

## PHYSICS 204: *College Physics II*

Fall 2022

[Course Schedule](#)  
[MCAT practice](#)

Online Syllabus: [www3.uwsp.edu/physastr/Documents/kmenning/Physics204.pdf](http://www3.uwsp.edu/physastr/Documents/kmenning/Physics204.pdf)  
Learning Management System: [Canvas](#)

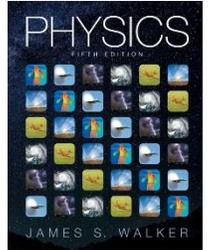
<b>Instructor:</b>	Dr. Ken Menningen	<b>Office hours:</b>	<u>M</u>	<u>T</u>	<u>W</u>	<u>R</u>	<u>F</u>
<b>Office:</b>	B101 Science Building	9:00am – 9:50am		☺			
<b>Phone:</b>	(715) 346-4871	1:00pm – 3:00pm	☺		☺	☹	
<b>email:</b>	<a href="mailto:Ken.Menningen@uwsp.edu">Ken.Menningen@uwsp.edu</a>	3:00pm – 5:00pm		☺			
		By appointment	☺	☺	☺	☺	☺

**Course Prerequisites:** Physics 203 or equivalent.

**Required text:** *Physics*, J. S. Walker, 5<sup>th</sup> edition (available at Text Rental)

**Other required materials:** Scientific calculator (graphing capability is **not** necessary)

**Course Objectives:** *College Physics II* satisfies the General Education Program (GEP) Natural Sciences requirement. Upon completing this requirement, students will be able to:



- Explain major concepts, methods, or theories used in the natural sciences 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 their lives and society.

*College Physics II* is a continuation of the algebra-based course sequence designed for pre-professional and general education students. The principal objectives are:

- Explain the fundamental concepts of electricity, magnetism, optics, and modern physics.
- Use graphs and algebra to explain measurements and make predictions.
- Describe the usefulness and limitations of problem-solving methods for realistic examples.

**Attendance:** 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. There will often be quizzes or assignments done in class that are worth points. If you are ill, please contact me *before class* to make arrangements. Otherwise late quizzes are not allowed, but I drop the lowest quiz grade. Late exams are not allowed, but in special cases you may take an exam early by making arrangements with me ahead of time.

**Grading policy:** The grade you earn in this class 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 in-class grades will be dropped at the end of the term.

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 **October 3, October 31, and November 21**. The final exam is scheduled for **Wednesday, December 21, at 2:45pm**. Exam dates might change but it's not likely.

**Homework:** The homework assignments can be handed in using the Canvas system, which allows multiple submissions and gives instant feedback but will apply a 25% penalty per day for late entries. To avoid a zero for late homework you must warn me by phone or email *before it is due* and make special arrangements. If you are too ill to complete the assignment, please see a doctor, and have the doctor write an excuse. 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 textbook and I have the solutions to even problems as well.

**In-class work:** During nearly every lecture there will be a response activity that is worth points in the in-class category. Waivers for absences are only available for university-sponsored events (athletics or class field trip) or military obligations. But keep in mind your lowest weekly score in the in-class category will be dropped, so you need not stress out about missing a class or two. On many days there will be a short **quiz** covering recent material. Regard them as a "safe" practice experience for the exam and as some measure of how well you understand the material. If you know ahead of time that you will miss a quiz you can make arrangements with me to take the quiz at an alternate time.

**Labs:** You must complete 12 of the 14 labs to pass the course. Your lab grade will be determined from the scores of the reports you turn in. The labs are designed to illustrate and expand upon the topics we cover in the lecture portion of the course, and are invaluable hands-on experiences.

### Tentative Course Schedule:

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

Week	Chs.	Topics	Laboratory
1	19	Electric fields	Lab 1: Electrostatics
2	20,21	Electric potential, capacitors	Lab 2: Capacitors
3	21	Electric circuits	Lab 3: DC circuits
4	22	Magnetism	Lab 4: Multi-looped and RC circuits
5	22,23	Electromagnetism, <b>Exam I Chs. 19-21</b>	Lab 5: Electric motors
6	23,25	Faraday's law, EM radiation	Lab 6: Faraday's law
7	25	EM waves, polarization	Lab 7: The credit card reader
8	26	Geometric optics	Lab 8: Images by mirrors
9	27	Human vision, <b>Exam II Chs. 22, 23, 25</b>	Lab 9: Spherical mirrors
10	28	Interference	Lab 10: Thin lenses and corrective optics
11	28	Diffraction	Lab 11: Diffraction and DNA structure
12	(Ball)	Diffusion, <b>Exam III Chs. 26-28</b>	No lab (Thanksgiving)
13	30,31	Quantum physics	Lab 12: Diffusion
14	31,32	The nucleus and radioactivity	Lab 13: The hydrogen spectrum
15	32	Nuclear medicine, review	Lab 14: Radioactive decay

### Community Rights & Responsibilities:

Students with special needs should contact the [Disability Resource 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.)