

Course Syllabus



PHYS 210: General Physics I

CRN 80697, Fall 2020

Welcome to PHYS 210! This course is the prequel to PHYS 220, and is the first in a series of courses providing an algebra-based introduction to basic physics for non-majors. We will be covering exciting topics ranging from Newtonian mechanics to wave phenomena. And you will get to see many of these topics really come to life when you explore them hands-on using equipment that you assemble and operate yourself!

Here are some quick links to helpful information:

- [How to be successful in this course](#)
- [Everything you need to know about the lab activities](#)

How to Contact your Instructor

- **Name:** Kolo Wamba, PhD
- **Email:** wambak@smccd.edu (<mailto:wambak@smccd.edu>) (you can also just use the [Canvas Inbox](#))
 - I will always do my best to respond to your messages within 24 hours.
- **Canvas:** You can also "reply" to a [Course Announcement](#) or one of our weekly [discussions](#)
 - Use this method if it's something you want to be visible to the whole class
- **Virtual Office Hours:** Tuesdays 4pm-7pm / Fridays 8am-10am [via Zoom](https://smccd.zoom.us/j/6551759728) (<https://smccd.zoom.us/j/6551759728>).
- **Optional Virtual Lecture Times:** Tuesdays and Thursdays 9:30 am - 10:00 am [via Zoom](http://%20https://smccd.zoom.us/j/97948190169) (<http://%20https://smccd.zoom.us/j/97948190169>)

Watch out for [Course Announcements](#), which I will be posting periodically. I encourage you to set up your Canvas preferences so that you receive a notification whenever there's an update.

Course Description

The first semester of a two-semester sequence of algebra/trigonometry-based physics. Designed for students majoring in certain fields of letters and science, and required of those planning to enter medicine, dentistry, pharmacy, optometry, agriculture or forestry. Covers mechanics, fluids, waves and thermodynamics. The laboratory portion covers measurement and analysis of phenomena discussed in lecture.

Letter Grade Only. Degree Credit.

Prerequisites for this Course

- Completion of MATH 130 or the equivalent

Disclaimer

Official information about course transferability and degree applicability is stated in the [Skyline College Catalog](http://skylinecollege.edu/catalog/) (<http://skylinecollege.edu/catalog/>).

Information about course transferability and degree applicability is updated on an annual basis.

For the most current information about course transferability, consult a Skyline College counselor and/or [ASSIST](http://www.assist.org/web-assist/welcome.html) (<http://www.assist.org/web-assist/welcome.html>), the online transfer information database.

For the most current information regarding Associate Degree requirements, please consult a Skyline College counselor and/or the [Skyline College Catalog](http://skylinecollege.edu/catalog/) (<http://skylinecollege.edu/catalog/>).

Required Materials for this Course

- **Course text:** [Urone, Hinrichs, et al, College Physics \(OpenStax 2020\)](https://openstax.org/details/books/college-physics) (<https://openstax.org/details/books/college-physics>)
- **Scientific calculator:** Any regular (non-graphing) scientific calculator will do
- A smartphone or other networked mobile device

SLOs for this Course

Upon successful completion of this course, a student will meet the following outcomes:

- Draw on conceptual understanding of physics to explain various real-world phenomena related to mechanics, waves, fluids and thermodynamics.
- Apply mathematical techniques, as appropriate to the course level, to quantitatively analyze real-world phenomena related to mechanics, fluids, waves and thermodynamics.
- Conduct lab experiments to test the physical behavior of the real world, and correctly interpret the conceptual and statistical implications of the experimental data, in experiments related to mechanics, fluids, waves and thermodynamics.
- Work as part of a laboratory group to obtain experimental data accurately and efficiently when performing experiments involving mechanics, waves, fluids and thermodynamics.

Overall Course Format

This course will be delivered entirely **online**. All course content and material will be accessible through this Canvas shell. Lectures will consist of prerecorded short videos of your instructor explaining the most important concepts and going over how to apply them toward solving the assigned homework problems.

