Energy Technology
TECH 4123
Fall 2024

Name of the Instructor: Dr. Salem Naeeri
Email: salem.naeeri@msutexas.edu
Phone: 832-805-0985

Course Dates: August 26 - December 6, 2024
Course Credits: 3

Introduction

Hello everyone. I am Dr. Salem Naeeri, and I will be your professor for Energy Technology - TECH 4123.

The Energy Technology course is conducted online through the D2L learning management system (LMS). It offers a comprehensive learning experience with summarized online lectures, recommended readings, sample papers, and additional materials to supplement your understanding of the subject matter.

Students will engage in homework assignments, projects, and group work assigned after each chapter. To foster interactive learning, we will initiate periodic discussions throughout the course. Students are encouraged to submit all assignments via the designated Dropbox before the specified deadline, as late submissions will not be accepted.

Your success in this course is my goal, and I am here to support you every step of the way. Please reach out via email for any queries, questions, or concerns.

Course Description

Course Prerequisites: Sophomore standing or the consent of the instructor.

Course Catalog Description:

This course studies energy sources, usable power production techniques, and energy technology future trends. It provides students with concepts and the required knowledge of renewable, nonrenewable, and inexhaustible energy sources and current energy consumption trends in the United States and worldwide. It will enable students to understand factors that impact the exploration and development process of different energy resources.

Overview of the course:

Purpose: This course examines the elements of energy, power, and transportation and their impact.

Objectives/outcomes: Managers, technical personnel, and engineers must be knowledgeable about energy and prepared to oversee a corporate program encompassing these areas of responsibility.

General Topics:

- Energy, Power, and Transportation Technologies
- Nonrenewable Sources of Energy
- Nuclear Energy
- Renewable and Inexhaustible Energy Sources
- Solar Energy
- An Introduction to Power
- Electrical Power Systems
- Mechanical Power Systems
- Fluid Power Systems
- Control Technology and Automation
- Electronics
- Energy and Power Conversion Devices
- Small Gas Engines
- Energy, Power, Transportation, and the Future

Target Audience: Junior students

Required for any specific major: Online BAAS in Technology.

Method of instruction: (PowerPoint lectures, audio files, Tegrity, discussions, group work, etc.)

Required Text

Energy, Power and Transportation Technology by Len Litowitz and Ryan Brown, G-W Publishers. ISBN: 978-1-60525-555-2(Latest Edition).

Important Dates

Fall 2024

Classes begin:	August 26
Last Day to Drop or Withdraw with a 'W':	November 25
Deadline to file for graduation	September 23
Final Exams:	December 05

Course Assessment

Course Activity	*Points*	*Percentage of Total Grade*
Homework 1- 27	100 each	20%
Quiz1	100	10%
Quiz 2	100	10%
Quiz 3	100	10%
Final	100	10%
Individual Paper (2- 3 page) Due by Midterm (week 9)	100	10%
Presentation (8 - 10 slides) Due by final (week 13)	100	10%
Discussion participation Topic # 1 Topic # 2 Topic # 3 Topic # 4	 10 10 10 10	 5% 5% 5% 5%
Total		100%

Grading Scale:

)0 and above	A
80 to 89	B
70 to 79	C
60 to 69	D
Less than 59	F

Student Email:

All students are provided with email accounts through the university server. Every student must use the university email for student-instructor interaction.

If you choose not to use the university email, I will accept Yahoo, Hotmail, or Gmail if the email address includes your first and last name.

Policies & Procedures:

1. Submit *Student Information Sheet*: Every student in this course is expected to complete the student information in discussion 1 at the beginning of the semester.

2. Course Content Structure: The course is divided into 4 parts.
   Each part covers:

a) Online homework
b) Several chapters
c) Online discussion topics
d) Online test.

