



Energy Technology

TECH 4123

Summer 2026 Syllabus

Online Course via D2L

Course Dates: June 1 - August 6, 2026

Credit Hours: 3

Welcome

Hello everyone. I am Dr. Salem Naeeri, and I will be your professor for Energy Technology - TECH 4123. The course is conducted online through D2L and includes summarized online lectures, recommended readings, PowerPoint materials, homework assignments, quizzes, discussions, an individual paper, a presentation, and a final exam. Your success in this course is my goal. Please reach out by email with questions or concerns.

Course Information

Item	Details
Course Number	TECH 4123
Course Title	Energy Technology
Course Term	Summer 2026
Modality	Online via D2L Learning Management System
Course Dates	June 1 - August 6, 2026
Credit Hours	3
Target Audience	Junior students; required for the Online BAAS in Technology
Prerequisite	Sophomore standing or consent of the instructor

Instructor Contact Information

Item	Information
Instructor	Dr. Salem Naeeri
Email	salem.naeeri@msutexas.edu
Phone	832-805-0985
Office Hours	By appointment via email or Zoom/D2L communication tools
Primary Communication	Use your university email and D2L course communication tools for official course communication.

Getting Started

1. Review this syllabus carefully and note all course expectations, grading policies, due dates, and technology requirements.
2. Log in to the TECH 4123 course shell in D2L and review the Start Here or Course Information area.
3. Complete the Student Information/Introductions activity at the beginning of the semester.

4. Read each assigned textbook chapter before reviewing the posted PowerPoint or lecture materials.
5. Submit all assignments through the designated D2L Dropbox before the posted deadline.
6. Check D2L announcements, email, and grades regularly throughout the course.

Course Description

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

The course examines the elements of energy, power, and transportation and their impact. Managers, technical personnel, and engineers must be knowledgeable about energy and prepared to oversee programs that include these areas of responsibility.

General Course 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
- Transportation Systems
- Energy, Power, Transportation, and the Environment
- Energy, Power, Transportation, and the Future

Required Textbook

Litowitz, L., & Brown, R. Energy, Power and Transportation Technology. G-W Publishers. ISBN: 978-1-60525-555-2. Use the latest available edition as directed by the instructor.

Important Dates

Date/Item	Summer 2026 Information
Classes Begin	June 1, 2026
Deadline for August Graduates to File for Graduation	June 22, 2026
Last Day to Drop/Withdraw with a W (Summer Long/Summer II)	July 22, 2026 by 4:00 PM
Final Exam Period	August 6, 2026
Course End Date	August 6, 2026

Course Learning Objectives

Objective	Description
LO1	Explain major concepts, terminology, and relationships among energy, power, and transportation technologies.
LO2	Compare renewable, nonrenewable, and inexhaustible energy sources and describe current energy-use trends.
LO3	Describe major power production, conversion, distribution, and storage processes.
LO4	Analyze basic electrical, mechanical, fluid, control, and automation systems used in energy technology.
LO5	Evaluate transportation technologies and their relationship to energy use, efficiency, and environmental impact.
LO6	Apply energy technology concepts to homework, quizzes, discussions, a written paper, and a presentation.
LO7	Demonstrate professional communication, ethical academic conduct, and responsible participation in an online course environment.
LO8	Synthesize course concepts to discuss future trends and challenges in energy, power, and transportation systems.

Student Learning Outcomes and Activities

SLO	Student Learning Outcome	Tools / Activities
SLO1	Identify and explain energy sources and power technologies.	Textbook readings, PowerPoints, homework, quizzes
SLO2	Analyze energy conversion, distribution, and transportation systems.	Chapter assignments, quiz questions, discussions
SLO3	Evaluate environmental, technical, and future-trend issues in energy technology.	Discussions, paper, presentation, final exam
SLO4	Communicate technical information clearly in written and presentation formats.	Individual paper, presentation, peer replies
SLO5	Use D2L and digital tools responsibly to complete online course requirements.	D2L Dropbox, discussions, gradebook review

