

MECH 3704 - Thermodynamics 2

Fall 2026 Syllabus, Section 01, CRN 43337,

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

Week of	Reading(s)	Proposed Topic	Due/To Prepare for Class
8/24	Chapter 1 -7	Review of the First Law of Thermodynamics	
8/31	Chapter 9	Gas power cycles	
9/7	Chapter 9	Gas power cycles	
9/14	Chapter 9	Gas power cycles	
9/21	Chapter 10	Steam power cycles	
9/28	Chapter 10	Steam power cycles	
10/5	Chapter 10	Steam power cycles	
10/12	Chapter 18	Renewable energy	
10/19	Chapter 18	Renewable energy	
10/26	Chapter 11	Refrigeration systems	
11/2	Chapter 11	Refrigeration systems	
11/9	Chapter 12-13	Non-reacting gas mixtures	
11/16	Chapter 13	Non-reacting gas mixtures	
11/23	Chapter 15	Combustion processes	
11/30	Chapter 14	Psychrometry and air conditioning	
12/7	Chapter 14	Psychrometry and air conditioning	

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.