

Physics 203 – College Physics I (Algebra-based)

Syllabus

Summer 2023

COURSE INFORMATION

Course Name:	Physics 203 – College Physics I (algebra-based; 5 credits)
Course Schedule:	Lectures: Available online through Canvas Discussions: 4 hours each week; TBD Laboratory: Due Wednesdays and Saturdays
Prerequisites:	1 year of high school algebra and 1 year of high school geometry, or equivalent.
Required text:	College Physics, 2nd edition by OpenStax (https://openstax.org/details/books/college-physics-2e)
Required Materials:	scientific or graphing calculator

This course will provide a general overview of the concepts of motion, force, energy, momentum, wave motion, and sound. This class is recommended for students majoring in business, elementary education, medical technology, pharmacy, pre-dentistry, and pre-medical studies. This course is not intended for students majoring in physical sciences or engineering.

INSTRUCTOR INFORMATION

Name:	Dr. Aaron Steffen
Office:	381C
Google Voice Phone:	715-600-1099 (please leave a message or send a text)
E-mail (preferred):	aaron.steffen@uwsp.edu
Office Hours:	By appointment via Zoom

Brief Biography: I am a native of Sheboygan, Wisconsin. I received a B.S. degree in Physics and Mathematics from UW-Eau Claire and my M.S. and Ph.D. in Astronomy from UW-Madison. Before moving into teaching I worked as a postdoctoral research scientist at both Penn State and NASA's Spitzer Science Center (located on Caltech's campus). I am interested in understanding the multi-wavelength properties and evolution of super-massive black holes in the centers of galaxies.

COURSE STRUCTURE

Lecture - I presume that everyone will watch all of the recorded lectures.

Week	Dates	Chapter/Sections
Week 1	May 30–June 2	Chapter 1
Week 2a	June 5–7	Chapter 2
Week 2b	June 7–9	Chapter 3
Week 3a	June 12–14	Chapter 4
Week 3b	June 14–16	Chapter 5
Week 4a	June 19–21	Chapter 6
Week 4b	June 21–23	Chapter 7
Week 5a	June 26–28	Chapter 8
Week 5b	June 28–30	Chapter 9
Week 6a	July 3–5	Chapter 10
Week 6b	July 5–7	Chapter 11
Week 7a	July 10–12	Chapter 12
Week 7b	July 12–14	Chapter 16
Week 8a	July 17–19	Chapter 17
Week 8b	July 19–20	Final Exam

Labs - Laboratory activities are designed to give students a “hands-on” experience with the concepts being covered in lecture. The experiments are designed to be completed during each three hour lab session. Labs will be due Sunday at midnight.

Week	Dates	Lab #	Laboratory Experiment
Week 1	May 30–June 2	Lab #0	Pivot Introduction
Week 2a	June 5–7	Lab #1	Ping Pong Ball Bazooka
Week 2b	June 7–9	Lab #2	Constant Acceleration: Dry Ice Puck on a Ramp
Week 3a	June 12–14	Lab #3	Free Fall Five
Week 3b	June 14–16	Lab #4	Fan Cart: Force & Acceleration
Week 4a	June 19–21	Lab #5	Centripetal Force Introduction
Week 4b	June 21–23	Lab #6	Elastic Potential Energy
Week 5a	June 26–28	Lab #7	Analyzing Collisions
Week 5b	June 28–30	Lab #8	Statics
Week 6a	July 3–5	Lab #9	Unbalanced Torque Introduction
Week 6b	July 5–7	Lab #10	Density & Buoyancy
Week 7a	July 10–12	Lab #11	Laminar Flow Projectile Motion
Week 7b	July 12–14	Lab #12	Springs 1 & 2
Week 8a	July 17–19	...	Springs 3 (optional lab makeup)
Week 8b	July 19–21	...	No Lab

Grading - Your final grade will be based on:

- Homework Quizzes – 15%
- Laboratory Experiments – 15%
- Midterm Exams (2) – 20% each
- Comprehensive Final Exam – 30%

The grading scale is as follows:

$93\% \leq A$	$80\% \leq B- < 83\%$	$67\% \leq D+ < 60\%$
$90\% \leq A- < 93\%$	$77\% \leq C+ < 80\%$	$60\% \leq D < 67\%$
$87\% \leq B+ < 90\%$	$73\% \leq C < 77\%$	$F < 60\%$
$83\% \leq B < 87\%$	$70\% \leq C- < 73\%$	

There will be a 5% late penalty for late work until the section's mid-term exam. After the mid-term exam the previous material can no longer be submitted.

Homework - Homework problems will be distributed at the beginning of the semester. Approximately 18-20 homework problems will be assigned for each chapter. To encourage you to do your homework, twice weekly homework quizzes that test your knowledge of the material will be given through Canvas.

Exams - There will be two mid-term exams in addition to a comprehensive final exam. The mid-term exams are 1 hour online tests that are open note, open book. Exams are individual, not group, activities and you cannot use any online resources except the material on our course's Canvas website.

Final Exam - The final exam is scheduled for July 19–20. This will be a two-hour, comprehensive final exam and will be open note, open book. The final exam is an individual, not group, activity and you cannot use any online resources except the material on our course's Canvas website.

MISCELLANEOUS ITEMS

Additional Resources - There are additional resources available outside of the classroom that everyone can access if they desire additional help.

- Please contact me with any questions you may have.
- If you believe that your textbook isn't clear on a certain topic, try reading how that topic is presented in a textbook written by another author.
- While physics tutoring is not typically offered, students can receive math tutoring.

Academic Misconduct - It is each student's responsibility to know the University of Wisconsin System's policy on Academic Misconduct. Any cheating will invoke disciplinary action. You can download and review the policy from the following website:

www.legis.state.wi.us/rsb/code/uws/uws014.pdf