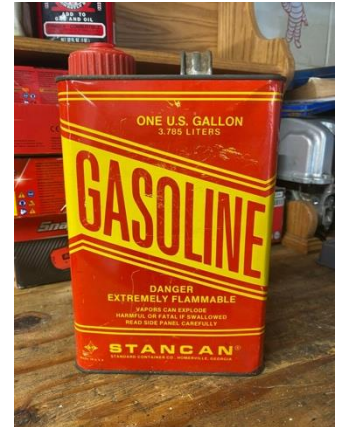
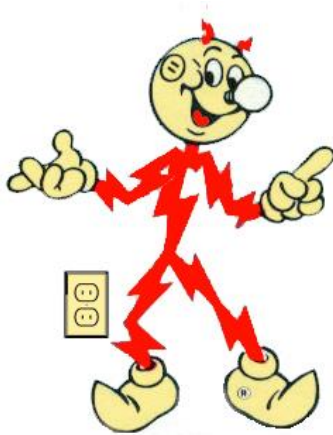


About EGY 105

Energy in Our World

- Fall 2026 -



Kenneth M. Klemow, Ph.D.

Emeritus Professor of Biology and Earth Systems Science
Wilkes University

Course objectives I

- Students completing EGY 105 will be able to:
 - Understand the physical basis of energy in our universe, its importance in biological systems, and various ways in which it is measured.
 - Understand the essentials of electricity
 - Understand the science behind climate change
 - Understand the history of energy use both worldwide and in “developed” countries.
 - Understand current trends of energy production and consumption locally, nationally, and worldwide basis.

Course objectives II

- Students completing EGY 105 will also be able to:
 - Learn and critically evaluate arguments about the sustainability of fossil fuels and nuclear energy.
 - Learn and critically evaluate information about the benefits and weaknesses of potential sources of alternative energy from a variety of perspectives
 - Potential energy yield
 - Economic
 - Environmental
 - Sociopolitical
 - Consider whether much can be done to improve energy efficiency and reduce consumption.

Course objectives III

- Students completing EGY 105 will also be able to:
 - Develop a well-reasoned personal philosophy about the present energy situation and whether we should move forward on developing and implementing alternative sources.
 - Be able to interpret graphs and tables, especially as they relate to energy.
 - Take more advanced courses that relate to energy at Wilkes or elsewhere.
 - Understand employment opportunities that relate to energy.

Long term objective

Students will develop a mature attitude about - and lifelong interest in - energy issues and will assert leadership on that topic long after the course is completed, whether as citizens or through careers that involve energy in some way.

Note: Past students of this course have gone on to hold elected office, obtain graduate level degrees in energy and otherwise make important decisions on energy-related issues! I hope the same will be true for the EGY 105 class of Summer 2026.

Intended audience

- All students at Wilkes University.
 - Non-majors, taking it as Area II elective
 - See syllabus for discussion of the ways that EGY 105 meets the Area II requirements.
 - STEM majors as an elective
 - Students seeking to take a first college course in energy, as part of a plan to take more advanced courses in energy at Wilkes or elsewhere.
- Students from institutions other than Wilkes, needing this kind of course.

Course theme:

- Should renewables be an important part of the U.S.'s goal of becoming “Energy Dominant?”



Information delivery

- ***Students will gain information by way of:***
 - Online presentations and study guides provided by the course instructor
 - The Hinrichs & Wade textbook
 - Articles assigned by the instructor
- Lectures and other materials are coordinated through course homepage:
<https://klemow.wilkes.edu/EGY-105.html>

EGY 105 Homepage

(<https://klemow.wilkes.edu/EGY-105.html>)

Welcome to the Homepage for

EGY 105 - Energy in Our World

Offered Online During Fall 2026

Course instructor: [Dr. Kenneth M. Klemow](#)

Emeritus Professor of Biology and Earth System Sciences

[Email Dr. Klemow](#)

[Click for course syllabus](#)

[Course Description](#)

[Course Delivery](#)

[Links to Powerpoints and
Lectures \(IMPORTANT!!\)](#)

[Course Objectives](#)

[Organization](#)

[General links](#)

[Course Policies](#)

[Honors Designation](#)

[Presentation Links](#)

Announcements:

(last updated 26 August 2026 @ 1:10 PM.)

1. Welcome to EGY 105 - Energy in Our World at Wilkes University. I will use this page to provide announcements and links to the information that you will need for the course. I will update it frequently throughout the semester, so please check it on at least a once-a-day basis.
2. Emails will be sent out over the weekend containing the course syllabus, and instructions on how to access the posted lectures

This page posted and maintained by [Kenneth M. Klemow, Ph.D.](#), Department of Biology and Earth Systems Science, [Wilkes University](#), Wilkes-Barre, PA 18766.
kenneth.klemow@wilkes.edu.



