

MECH 3704 - Thermodynamics 2

Fall 2026 Syllabus, Section 02, CRN 43339,

Credit hours: 3

Instructor

Kyosung Choo

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Public Instructor Information

Instructor Title: Professor

Instructor Professional Qualifications: Ph.D.

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Course Description

3704. Thermodynamics 2. Power and refrigeration cycles, relations among thermodynamic properties, properties of non-reacting gas mixtures and solutions, chemical reactions and combustion processes, psychrometry and air conditioning principles, and more advanced topics on renewable energy. Prereq.: MECH 2603 . 3 s.h.

Course Readings

Group	Title	Author	ISBN
Optional	Thermodynamics: An Engineering Approach, 9th Ed	Yunus A. Çengel & Michael A. Boles	978-1259822674

The course readings are subject to change in the event of extenuating circumstances, research developments, current events, and/or to ensure better learning.

Schedule of Topics and Assignments

Day	Date	Reading(s)	Proposed Topic	Due/To Prepare for Class
Mon	8/24	Chapter 1 - 3	Review of the First Law of Thermodynamics	
Wed	8/26	Chapter 4 - 5	Review of the First Law of Thermodynamics	
Mon	8/31	Chapter 6 - 7	Review of the Second Law of Thermodynamics	
Wed	9/2	Chapter 9	Gas power cycles	
Mon	9/7	Chapter 9	Gas power cycles	
Wed	9/9	Chapter 9	Gas power cycles	
Mon	9/14	Chapter 9	Gas power cycles	
Wed	9/16	Chapter 9	Gas power cycles	
Mon	9/21	Chapter 9	Gas power cycles	
Wed	9/23	Chapter 10	Steam power cycles	
Mon	9/28	Chapter 10	Steam power cycles	
Wed	9/30	Chapter 10	Steam power cycles	
Mon	10/5		Exam 1	
Wed	10/7	Chapter 10	Steam power cycles	
Mon	10/12	Chapter 10	Steam power cycles	
Wed	10/14	Chapter 18	Renewable energy	
Mon	10/19	Chapter 18	Renewable energy	
Wed	10/21	Chapter 18	Renewable energy	

Mon	10/26	Chapter 18	Renewable energy
Wed	10/28	Chapter 11	Refrigeration systems
Mon	11/2		Exam 2
Wed	11/4	Chapter 11	Refrigeration systems
Mon	11/9	Chapter 11	Refrigeration systems
Wed	11/11	Chapter 12-13	Non-reacting gas mixtures
Mon	11/16	Chapter 13	Non-reacting gas mixtures
Wed	11/18	Chapter 13	Non-reacting gas mixtures
Mon	11/23	Chapter 15	Combustion processes
Wed	11/25	Chapter 15	Combustion processes
Mon	11/30	Chapter 14	Psychrometry and air conditioning
Wed	12/2	Chapter 14	Psychrometry and air conditioning
Mon	12/7	Chapter 14	Psychrometry and air conditioning
Wed	12/9		Final Exam

The course schedule, policies, procedures, and assignments in this course are subject to change in the event of extenuating circumstances, by mutual agreement, and/or to ensure better learning.