You must read the textbook chapter first and then review the online PowerPoints provided. The PowerPoints will be summaries or elaborations of the textbook. Homework is administered at the end of each chapter. After you have completed reviewing the PowerPoint, you should log into the "Discussion Tool" and post answers to the discussion question posted by the instructor. You must also read other students' posts and respond to at least two other students' responses. Discussion posts must be made by the due date on the schedule to receive full credit. You should also complete the Test/Quiz by the set dates.

3. Grading and Feedback:

All course activities will be graded one week after the set due date. You can check your grades by going to Gradebook. If there is any discrepancy in the grade, you must contact me immediately. I will provide individual or general feedback throughout the course related to performance in course activities.

4. Cheating/Plagiarism/Academic Dishonesty:

Scholastic dishonesty includes but is not limited to cheating, plagiarism, collusion, falsifying academic records, misrepresenting facts, submission for credit of any work or materials attributable in whole or in part to another person, taking an examination for another person, any act designed to give an unfair advantage to a student, such as submission of essentially the same written assignment for two courses without prior permission of the instructor, or attempting to commit such acts.

"Plagiarism" includes but is not limited to the appropriation of, buying, receiving as a gift, or obtaining by any means material that is attributable in whole or in part to another source, including words, ideas, illustrations, structure, computer code, other expression, and media, and presenting that material as one's academic work being offered for credit.

NOTE: Students found plagiarizing or cheating will receive a zero for the course activity, which could cause failure in the class, suspension, or dismissal from the college.

5. Discussion Board Participation:

Each discussion board post is worth 5% of the grade.

For each discussion question, students must firstly , respond to the question directly, then secondly, read and respond to other students posts and reply to at least two other students responses (not optional). You must ensure that the responses to the questions are meaningful, reflective, refer to personal experience and support your course readings. Avoid postings that are limited to 'I agree' or 'great idea', etc. If you agree (or disagree) with a posting then say why you agree by supporting your statement with concepts from the readings or by bringing in a related example or experience.

You are expected to read all messages. You are responsible for reading all of the messages that are posted in the online discussion. Not reading messages is the equivalent of sleeping in class.

Use a person's name in the body of your message when you reply to their message. It helps to keep all of us oriented. It helps us maintain a clearer sense of who is speaking and who is being spoken to. As we begin to associate names with tone and ideas, we come to know each other better.

Change the subject line when you introduce a new topic. The value of this tip will become apparent as the number of messages grows.

6. Submission and Naming Convention of Course Activities:

Keep in mind the following standards/practices for naming and submission of assignments:

a. All course activity files that will be submitted to the instructor should bear the name as follows:

First name + last name + the name of the assignment
Example: *Jane Doe Homework 1* or *Jane Doe Paper*

b. Be sure to put your name at the top of each page header
c. Always keep a copy of all the work you submit so that you won't need to re-do it if it should get lost in cyberspace.

7. Make-Up/Late Submission Policy:

All course activities must be submitted before or on set due dates.

8. Accommodation for Students with Disabilities:

Midwestern State University is committed to providing equal access for qualified students with disabilities to all university courses and programs, and by law all students with disabilities are guaranteed a learning environment that provides reasonable accommodation of their disability.
This guarantee is provided through Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act. The ADA reads: "No qualified individual with a disability shall, by reason of such disability, be excluded from participation in or be denied the benefits of the services, programs, or activities of a public entity, or be subject to discrimination by any such entity."
The Director of Disability Support Services serves as the ADA Coordinator and may be contacted at (940) 397-4140, TDD (940) 397-4515, or 3410 Taft Blvd., Clark Student Center 168.

9. Course Incomplete/Withdrawal/Grade Appeal:

All students are required to complete the course within the semester they are signed up for. Incomplete grades for the course are rarely given and will only be granted if the student has completed at least 75% of the course with a grade of 'C' or better and provides a valid, documented excuse for not being able to complete the course on time and has contacted prior to the scheduled last class to request an extension. The student will sign a contract that includes the incomplete course activities and the new due dates.