Module-Level Objectives

Module	Topics	Module-Level Objective	Assessment Method
Module 1	Course Orientation; Chapters 1-2: Energy, Power, and Transportation Technologies; Introduction to Energy	Identify course expectations and explain basic energy, power, and transportation concepts.	Student information/introduction; Homework Chapters 1-2
Module 2	Chapters 3-4: Nonrenewable Energy Sources; Nuclear Energy	Describe nonrenewable energy sources and summarize principles and issues related to nuclear energy.	Homework Chapters 3-4
Module 3	Chapters 5-6: Renewable and Inexhaustible Energy Sources; Solar Energy	Compare renewable/inexhaustible energy sources and explain the role of solar energy systems.	Homework Chapters 5-6
Module 4	Chapters 7-8: Introduction to Power; Electrical Power Systems	Explain power concepts and describe basic electrical power generation and distribution systems.	Homework Chapters 7-8; Discussion 1
Module 5	Chapters 9-10: Mechanical Power Systems; Fluid Power Systems; Quiz 1	Analyze mechanical and fluid power systems and demonstrate understanding of Chapters 1-10.	Homework Chapters 9-10; Quiz 1
Module 6	Chapters 11-12: Control Technology and Automation; Electronics	Explain basic control, automation, and electronics concepts used in energy and power systems.	Homework Chapters 11-12
Module 7	Chapters 13-14: Energy and Power Conversion Devices; Small Gas Engines	Describe energy conversion devices and the operation of small gas engines.	Homework Chapters 13-14
Module 8	Chapters 15-16: Transportation Systems; Vehicular Systems; Individual Paper	Explain transportation system concepts and connect course topics to a short research paper.	Homework Chapters 15-16; Individual Paper
Module 9	Chapters 17-18: Land Transportation Systems; Land Vehicular Systems	Analyze land transportation and land vehicle systems in relation to power and energy use.	Homework Chapters 17-18; Discussion 2
Module 10	Chapters 19-20: Water Transportation Systems; Water Vehicular Systems; Quiz 2	Explain water transportation and demonstrate understanding of Chapters 11-20.	Homework Chapters 19-20; Quiz 2
Module 11	Chapters 21-22: Air Transportation Systems; Air Vehicular Systems	Describe air transportation systems and vehicle technologies.	Homework Chapters 21-22

Module	Topics	Module-Level Objective	Assessment Method
Module 12	Chapters 23-24: Space Transportation Systems; Space Vehicular Systems	Explain space transportation technologies and their energy/power requirements.	Homework Chapters 23-24
Module 13	Chapters 25-26: Intermodal Transportation; Energy, Power, Transportation, and the Environment; Presentation	Connect intermodal transportation systems with environmental impacts and present findings.	Homework Chapters 25-26; Presentation
Module 14	Chapter 27: Energy, Power, Transportation, and the Future	Evaluate future trends, challenges, and innovations in energy, power, and transportation.	Homework Chapter 27; Discussion 3
Module 15	Review and Quiz 3: Chapters 21-27	Review course concepts from Modules 11-14 and demonstrate understanding of Chapters 21-27.	Quiz 3
Module 16	Final Exam Module: Comprehensive Final Exam, Chapters 1-27	Synthesize and demonstrate comprehensive understanding of the full course.	Final Exam

Course Requirements, Assessment, and Evaluation

Students will complete homework assignments, quizzes, discussion participation activities, an individual paper, a presentation, and a final exam. Quizzes and exams are completed online through D2L and may include time limits and one-attempt restrictions. Once an exam is opened, students must complete it before the timer expires.

