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ME 312-103: Thermodynamics

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"The Book and Lecture will 'teach' you little unless are willing to put an active, organized effort into the learning process. Active- directed work is necessary to understand and remember the material."

Assignment Sheet-Kountouras

Week	Topic	Sections	Problems
1	Review of Thermodynamics I Concepts Exergy, Reversible Work, Irreversibility, Second-Law	8.1-8.3	In class
	Efficiency Exergy Change of a System	8.4	review problems
	Exergy Transfer by Heat, Work, and Mass	8.5-8.6	
2	Basic Considerations, Carnot cycle, Air standard cycle	9.1-9.4	9/16E,17E,
	Otto Cycle Diesel Cycle	9.5 9.6	38E,54
3	Brayton Cycles Brayton Cycle with Regeneration, Reheating	9.7-9.8 9.9-9.10	9/87, 107, 133
	Second-Law Analysis	9.11-9.12	
4-5	Rankine Vapor Cycles Parameters Affecting Efficiency, Reheat Cycle	10.1-10.3 10.4-10.5	war and the same and
	Regenerative Rankine Cycle	10.6	, , , , , , , , , , , , , , , , , , , ,
6	Second-Law Analysis of Vapor Power Cycles Societal/Environmental/Economic Issues and Power	10.7	10/45, 46 See instructor
	Plants. Professionalism		handout assignment.
7	Test 1 on Chapters 8 and 10		
	Refrigerators & Heat Pumps, Reversed Carnot Cycle Ideal Refrigeration cycle	11.1-11.2 11.3	11/3,12E,42 44,46
8	Actual Vapor-Compression Refrigeration Cycle Composition of Gas Mixtures	11.4 13.1	13/11,33,50, 50,54,66
	Composition of Gas Miximes	13.1	30,37,00
9	P-v-T Behavior of Gas Mixtures		
		13.2	14/15E,29,39 66E
	Properties of Gas Mixtures Properties of Gas-Vapor Mixtures	13.3 14.1-14.3	
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Week	Topic	Sections	Problems
10	Adiabatic Saturation and Wet-Bulb Temperatures	14.4	14/64,7 2E,7378 101,109
	Psychrometric Chart, Air Cond. Processes	14.5-14.7	
	Test 2 Chapter 11-13		
11	Review Fuels and Combustion	15.1	
12	Theoretical and Actual Combustion Processes	15.2	15/14,15, 18
	Enthalpy of Formation and Enthalpy of Combustion	15.3	
13	First-Law Analysis of Reacting Systems	15.4	15/19,26, 57,61,72,73
	Adiabatic Flame Temperature	15.5	
	Entropy Change of Reacting Systems	15.6	
14	Second-Law Analysis of Reacting Systems Stagnation Properties, Speed o	15.7	
	of sound and Mach number One Dimensional Isentropic Flow	17.1-17.2 17.3	17-18,22E,35

Final Exam Comprehensive