

PHYSICS 240: *University Physics I* ✦ Online ✦

Fall 2020 [Schedule](#)

Online Syllabus: uwsp.edu/phyastr/Documents/kmenning/Physics240.pdf

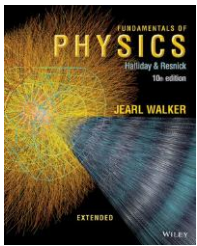
Canvas: uwsp.edu/canvas

Instructor:	Dr. Ken Menningen	Office hours:	<u>M</u>	<u>T</u>	<u>W</u>	<u>R</u>	<u>F</u>
Office:	B101 Science Building	8:00am - 10:00am	☺	☺			☺
Phone:	(715) 600-1286	1:00pm - 2:00pm				☺	☺
email:	Ken.Menningen@uwsp.edu	3:00pm - 4:00pm		☺		☺	
		By appointment	☺	☺	☺	☺	☺

Course Prerequisites: MATH 225 *Calculus I*

Required text: [Fundamentals of Physics](#), Halliday, Resnick and Walker, 10th edition (available at Text Rental)

Other required materials: Scientific calculator (graphing capability is **not** necessary), ~~a laboratory notebook (quad-ruled and spiral-bound are best), and a TurningPoint QT Device (“clicker”) or an enabled mobile device. Use of either one requires purchase of an access code (either \$9.53 online or \$11.40 bookstore).~~



Course Objectives: *University Physics I* is the first half of the calculus-based course sequence designed for science majors. The principal objectives are:

- Explain the fundamental concepts of mechanics, waves, and sound.
- Use graphs, algebra, and calculus to explain measurements and make predictions.
- Describe the usefulness and limitations of problem-solving methods for realistic examples

University Physics I satisfies the Natural Science requirement of the UWSP General Education Program. Upon completion of this course you should be able to:

- Explain major concepts, methods, or theories used in science to investigate the physical world.
- Interpret information, solve problems, and make decisions by applying natural science concepts, methods, and quantitative techniques.
- Describe the relevance of aspects of the natural sciences to your life and to society.

Attendance: Most online course activities will be asynchronous. Some live Zoom sessions will be arranged, but participation will not be required. Attendance is not required but it is a disadvantage to miss any lectures because the lectures, demonstrations, and in-class activities will greatly enhance your ability to understand the material. If you are ill, please contact me *before class* to make arrangements concerning any missed work.

Grading policy: The grade you earn will be based upon the five assignment types listed below. A grading scale is also given for your reference. Grades are not curved, encouraging you to work together, but I expect each student to hand in their own work. The lowest lab, homework and weekly in-class scores will be dropped at the end of the semester.

Grading Scale		Grade Breakdown	
<u>Letter</u>	<u>Score</u>	<u>Assignment</u>	<u>Weight</u>
A	90-100	Midterm exams	30%
B	75-89	Final exam	20%
C	60-74	Homework	20%
D	50-59	In-class work	10%
F	0-49	Labs	20%

Responsibilities: The grade you earn in this course will be a measure of how well you have learned the material. However, you will have learned the material in the context of a *community*, and that means you have a responsibility to make a positive contribution to that community, by both making an honest effort to participate in class activities and by refraining from activities that will interfere with your neighbor’s ability to learn. You are expected to attend class regularly, participate respectfully and with integrity, ~~and to remain on task during class periods. Likewise, you are expected to refrain from using any electronic device during class periods. Not only does text messaging and web browsing during class prevent you from listening and learning, it also distracts your neighbor and interferes with their learning. If a~~

true emergency has arisen, please quietly excuse yourself from the room before attending to the matter. You are expected to refrain from talking at the same time as the instructor, eating or drinking noisily, using e-cigarettes, or any other behavior that might distract your fellow student and interfere with learning.

Exams: Midterm exams are scheduled to occur on **September 30, October 28, and November 18**. These dates may change but it's not likely. The comprehensive final exam is scheduled for **Wednesday, December 16 at 10:15 am**. Late exams are not allowed, but in special cases you may take an exam early.

Homework: The **chapter assignments** can be handed in using [Canvas](#), a web-based system that allows multiple submissions and gives instant feedback. To avoid a zero for late homework you must warn me by phone or email **before they are due** and make special arrangements. If you are too ill to complete the assignment, please see a doctor and obtain documentation. You should not believe that the homework problems are sufficient practice for the exam. Instead I recommend that you work out at least five additional problems for each chapter from the textbook. The answers to odd problems are provided in the text and I have the solutions to even problems as well. Additional example homework examples will be presented during the discussion activities to help you understand physics concepts and gain skill at solving homework problems.

In-class work: During nearly every lecture I will present some **response questions** for which you may earn points by using the "Turning Point Cloud" system. Purchase a Turning Technologies code from the bookstore to earn bonus points on the questions. (Participation points can also be earned by submitting responses on paper.) You may use your own device (a laptop, tablet, or smartphone) or check out a clicker from the [UWSP IT Service Desk](#) **free of charge** (bring your UWSP student ID). You will need to create a [Turning Technologies account](#) (use your UWSP email address) in order to register your device to the class. You can find [help with Turning Point Cloud here](#).

On many days there will be a short **quiz** covering material that you have recently learned. Regard them as a "safe" practice experience for the exam and as some measure of how well you understand the material.

Labs: You must complete 10 of the 11 labs to pass the course. The labs are designed to illustrate and expand upon the topics we cover in the lecture portion of the course. ~~The lab grades will be determined from an assessment of your lab notebook plus a formal report. The grading rubric for lab notebook evaluation is given below. The formal lab report is worth 1 lab grade and is due on May 5, 2020.~~

Tentative Course Schedule

Week	Chs.	Topics
1	1-2	Kinematics and units
2	2-3	Accelerated motion, vectors
3	4-5	Two-dimensional motion
4	5	Newton's laws of motion
5	6-7	Resistive forces, work
6	7-8	Power, conservation of energy
7	8-9	Nonconservative work, momentum
8	9-10	Collisions, circular motion
9	10-11	Rotational mechanics
10	11, 13	Angular momentum, gravitation
11	13-14	Gravitational energy, static fluids
12	14-15	Fluid dynamics, oscillation
13	15-16	Forced oscillation, waves
14	16	Wave interference
15	17	Sound waves

[For a detailed course schedule with links to lecture content, see the [online course schedule](#)]

Laboratory grading rubric:

Content	Points
Introduction (clear, concise statement of purpose and method)	15
Procedure (concise and complete, include description of apparatus)	20
Data (complete, with correct significant figures and uncertainties)	20
Sample calculations (complete, correct as displayed, no unlabeled numbers)	15
Results (error analysis, comparison with known value(s), evaluation of reliability)	20
Conclusion statement (clear, concise summary of method and results)	10
Total points	100

Community Rights & Responsibilities:

Students with special needs should contact the [Disability and Assistive Technology Center](#) during the first two weeks of the semester in order to request accommodation. An [Exam Accommodation Request Form](#) is available online. Religious beliefs will be accommodated according to UWS 22.03 as long as the student notifies the instructor about the conflict within the first three weeks of class. Students are expected to maintain the highest standards of academic integrity for their work in this course. The University of Wisconsin-Stevens Point dedicated to a safe, supportive and non-discriminatory learning environment. It is the responsibility of all students to familiarize themselves with University policies regarding special accommodations, misconduct, religious beliefs accommodation, discrimination and absence for university sponsored events. (For details please refer to the [Academic Concerns](#) page, the [Student Conduct Process](#) page, and the [Academic Integrity](#) document.)