Course Activity	Points	Percentage of Final Grade
Homework Assignments (Chapters 1-27)	100 each as posted in D2L	20%
Quiz 1: Chapters 1-10	100	10%
Quiz 2: Chapters 11-20	100	10%
Quiz 3: Chapters 21-27	100	10%
Final Exam: Chapters 1-27	100	10%
Individual Paper (2-3 pages with 2-4 references)	100	10%
Presentation (8-10 slides)	100	10%
Discussion Participation - Topic 1	10	5%
Discussion Participation - Topic 2	10	5%
Discussion Participation - Topic 3	10	5%
Discussion Participation - Topic 4	10	5%
Total		100%

Grading Scale

Percentage	Grade
90-100%	A
80-89%	B
70-79%	C
60-69%	D
Below 60%	F

Assignment and Discussion Rubrics

Assignment Criteria	Excellent (90-100%)	Proficient (80-89%)	Needs Improvement (<80%)
Accuracy of Content	Accurate, complete, and clearly connected to chapter concepts.	Mostly accurate with minor errors or missing details.	Multiple errors, incomplete explanation, or weak connection to course concepts.
Application and Analysis	Uses examples, evidence, and reasoning to apply course ideas.	Some application is present but may need more depth.	Limited analysis or mostly summary without application.
Organization and Professionalism	Well-organized, clear, professional, and easy to follow.	Generally organized with minor clarity or formatting issues.	Unclear, cluttered, incomplete, or difficult to follow.
Documentation and Sources	Required sources are used and cited appropriately when applicable.	Sources are present but may need stronger citation or integration.	Missing sources, weak documentation, or citation problems.
Discussion Criteria	Excellent	Proficient	Needs Improvement

Assignment Criteria	Excellent (90-100%)	Proficient (80-89%)	Needs Improvement (<80%)
Initial Post	Directly answers the prompt with thoughtful detail and course support.	Answers the prompt but needs more detail or stronger support.	Brief, incomplete, late, or unclear.
Peer Replies	Responds meaningfully to at least two classmates.	Responds to classmates but with limited depth.	Missing replies or replies are generic.
Tone and Netiquette	Respectful, professional, and grammatically clear.	Mostly professional with minor issues.	Unprofessional tone or unclear writing.

Assignment-Objective Alignment Table

Assignment	Course Objectives					Student Learning Outcomes		
Homework Chapters 1-27	LO1, LO2, LO3, LO4, LO5, LO6					SLO1, SLO2		
Quiz 1	LO1, LO2, LO3, LO4					SLO1, SLO2		
Quiz 2	LO3, LO4, LO5					SLO1, SLO2		
Quiz 3	LO5, LO8					SLO2, SLO3		
Discussion Participation	LO6, LO7, LO8					SLO3, SLO4, SLO5		
Individual Paper	LO2, LO5, LO6, LO8					SLO3, SLO4		
Presentation	LO5, LO6, LO7, LO8					SLO3, SLO4, SLO5		
Final Exam	LO1-LO8					SLO1-SLO5		
Assignment	LO1	LO2	LO3	LO4	LO5	LO6	LO7	LO8
Homework Chapters 1-27	X	X	X	X	X	X		
Quiz 1	X	X	X	X				
Quiz 2			X	X	X			
Quiz 3					X			X
Discussion Participation						X	X	X
Individual Paper		X			X	X		X
Presentation					X	X	X	X
Final Exam	X	X	X	X	X	X	X	X

Instructional Materials and Technology

Instructional materials are provided through D2L. Students should review textbook readings, PowerPoints, assignment directions, discussion prompts, quiz instructions, and instructor announcements in each module.

Technology / Resource	Purpose
D2L Learning Management System	Access course materials, announcements, discussions, Dropbox submissions, quizzes, grades, and feedback.
Reliable Computer and Internet Access	Required for online course participation, submission of assignments, and completion of quizzes/exams.
Microsoft Office or Compatible Tools	Required for Word documents, PowerPoint presentations, and assignment preparation.
PDF Reader	Required for viewing posted handouts and course materials.
Speakers/Headphones	Required for any posted audio or video materials.
Anti-virus Software	Recommended because online courses involve file sharing and downloads.

Course Policies and Procedures

Student Email and Communication

All students are provided email accounts through the university server. Students must use university email or D2L communication tools for official student-instructor interaction. If an alternate email is used, it must clearly include the student's first and last name.

