

PHYSICS 100: *Energy in Today's World*

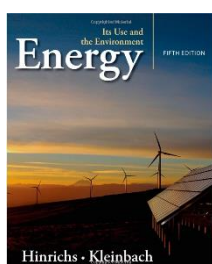
Spring 2021 [Schedule](#) This online course is managed via [Canvas](#)

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	9:00am - 10:00am	☺		☺		☺
Phone:	(715) 346-4871	1:00pm - 2:00pm	☺		☺		
email:	Ken.Menningen@uwsp.edu	2:00pm - 3:00pm		☺		☺	
		By appointment	☺	☺	☺	☺	☺

Course Prerequisites: Math 090

Required text: [Energy: Its Use and the Environment](#), Hinrichs and Kleinbach, 5th edition (available at Text Rental)

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



Course Objectives: *Energy in Today's world* is a fast-paced course offering a survey of the physics of energy and its impact on society. Upon completing this course you should be able to:

- Explain the fundamental concepts of the physics of energy
- Use algebra and graphs to explain measurements and make predictions
- Describe the issues surrounding energy production, storage, and use
- Explain ways you can personally change your energy footprint

General Education: This course satisfies the learning outcomes for the **Quantitative Literacy** component of the general education program. Upon completing this course you should be able to:

- Select, analyze, and interpret appropriate numerical data used in everyday life in numerical and graphical format.
- Identify and apply appropriate strategies of quantitative problem solving in theoretical and practical applications.
- Construct a conclusion using quantitative justification.

This course also satisfies the learning outcomes for the **Environmental Responsibility** component of the general education program. Upon completing this course you should be able to:

- Recognize areas of interaction between human society and the natural environment.
- Identify the individual, social, cultural, and ecological factors that influence environmental sustainability.
- Evaluate competing scientific claims that inform environmental debates.

Attendance: No face-to-face classroom meetings will be held ~~except for the exams~~, and the **online course activities will be asynchronous**. **Exams must be proctored.** UWSP currently uses the Honorlock service for online exam proctoring. ~~I will proctor the exams on the UWSP campus, but special arrangements must be made if you wish to take the exams at a different location.~~ All assignments have an electronically enforced due date and time on the Canvas system, so make certain you complete the assignments before the deadlines. If you are ill, please contact me **before class** to make arrangements concerning any missed work.

Time commitment: The face-to-face version of the course includes two 50-minute lectures each week, and it would be best to spend 30 minutes before each lecture studying the pertinent section of the textbook. Each week includes a 2-hour lab, and you might spend an average of 4 hours per week on homework assignments and exam preparation. This adds up to more than 9 hours/week, so **plan for about 1.5 hours per day for Physics 240.**

Grading policy: The grade you earn in this class will be based upon the five assignment types listed at the top of the next page. 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 course, which will help your grade, but I will not provide any additional extra-credit assignments.

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	In-class work	10%
D	50-59	Homework	15%
F	0-49	Labs	25%

Exams: Midterm exams are scheduled to occur at 4:00pm (locally) on **February 24, March 31, and April 28**. These dates may change but it's not likely. The comprehensive final exam is tentatively scheduled for **Thursday, May 20** at 10:15am.

Homework: The **chapter assignments** will be handed in using the Canvas system that allows multiple submissions and gives instant feedback but will apply a 25% penalty per day for late entries. To avoid a penalty 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 a note of 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 text, and review the lecture questions and quizzes that are posted in Canvas.

In-class work: Nearly every lecture contains some **response questions** for which you may earn points. There are also timed quizzes to follow each homework assignment and give you practice with exam-like questions. You may complete these assignments using the Canvas system.

Labs: The lab activities will also be conducted using the Canvas system. Some labs require you to upload files to Canvas, and others require you to answer questions in a Canvas Quiz. The labs are designed to illustrate and expand upon the topics we cover in the lecture portion of the course. Make sure you complete the entire lab and that you understand the concepts underlying the lab activity.

Course Schedule: For a detailed course schedule see the [online course schedule](#).

<u>Week</u>	<u>Chs</u>	<u>Description</u>
1-2	2-4	Unit I: Mechanical and Thermal Energy <u>Exam I: Wednesday, February 24; Chs. 2, 3, 4</u>
3-4	10,11,13,14	Unit II: Electrical and Nuclear Energy <u>Exam II: Wednesday, March 31; Chs. 10, 11, 13, 14</u>
5-6	6-9, 12	Unit III: Fossil Fuels and Solar Energy <u>Exam III: Wednesday, April 28; Chs. 6, 7, 8, 9, 12</u>
7-8	16-18	Unit IV: Future Energy Sources <u>Final Exam: Thursday, May 20; Chs. 16-18 and comprehensive</u>

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.)