

Thermodynamics I (ME 398), Fall 2014

Department of Mechanical Engineering, Wichita State University

## Class Schedule

Week	Date	Subject	Reading
1	8/18	Introductions: overview and backgrounds	1.1-1.3
	8/20	Unit and measuring properties	1.4-1.9
2	8/25	Energy and work	2.1-2.3
	8/27	Energy transfer by heat and first law of thermodynamics	2.4-2.5
3	9/1	Labor day (no class)	-
	9/3	Energy analysis of cycles and energy storage	2.6-2.7
4	9/8	State properties: pressure, specific volume, and temperature	3.1-3.3
	9/10	Evaluating properties	3.4-3.5
5	9/15	Thermodynamics properties: enthalpy, and internal energy	3.6-3.8
	9/17	Review: 1.1-3.9	1.1-3.8
6	9/22	In-class midterm exam I: Chap 1.1-3.8	1.1-3.8
	9/24	Thermodynamics properties: specific heats	3.9
7	9/29	Liquid and solid, generalized compressibility and ideal gas model	3.10-3.11
	10/1	Ideal gas model and polytropic process relation	3.12-3.15
8	10/6	Conservation of mass for a control volume	4.1
	10/8	Mass rate balance and conservation of energy	4.2-4.5
9	10/13	Fall break (no class)	-
	10/15	Nozzles, diffusers, and turbines	4.6-4.7
10	10/20	Compressors and pumps and heat exchangers	4.8-4.9
	10/22	Throttling devices and system integration	4.10-4.11
11	10/27	Transient analysis	4.12
	10/29	Reviews: 3.12-4.12	3.9-4.12
12	11/3	In-class midterm exam II: Chap. 3.9-4.12	3.9-4.12
	11/5	Entropy in Closed Systems	5.1-5.4
13	11/10	Applying the second law to thermodynamic cycles	5.5-5.7
	11/12	Maximum performance measures	5.8-5.9
14	11/17	Carnot cycle, Clausius inequality, and Entropy	5.10-6.4
	11/19	Entropy change of an ideal gas and closed system	6.5-6.8
15	11/24	Entropy rate balance for control volume and isentropic process	6.9-6.11
	11/26	Thanksgiving day (no class)	-
16	12/1	Isentropic efficiencies and heat transfer	6.12-6.13
	12/3	Final review	1.1-6.13
	12/10	Final Exam: Chap 1.1-6.13 (12/10, 3:00 - 4:50 pm)	1.1-6.13