Course Content Structure

The course is divided into 16 modules. Each module includes assigned readings, posted lecture/PowerPoint materials, homework or other required activities, and, where applicable, discussion topics, quizzes, the individual paper, presentation, or final exam.

Submission and Naming Convention

- Submit all assignments through the designated D2L Dropbox unless otherwise directed.
- Use the following file naming convention: First Name + Last Name + Assignment Name. Example: Jane Doe Homework 1 or Jane Doe Paper.
- Include your name at the top of each assignment or in the page header when possible.
- Keep a copy of every submitted assignment in case resubmission is needed due to technical problems.

Make-Up and Late Submission Policy

All course activities must be submitted before or on the posted due dates. Late work will not be accepted unless an exception is approved by the instructor in advance or due to a verified emergency. Students should contact the instructor as soon as possible if an emergency affects coursework.

Grading and Feedback

Course activities are generally graded within one week after the set due date or module closing date. Students should check the D2L gradebook regularly and contact the instructor immediately if there is a discrepancy. Once a module closes, incomplete assignments may receive zeros in the gradebook.

Academic Integrity

Scholastic dishonesty includes cheating, plagiarism, collusion, falsifying academic records, misrepresenting facts, submitting work or materials attributable in whole or in part to another person, taking an examination for another person, submitting essentially the same assignment for two courses without permission, or attempting to commit such acts.

Plagiarism includes appropriating, buying, receiving as a gift, or obtaining by any means material from another source - including words, ideas, illustrations, structure, computer code, media, or other expression - and presenting that material as one's own academic work for credit. Students found plagiarizing or cheating may receive a zero for the course activity and may be subject to further academic or institutional consequences.

Artificial Intelligence (AI) Use Policy

AI tools may be used only when permitted by the assignment instructions and must not replace the student's own understanding, analysis, or original work. Students must disclose meaningful use of AI tools when used to generate, revise, summarize, or analyze assignment content. Undisclosed or inappropriate AI use may be treated as an academic integrity concern.

Discussion Board Participation

For each discussion, students must respond directly to the prompt, read classmates' posts, and reply meaningfully to at least two classmates. Responses should be reflective, connected to course readings, and supported with examples or experience. Avoid posts that only say "I agree" or "Great idea."

Attendance and Class Participation

Regular and active participation is essential in this online course. Students are expected to log in to the course at least three times every seven days, review all course materials, participate in discussions, and complete assigned work on time. D2L tracking may record student access to course pages, materials, discussions, quizzes, and other tools.

Netiquette Guidelines

Area	Guideline
Respect	Use courteous, professional, and inclusive language in all posts, replies, emails, and messages.
Clarity	Use clear subject lines, complete sentences, and proper grammar. Re-read messages before posting.
Tone	Avoid all caps, sarcasm that may be misunderstood, offensive language, or personal attacks.
Engagement	Make posts meaningful, reflective, and connected to course content.
Privacy	Do not post private or overly personal information in public discussion areas.
Participation	Read posted messages and respond to classmates by name when appropriate.

Accessibility and ADA Accommodation

Midwestern State University is committed to providing equal access for qualified students with disabilities to all university courses and programs. Students seeking reasonable accommodations should contact Disability Support Services. 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.

Accessibility of Course Materials

- Course documents will use structured headings, readable fonts, and sufficient color contrast whenever possible.
- Tables will include clear header rows and descriptive labels.
- Images, charts, and diagrams will include alternative text or equivalent descriptions when they are instructional.
- Videos and audio materials should include captions, transcripts, or equivalent alternatives when available.
- Links will be descriptive so students understand the purpose of the link.
- Students should notify the instructor promptly if a course file, video, or activity creates an access barrier.

Learner Support Services

Support Area	Contact / Resource
Disability Support Services	Clark Student Center 168; (940) 397-4140; TDD (940) 397-4515
Technical Support	Use MSU Texas technology support resources and D2L help options as posted by the university.
Library and Research Support	Use MSU Texas library resources for research, citations, and databases.
Instructor Support	Contact Dr. Salem Naeeri by email for course-related questions or to schedule an appointment.

