	TH	3/18	Chapter 10 Projectile and Satellite Motion
7	T	3/23	Review Conservation of Energy Puck on Ramp PI	TH	3/25	Exam 2: Chapters 7-10
8	T	3/30	Chapter 11 The Atomic Nature of Matter, Chapter 12 Solids	TH	4/1	Chapter 13 Liquids, Chapter 14 Gases Archimedes Principle Lab Activity
			Spring Break: April 5-9			
9	T	4/13	Chapter 15 Heat, Chapter 16 Heat Transfer Boyle's Law PhET	TH	4/15	Chapter 17 Phase Change
10	T	4/20	Chapter 19 Vibrations and Waves PhET Wave Activity	TH	4/22	Chapter 20 Sound
11	T	4/27	Review Simple Pendulum PhET	TH	4/29	Exam 3: Chapters 11-20
12	T	5/4	Chapter 22 Electrostatics Exploring Charge Lab PI	TH	5/6	Chapter 23 Electric Current
13	T	5/11	Chapter 24 Magnetism Circuits Lab PhET	TH	5/13	Chapter 25 Electromagnetic Induction
14	T	5/18	Review	TH	5/20	Exam 4: Chapters 22-25
15	T	5/25	Chapter 26-30 Light selected topics Introduction to Optics Lab PhET	TH	5/27	Atomic Spectra Lab
16	T	6/1	Review	TH	6/3	Final Exam