This course carries with it a **lab component**, which will also be conducted **online**.

Lab Format

For most of the lab activities in this course you will be using a special **Lab Kit**, which you can check out from the campus bookstore. **At the conclusion of the semester, you must return your lab kit to the bookstore** so that it can be used again in the next class.

The lab activities will work as follows:

- Each week there will be on average **2** assigned lab activities that must be completed that week. Each will appear in Canvas as a Lab Assignment with an attached worksheet for you to download and complete.
- To complete each activity you must work (virtually and asynchronously) in **groups of up to 5 students**. Specific details on how this works can be found on the page [How to Complete the Lab Activities](#).
- Each group must turn in **one completed worksheet for the group** and everyone in the group will receive the same amount of credit
- The final lab activity will consist of a Laboratory Final Quiz that **must be completed individually**

Thinking of Dropping? Read this First

If you decide to drop this course altogether, **don't just start "ghosting" me and your classmates**-- it is your sole responsibility to actually withdraw officially through the College Registrar. This can usually be done online through [WebSMART](https://xe-ssb8.smccd.edu/) [\(https://xe-ssb8.smccd.edu/\)](https://xe-ssb8.smccd.edu/).

Attendance Policy

I expect consistent and regular online participation in this course, which will account for up to 10% of your final grade.

You must complete the "Ice Breaker" [discussion post](#) by the end of the first week of class. If you don't do this, I may drop you from the class and offer your spot to someone off of the waiting list.

Exams

There will be two **Midterm Exams**, one **Final Exam**, and one special **Lab Final Exam** (for the laboratory portion of the course). The two midterms will respectively cover material from the first and second thirds of the semester. The Final Exam is cumulative, but will emphasize material that had not been covered on the midterms.

The format of each of these exams will be take-home, open book/notes, and you will have 24 hours to turn it in.

Please note: There will be **NO make-up exams** except under seriously extenuating circumstances.

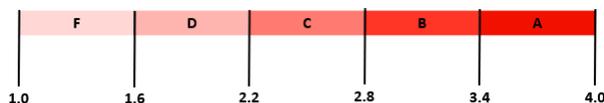
Evaluation

Grading will be on a 1-4 based grading system and will be based on your homework assignments, lab participation, online class participation, midterm exams, the lab final, various quizzes, and a final exam. The lowest-scoring homework assignment and lab participation scores will be dropped.

Overall weights of each graded course component

Course Component	Weight
Class participation (aka Threaded Discussions)	10%
Homework	10%
Quizzes	15%
Lab Participation	10%
Lab Final	10%
Midterm 1	15%
Midterm 2	15%
Final exam	15%

Based on the 1-4 grading scale, final letter grades are awarded as follows



Mapping between overall 1-4 numerical score and overall letter grade

Numerical Score Range	Letter Grade
3.4-4.0	A
2.8-3.4	B
2.2-2.8	C
1.6-2.2	D
1.0-1.6	F

Academic Integrity Statement

As with any class, students are expected to abide by the Skyline College Honor Code. **Plagiarism and other forms of cheating are serious violations of academic integrity** and will be dealt with to the fullest extent of College policy, which can include the dismissal of the offenders.

See the Skyline College Catalog, "[Student Rights and Responsibilities](http://skylinecollege.edu/catalog/rightsresponsibilities/integrityhonesty.php)" [.\(http://skylinecollege.edu/catalog/rightsresponsibilities/integrityhonesty.php\)](http://skylinecollege.edu/catalog/rightsresponsibilities/integrityhonesty.php)." for College Policies

This being said, it is **not** a problem if students want to study together in small groups and collaborate with each other on homework assignments. This is actually the preferred method for learning physics, and students are strongly encouraged to use it.