Computer and Technical Readiness

Students are responsible for maintaining access to a working computer, reliable internet connection, updated browser, Microsoft Office or compatible software, PDF reader, and speakers or headphones. Students should identify a backup computer before the course begins. A computer crash or loss of internet access is not automatically considered an acceptable reason for missing a deadline.

Students should save backup copies of all assignments. If a file is lost, corrupted, or does not upload correctly, the student may be asked to resubmit it promptly.

End-of-Course Evaluation and Instructor Evaluation

Every student is expected to complete the end-of-course evaluation provided by MSU Texas. Feedback helps improve course design, instructional materials, and student learning experiences.

Disclaimer and Rights

Information in this syllabus is considered correct and complete at the beginning of the semester. The instructor reserves the right, within the policies and procedures of MSU Texas, to revise course content, instructional techniques, due dates, or policies when necessary. Students will be informed of changes through D2L announcements or email.

Detailed Course Schedule

The schedule below organizes the course into 16 modules. Dates may be adjusted by the instructor if needed. Students should rely on D2L announcements and due dates for the most current deadline information.

Module	Timeline	Topic/Activity	Suggested Reading / Focus	Homework / Assessment	Due Date
1	June 1-7	Orientation; Chapters 1-2	Energy, Power, and Transportation Technologies; Introduction to Energy	Homework Ch. 1-2; Student Information/Introductions	June 7
2	June 1-7	Chapters 3-4	Nonrenewable Sources of Energy; Nuclear Energy	Homework Ch. 3-4	June 14
3	June 8-14	Chapters 5-6	Renewable and Inexhaustible Energy Sources; Solar Energy	Homework Ch. 5-6	June 14
4	June 8-14	Chapters 7-8	Introduction to Power; Electrical Power Systems	Homework Ch. 7-8; Discussion Topic 1	June 21
5	June 15-21	Chapters 9-10; Quiz 1	Mechanical Power Systems; Fluid Power Systems; Review Chapters 1-10	Homework Ch. 9-10; Quiz 1	June 21
6	June 15-21	Chapters 11-12	Control Technology and Automation; Electronics	Homework Ch. 11-12	June 28
7	June 22-28	Chapters 13-14	Energy and Power Conversion Devices; Small Gas Engines	Homework Ch. 13-14	June 28
8	June 22-28	Chapters 15-16; Individual Paper	Transportation Systems; Vehicular Systems	Homework Ch. 15-16; Individual 2–3-page paper with 2-4 references	July 5
9	June 29-July 5	Chapters 17-18	Land Transportation Systems; Land Vehicular Systems	Homework Ch. 17-18; Discussion Topic 2	July 5
10	June 29-July 5	Chapters 19-20; Quiz 2	Water Transportation Systems; Water Vehicular Systems; Review Chapters 11-20	Homework Ch. 19-20; Quiz 2	July 12
11	July 6-12	Chapters 21-22	Air Transportation Systems; Air Vehicular Systems	Homework Ch. 21-22	July 12
12	July 6-12	Chapters 23-24	Space Transportation Systems; Space Vehicular Systems	Homework Ch. 23-24	July 19
13	July 13-19	Chapters 25-26; Presentation	Intermodal Transportation and Vehicular Systems; Energy, Power, Transportation, and the Environment	Homework Ch. 25-26; Presentation 8-10 slides	July 19
14	July 13-19	Chapter 27	Energy, Power, Transportation, and the Future	Homework Ch. 27; Discussion Topic 3	July 25
15	July 20-25	Quiz 3	Review Chapters 21-27	Quiz 3: 10 short-answer questions	July 25
16	Aug. 5-6	Final Exam Module	Comprehensive review of Chapters 1-27	Final Exam: 10 short-answer questions	Aug. 6

Reminder for Grades

It is the student's responsibility to check grades frequently in D2L. If a grade is missing or appears incorrect after a module closes, contact the instructor promptly. Incomplete assignments may receive zeros after the module closes.

