

MECH 3312 Thermodynamics

Course Syllabus

Fall 2022

Time and Location: MW 12:00 pm - 1:20 pm, 318 Liberal Art

Instructor: Hossein Mallahzadeh, Ph.D
E-mail: hmallahzade@utep.edu
Office hours: Monday (2:00 – 3:00 pm) and Tuesday (9:30-10:30 am)
Office location: Engineering Building, Room E-329
Teaching Assistant: TBA
TA's office hours: TBA
TA's office location: TBA

Textbook: Y.A. Çengel and M.A. Boles, *Thermodynamics: An Engineering Approach*, 9th Edition, McGraw-Hill, ISBN 9781260048667

BLACKBOARD: Instructor will be using Blackboard for uploading lectures, updating the syllabus (if necessary), and communicating with students via “Announcements” and email.

COURSE OBJECTIVES: The student, upon completion of this course, will be able to:

- Understand the concept of entropy, use relations and property diagrams involving entropy.
- Understand the concept of exergy, conduct second-law analysis of systems and cycles.
- Analyze ideal gas power cycles: write energy balance, determine heat and work, and calculate the cycle efficiency.
- Analyze vapor power cycles: write energy balance, determine heat and work, and calculate the cycle efficiency;
- Analyze refrigeration cycles: write energy balance, determine heat and work, and calculate the cycle coefficient of performance.
- Calculate properties of ideal gas mixtures.
- Determine the properties of dry air – water vapor mixtures and analyze processes involving these mixtures using energy and mass balances.

Exams: There are midterm exams.

Exam dates: 9/26, 10/24 and 11/21.

Grading

Your final grade for this course will be based on the following activities

Assignments	Percentage
Midterm Exams (3x)	75%
Class Performances	25%
Total	100%

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

The instructor reserves the right to revise this grading plan.