10. Netiquette:

Anything you type in the discussion area is public – which means that every student in this class (including your instructor) will see what you write. Please pay attention to the language you use and adhere to the following guidelines:

a) Do not post anything too personal.
b) Do not use language that is inappropriate for a classroom setting or prejudicial in regard to gender, race, or ethnicity.
c) Do not all caps in the postings (it is considered shouting)
d) Be courteous and respectful to other people on the list
e) Do not overuse acronyms like you would use in text messaging. Some of the list participants may not be familiar with acronyms.
f) If the posting is going to be long, use line breaks and paragraphs
g) Fill in the Subject Line
h) Write your full name at the end of the posting

i) Be careful with sarcasm and subtle humor; *one person's joke is another person's insult.*
j) NOTE: If you do not adhere to the guidelines for any posting, you will lose the points that would have been granted, and the instructor reserves the right to remove your posting and to deny you any further posting privileges.

11. Attendance and Class Participation:

Regular and active participation is an essential, unmistakably important aspect of this online course. The expectation of the instructor is that students will log on a minimum of three times every seven days. It is critical that you read all of the lecture and assignment materials as well as all of the public discussion materials. Your full participation ON A WEEKLY BASIS is not only a requirement; it is also an essential aspect of the online course process. All students are expected to do the work assigned, notify the instructor when emergencies arise, and make up assignments no later than the due dates.

12. Tracking:

D2L course platforms have a tracking feature. This feature quantifies how often students access different tools, pages, features, links, discussions, etc. in your course.

13. Absenteeism:

All the course activities have set dates to be completed and submitted. After the due dates the activities will not be available for the students. Thus, if you are ill for a prolonged time and cannot complete the activities, you must contact me and update the situation. You are expected to log in to the course every week. If I am going to be out because of ill health, attending a conference, etc. you will be notified through email.

Hardware/Software Requirements:

Computer:

A minimum of 64 MB RAM, 1 G of free disk space, 150 MHz or higher recommended, a monitor capable of at least 800 x 600 resolution

Peripherals: You will need speakers to be able to listen to audio files.

Software:

The course content is presented through Microsoft Office 2007 - PowerPoint presentations, Word documents, Acrobat documents and Tegrity files. In order to view the content you must have Microsoft 2007 programs and Acrobat Reader. You are required to submit all the course activities typed in Microsoft Word 2007.

Anti-virus software is highly recommended for students and instructors. Online courses involve much file sharing, which increases your risk of computer virus infection. Anti-virus software will help protect your computer in case of exposure to a computer virus.

Other software: There will be audio/video files in the course for which you will need Windows Media Player or QuickTime or Real Player.

Internet connection: Recommended - Cable modem, DSL, or intranet (T-1); or 56.6 KBPS modem
Note: Corporate or academic security firewalls may block some course content, such as chat or streaming media. Accommodations for access can usually be arranged if you contact your network administrator, though local security policies ultimately dictate what is allowed. 56 K modem or better

Unsupported Browsers:
America Online (AOL), Prodigy, Juno, MSN, Yahoo and other Internet Service Providers (ISPs), provide their own internal and proprietary web browsers. These browsers may not be compatible with online courses.

Preparation for Computer Emergencies:

Computer Crash

Not having a working computer or a crashed computer during the semester will NOT be considered as an acceptable reason for not completing course activities at a scheduled time. NOTE: Identify a second computer before the semester begins, that you can use when/if your personal computer crashes.

Server problems
When the Blackboard server needs downtime for maintenance, the Blackboard administrator will post an announcement in your course informing the time and the date. If the server experiences unforeseen problems your course instructor will send an email.

Complete Loss of Contact

If you lose contact with me completely (i.e. you cannot contact me via email), you need to call me at my office, and explain the reason you cannot contact me and leave me a way to contact you.