Title IX

In the interest of maintaining a safe, healthy, and caring learning environment, Skyline College has a zero tolerance policy toward sexual harassment and misconduct. This is required by law, and if you are a victim of sexual harassment or other sexual misconduct, you are protected. Any and all incidents must be immediately reported to the [Skyline College Office of Student Services](https://skylinecollege.edu/officevrps/) (https://skylinecollege.edu/officevrps/) using a [special online form](https://smccd-advocate.symplicity.com/titleix_report/) (https://smccd-advocate.symplicity.com/titleix_report/), so that they can be dealt with right away.

Diversity Statement

Skyline College is committed to a comprehensive diversity framework that promotes social justice throughout all policies, procedures, and practices of the College. This is partly achieved in this course through representation (highlighting the contributions to physics by people from historically marginalized communities), and by emphasizing equity (using equitable grading practices, and ZTC/OER materials).

Accommodation Statement

Students requiring particular services or arrangements because of hearing, visual or other disability should **early in the semester** contact their instructor, counselor, or the [Educational Access Center \(AEC\)](https://skylinecollege.edu/educationalaccesscenter/) (https://skylinecollege.edu/educationalaccesscenter/) to receive reasonable accommodations. Services offered by the AEC include test and exam accommodations, counseling, assistive technology, and alternate media assistance.

If you would like to make use of reasonable accommodations, you will need to obtain an accommodation letter from the AEC. For help with this, please contact the Educational Access Center office (AEC) at (650) 738-4123. <https://skylinecollege.edu/educationalaccesscenter/>

Academic Support Resources

Students are encouraged to take advantage of the many places at Skyline where they can receive various forms of support services including academic counseling, career counseling, and tutoring. These include the [STEM Center](http://skylinecollege.edu/stemcenter/) (http://skylinecollege.edu/stemcenter/), [MESA](http://skylinecollege.edu/mesa/) (http://skylinecollege.edu/mesa/), [The Learning Center](https://skylinecollege.edu/learningcenter/) (https://skylinecollege.edu/learningcenter/), and the [Skyline College Library](https://skylinecollege.edu/library/) (https://skylinecollege.edu/library/).

Tentative Schedule

Tentative schedule of topics and assignments

Week	Dates	Topics	Textbook chapters	Lab Activities	Major Assignments
1	8/20-8/21	Introduction	1	Lab policies	Ice Breaker 8/21
2	8/25-8/27	Kinematics	2	Intro skills	M2 Quiz 8/28
3	9/1-9/3	Motion in 2D	3	Free Fall	M3 Quiz 9/4
4	9/8-9/10	Intro to Forces	4	Lab Kit Intro	M4 Quiz 9/11
5	9/15-9/17	More Forces	5	Newton I	M5 Quiz 9/18
6	9/22-9/24	Circular motion	6	Newton II	M6 Quiz 9/27
7	9/29-10/1	Work and Energy	7	Review I	Midterm 1 10/2 Ch 1-6
8	10/6-10/8	Momentum	8	Projectile motion	M8 Quiz 10/9
9	10/13	Statics and Torque	9	Flex Day 10/15	M9 Quiz 10/16
10	10/20-10/22	Rigid rotation	10	Friction	M10 Quiz 10/23
11	10/27-10/29	Fluid Statics	11	Circular motion	M11 Quiz 10/30
12	11/3-11/5	Fluid Dynamics	12	Review II	Midterm 2 11/6
13	11/10-11/12	Kinetic Theory	13	Rubber bands	M13 Quiz 11/13
14	11/17-11/19	Heat Transfer	14	Collisions	M14 Quiz 11/20
15	11/24	Thermodynamics	15	Thanksgiving Holiday 11/26	
16	12/1-12/3	Thermodynamics Waves	15-16	SHM	M15 Quiz 12/4
17	12/8-12/10	Waves	16	Review III	Lab Final Opens 12/13 Due 12/20
N/A		Final Exam			Opens 12/13 Due 12/20

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