

King Saud University
Mechanical Engineering Department
ME 371 Thermodynamics -I-
Second Semester – 1435/1436H

Instructor: Dr. Hany Al-Ansary

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Course Objectives:

Thermodynamics is a basic course that serves as the background for many thermo-fluid courses. The main objective of the course is to provide the engineering student with the basic principles of thermodynamics through the study of the first and second laws of thermodynamics and applications.

Credit hours: 3

Textbook: Thermodynamics: An Engineering Approach, by Cengel and Boles

Course Content

Chapter		Sections	No. of Weeks
1	Introduction and Basic Concepts	1.1-1.9	2
2	Energy, Energy Transfer, and General Energy Analysis	2.1-2.6	1.5
3	Properties of Pure Substances	3.1-3.8	3
4	Energy Analysis of Closed Systems	4.1-4.5	1.5
5	Mass and Energy Analysis of Control Volumes	5.1-5.4	2
6	The Second Law of Thermodynamics	6.1-6.11	2.5
7	Entropy	7.1-7.13	2.5

Design Content: None

Lectures: 100 %

Assessment Tools:

Homework + quizzes: 10 % (3 for HW and 7 for quizzes every two weeks)

2 Midterm Exams: 40 %

Semester report 10% (Report, discussion and presentation)

Final Exam: 40 %

Estimated ABET Category Content:

Engineering Science: 3.0 credit units (100%)

Engineering Design: 0 credit units (0%)

Prepared by

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