Lost/Corrupt/Disappeared files

You must keep/save a copy of every project/assignment on an external disk or personal computer. In the event of any kind of failure (e.g., D2L server crash or virus infection, students own computer crashes, loss of files in cyberspace, etc.) or any contradictions/problems, I may/will request you to resubmit the files. In other words, if you submit a document to me, and I either do not receive it (lost in cyberspace) or it is corrupted when I open it, it is incumbent upon you to resend it to me, corrected, with little or no "downtime" regarding the timeline for submission.

End-of-Course Evaluation & Instructor Evaluation:

Every student must complete end-of-course evaluation provided by MWSU.

Disclaimer & Rights:

Information contained in this syllabus was to the best knowledge of the instructor considered correct and complete when distributed for use in the beginning of the semester. However, the instructor reserves the right, acting within the policies and procedures of MWSU to make changes in the course content or instructional techniques without notice or obligation. The students will be informed about the changes, if any.

SCHEDULE

Importance of a Schedule in the Syllabus: A daily or weekly schedule is not a required part of the syllabus. But it helps the instructor keep the course on track throughout the semester. It saves the instructor significant planning time during the course. Additionally, it allows students demonstrating good planning and organization to see what is coming up and where classes fit into the plan, A schedule is essential for an online course because students "attend" classes at different times. It helps eliminate the logistical problems caused by changing subject matter or improvising "on the fly."

Week	Topic/Activity	Suggested Reading	Homework	Discussion	Due date
1	Review the schedule and syllabus Chapter 1 – Energy, Power, and Transportation Technologies. Chapter 2 – An Introduction to Energy.	Chapter 1 – Energy, Power, and Transportation Technologies. Chapter 2 – An Introduction to Energy. Power Point for Chapter 1, 2	End of Chapter 1, 2 power point Questions.	Introductions Each student should create their profile, by adding appropriate details. Name, Address, Phone number (cell/ work), Email address. And a profile picture.	It is due on Sunday of week 2 09/01/2024
2	Chapter 3 – Nonrenewable Sources of Energy. Chapter 4 – Nuclear Energy.	Chapter 3 – Nonrenewable Sources of Energy. Chapter 4 – Nuclear Energy. Power Point for Chapter 3, 4.	End of Chapter power point 3, 4 Questions.		It is due on Sunday of week 3 09/08/2024

3	Chapter 5 – Renewable and Inexhaustible Energy Sources. Chapter 6 – Solar Energy.	Chapter 5 – Renewable and Inexhaustible Energy Sources. Chapter 6 – Solar Energy. Power Point for Chapters 5, 6.	End of Chapter 5, 6 power point Questions.		It is due on Sunday of week 4 09/15/2024
4	Chapter 7 – An Introduction to Power. Chapter 8 – Electrical Power Systems.	Chapter 7 – An Introduction to Power. Chapter 8 – Electrical Power Systems. Power Point for Chapters 7, 8.	End of Chapter 7, 8 power point Questions.	<u>Post a discussion on any ONE and reply to any TWO</u>: Any topic on: Chapters 1- 10	It is due on Sunday of week 5 09/22/2024
5	Chapter 9 – Mechanical Power Systems. Chapter 10 – Fluid Power Systems. Quiz 1 – Chapters 1-10 10 short answer questions	Chapter 9 – Mechanical Power Systems. Chapter 10 – Fluid Power Systems. Power Point for Chapters 9, 10.	End of Chapter 9, 10 power point Questions. Quiz 1: Chapters 1 – 10: 10 short answer questions.		It is due on Sunday of week 6 09/29/2024
6	Chapter 11 – Control Technology and Automation. Chapter 12 – Electronics.	Chapter 11 – Control Technology and Automation. Chapter 12 – Electronics. Power Point for Chapters 11, 12.	End of Chapter 11, 12 power point Questions.		It is due on Sunday of week 7 10/06/2024
7	Chapter 13 – Energy and Power	Chapter 13 – Energy and Power	End of Chapter 13, 14 power		