EGY 105 Homepage

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Links page

EGY 105 - Energy in Our World Links to Powerpoints and Lectures

Due dates for assignments also shown

Last updated: 11:45 PM, Tuesday, 26 August 2026

	Lecture Title				Review by:	Assign. #	Assign. avail.	Assign. due.
	Intro. Email				26 August	#1 - Survey	26 August	2 September
1	Introduction	Download Powerpoint	Download Outline	View Lecture	2 September	#2 - Questions	2 September	8 September
2	Syllabus Review	Download Powerpoint	Download Syllabus	View Lecture	8 September	#2 - Questions	8 September	11 September
3	Energy Literacy	Download Powerpoint	Download Outline	View Lecture	8 September	#3 - Questions	8 September	11 September
4	Energy Concepts 1: Velocity and Acceleration	Download Powerpoint	Download Outline	View Lecture	14 September	#4 - Questions	14 September	18 September
5	Energy Concepts 2: Force and Energy	Download Powerpoint	Download Outline	View Lecture	14 September	#5 - Questions	14 September	18 September
6	Energy Concepts 3: Conversions and Efficiency	Download Powerpoint	Download Outline	View Lecture	14 September	#5 - Questions	14 September	18 September
7	Heat 1: Heat and Temperature, Water Cycle	Download Powerpoint	Download Outline	View Lecture	21 September	#6 - Questions	21 September	25 September
8	Heat.2 Forms of Heat Transfer	Download Powerpoint	Download Outline	View Lecture	21 September	#6 - Questions	21 September	25 September
9	Energy-Terminology.Biology	Download Powerpoint	Download Outline	View Lecture	28 September	#7 - Questions	28 September	2 October
10	Intro to Elasticity	Download	Download Outline	View	28	#7 - Questions	28	2 October

Policies relating to course delivery

- EGY 105 is Asynchronous Online, meaning that lectures will be delivered virtually using Panopto.
 - Lectures will contain images and a narration.
 - All lectures will be on demand.
- Links may be adjusted as the session progresses.
- Each week you will review 2-3 lectures following schedule given on links page.
- For each lecture, download and take notes on accompanying outline.
- The following Monday, you will be sent an assignment containing questions for that unit.
 - The deadline will typically be 11:59 PM that Friday.
 - Each lecture's notes are worth 30-50 points, for a total of 300 points.

Online meetings

- If there is demand, the instructor will arrange Zoom meetings to allow students to ask questions, discuss material, or anything else relating to energy.
 - Details to follow.
- Instructor will also arrange mandatory one-on-one Zoom meetings to get to know students.
 - No meeting: no grade
 - Meetings will be scheduled starting Week 2.

Outside information sources:

Textbook: Hinrichs, R.A. & R.H.Wade. 2024.
Energy: Its Use and the Environment.
Cengage. 6/e.

This semester, you will also receive several readings (essays, websites) that address various energy issues. You will be expected to read those resources.

Assessment and grading

- ***Students will be assessed via:***
 - Submission of weekly assignments. Points will be deducted for assignments submitted after the deadline. Assignments more than 2 weeks late will not be accepted.
 - Three exams totaling 250 points
- ***Grading System (subject to change; students will be given fair notice of any changes):***
 - Exams 250 points
 - Weekly assignments / prob. sets 570 points
 - Group essay & Powerpoint 80 points
 - Total 900 points
- ***Grades will be assigned as follows:***
 - $\geq 92\%$ = 4.0; 85-92% = 3.5; 80-85% = 3.0; 75-80% = 2.5; 70-75% = 2.0; 65-70% = 1.5; 60-65% = 1.0; $< 60\%$ = 0.0.
These cutoffs may be adjusted downward.

Exams

- EGY 105 will include three exams:
 - Collectively worth 250 points
 - All exams will contain mix of questions.
 - All exams will be open-notes.
 - All exams will be emailed to you and due on dates indicated in future emails.
 - Late exams will not be accepted.

Academic honesty (see syllabus!)

- To learn, you must honestly review lectures and readings, take good notes on the outlines (study guides), and do the exams diligently.
- Since we are doing this course remotely, I acknowledge that it is easy to not do the work, and submit somebody else's work (either from this semester or one previous) as your own.
 - That is academically dishonest and short-circuits the learning process.
 - No A.I. (e.g., ChatGPT) on notes or exams.
- Instances of academic dishonesty will be addressed by disciplinary action, TBD.

Miscellaneous

- Since I am now living in San Diego, all contact will be via e-mail and Zoom (don't worry, this arrangement will work well). So don't look for this course in D2L.
- e-mail: kenneth.klemow@wilkes.edu
- If you want to meet via Zoom, please email me.
- Course webpage: <http://klemow.wilkes.edu/EGY-105.html>
- Social media:
 - [Facebook: DrKlemow](#)
 - [LinkedIn: ken-klemow](#)

Course Schedule

- See syllabus and webpage for details.

Lecture numbers	Topics
01-03	Introduction to Energy, Energy Literacy
04-06	From Velocity to Power (Newtonian Motion)
07-08	Heat
09	Biological Dimensions
10	Electricity
11	Climate Change
12-18	Fossil Fuels (coal, petroleum, natural gas)
19	Nuclear Fission and Fusion
20-26	Renewables (solar, wind, geothermal, hydro., biomass)
27	Energy Conservation



That's it!

- You are now ready to go on to Lecture 3 and beyond!