PHYSICS 250: *University Physics II*

Spring 2022 **Schedule**

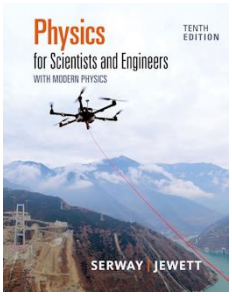
Online Syllabus: **uwsp.edu/physastr/Documents/kmenning/Physics250.pdf**
Canvas: **uwsp.edu/canvas**

Instructor:	Dr. Ken Menningen	**Office hours:**	M	T	W	R	F
Office:	B101 Science Building	9:00am - 10:00am	☺		☺		
Phone:	(715) 346-4871	10:00am - 11:00am		☺	☺		
email:	Ken.Menningen@uwsp.edu	1:00pm - 2:00pm	☺	☺			
		By appointment	☺	☺	☺	☺	☺

Course Prerequisites: PHYSICS 240 and MATH 121

Required text: *Physics for Scientists and Engineers*, Serway and Jewett, 10th edition (available at Text Rental)

Other required materials: Scientific calculator (graphing capability is **not** necessary), and a laboratory notebook (quadrille ruled and spiral bound are best).



Course Objectives: *University Physics II* is a continuation of the calculus-based course sequence designed for science majors. The principal objectives are:

- Explain the fundamental concepts of electricity, magnetism, circuits, and optics.
- 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 II 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: 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

Letter	Score
A	90-100
B	75-89
C	60-74
D	50-59
F	0-49

Grade Breakdown

Assignment	Weight
Midterm exams	30%
Final exam	20%
Homework	20%
In-class work	10%
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 **February 25**, **April 1**, and **April 22**. These dates may change but it's not likely. The comprehensive final exam is scheduled for **Monday, May 16 at 8:00 am**. Late exams are not allowed, but in special cases you may take an exam early.

Homework: The **chapter assignments** are due at the beginning of class on the days indicated on the course schedule. 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.

In-class work: During nearly every lecture I will present some **response questions** for which you may earn points by responding in class. On many days there will be a short **quiz** covering material on the most recently submitted homework assignment. These are designed to be formative assessments that help you gain confidence at answering exam-like questions but they do not have a large impact on your course grade. Regard them as a "safe" practice experiences for the exam.

Labs: You must complete 9 of the 10 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 12, 2022**.

Tentative Course Schedule

Week	Chs.	Topics
1	22	Coulomb's law
2	23	Gauss' law
3	24	Electric potential
4	25	Capacitance
5	26	Ohm's law
6	27	DC circuits
7	28	Magnetic forces
8	29-30	Magnetic fields and Faraday's law
9	31	Inductance
10	32	AC circuits
11	33	Electromagnetic waves
12	34	Reflection and refraction
13	35	Image formation
14	36	Wave optics
15	37	Diffraction, polarization
[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.)