	Conversion Devices. Chapter 14 – Small Gas Engines.	Conversion Devices. Chapter 14 – Small Gas Engines. Power Point for Chapters 13, 14.	point Questions.		It is due on Sunday of week 8 10/13/2024
8	Chapter 15 – An Introduction to Transportation Systems. Chapter 16 – An Introduction to Vehicular Systems. Individual 2 - 3-page paper due with 2-4 references on any topic related to material studied till now.	Chapter 15 – An Introduction to Transportation Systems. Chapter 16 – An Introduction to Vehicular Systems. Power Point for Chapters 15, 16.	End of Chapter 15, 16 power point Questions.		It is due on Sunday of Week 9 Individual 2 - 3-page paper due with 2-4 references on any topic related to material studied till now. 10/20/2024
9	Chapter 17 – Land Transportation Systems. Chapter 18 – Land Vehicular Systems.	Chapter 17 – Land Transportation Systems. Chapter 18 – Land Vehicular Systems. Power Point for Chapters 17, 18.	End of Chapter 17, 18 power point Questions.	Post a discussion on any ONE and reply to any TWO: Any topic on: Chapters 11-20	It is due on Sunday of Week 10 10/27/2024
10	Chapter 19 – Water Transportation systems. Chapter 20 – Water Vehicular Systems.	Chapter 19 – Water Transportation systems. Chapter 20 – Water Vehicular Systems.	End of Chapter 19, 10 power point Questions.		It is due on Sunday of Week 11 Quiz 2 – Chapters 11 - 20

	Quiz 2: Chapters 11 – 20. 10 short answer questions.	Power Point for Chapters 19, 20.	Chapter 25, 26, & 27 questions		Ten short answer questions. 11/03/2024
11	Chapter 21 – Air Transportation Systems. Chapter 22 – Air Vehicular Systems.	Chapter 21 – Air Transportation Systems. Chapter 22 – Air Vehicular Systems. Power Point for Chapters 21, 22.	End of Chapter 21, 22 power point Questions.		It is due on Sunday of Week 12 11/10/2024
12	Chapter 23 – Space Transportation Systems. Chapter 24 – Space Vehicular Systems.	Chapter 23 – Space Transportation Systems. Chapter 24 – Space Vehicular Systems. Power Point for Chapters 23, 24.	End of Chapter 23, 24 power point Questions.		It is due on Sunday of Week 13 11/17/2024
13	Presentation: 8 – 10 slides on any topic related to material studied till now. Chapter 25 – Intermodal Transportation and Vehicular Systems.	Chapter 25 – Intermodal Transportation and Vehicular Systems. Chapter 26 – Energy, Power, Transportation,	End of Chapter 25, 26 power point Questions.		It is due on Sunday of week 14 Presentation: 8 – 10 slides on any topic related to

	Chapter 26 – Energy, Power, Transportation, and the Environment. Presentation: 8 – 10 slides on any topic related to material studied till now.	and the Environment. Power Point for Chapters 25, 26.			material studied till now. 11/24/2024
14	Chapter 27 – Energy, Power, Transportation and the Future.	Chapter 27 – Energy, Power, Transportation and the Future. Power Point for Chapters 27.	End of Chapter 27 power point Questions.	Post a discussion on any ONE and reply to any TWO: Any topic on: Chapters 21 - 27	It is due on Sunday of week 15 12/01/2024
15	Quiz 3: Chapters 21 - 27 10 short answer questions				It is due on Sunday of week 15 Quiz 3. Chapters 21-27 10 short answer questions 12/03/2024
16	Final 10 short answer questions	Chapters 1 - 27			Finals day in week 16 – December 5th Ten short answer questions. 12/05/2024

Reminder for Grades

It is the student's responsibility to check their grades frequently. I will not complete grading until after the module closes. There must be an assigned value for all possible assignments. I will do my best to assign grades for material that has been closed, but I need your help in checking for accuracy. If you have taken an exam or assignment and the grade is not posted in the grade book after the module closes, please let me know. Once it closes, all incomplete assignments will receive zeros in the grade book.