

ME 200 - THERMODYNAMICS I					
COURSE SCHEDULE - SPRING 2023					
Course Text: Moran, Shapiro, Boettner, and Bailey, Fundamentals of Engineering Thermodynamics					
Lecture	Day	Date	Topic	Reading	Homework (Due Date)
1	M	9-Jan	Syllabus, systems, definitions	1.2, 1.3	HW-1 (13-Jan)
2	W	11-Jan	Specific volume, pressure, temperature	1.5-1.7	HW-2 (13-Jan)
3	F	13-Jan	Engineering approach to problem solving	1.8.2, 1.9	HW-3 (20-Jan)
	M	16-Jan	Martin Luther King Jr. Day - No Class		
4	W	18-Jan	Mechanical concepts of energy and work	2.1-2.2.2	HW-4 (20-Jan)
5	F	20-Jan	Moving boundary work; electrical, spring and rotating shaft work	2.2.3-2.2.6	HW-5 (27-Jan)
6	M	23-Jan	Energy; work and heat transfer; 1st law w/o mass flow	2.3-2.5	HW-6 (27-Jan)
7	W	25-Jan	Evaluating properties: property charts	3.1-3.3	HW-7 (27-Jan)
8	F	27-Jan	Evaluating properties: property tables	3.4-3.6	HW-8 (3-Feb)
9	M	30-Jan	Internal energy and enthalpy; energy balance	3.8, 3.8.1	HW-9 (3-Feb)
10	W	1-Feb	Specific heats; incompressible substance	3.9, 3.10	HW-10 (3-Feb)
11	F	3-Feb	Ideal gas model; ideal gas properties	3.12, 3.13	HW-11 (10-Feb)
12	M	6-Feb	Ideal gas tables; polytropic process	3.14, 3.15	HW-12 (10-Feb)
13	W	8-Feb	Conservation of mass	4.1-4.3	HW-13 (10-Feb)
14	F	10-Feb	1st law w/t mass flow	4.4, 4.5	HW-14 (20-Feb)
15	M	13-Feb	1st law practice	4.6-4.10	HW-15 (20-Feb)
16	W	15-Feb	More 1st law practice	4.6-4.10	HW-16 (20-Feb)
	Th	16-Feb	Exam 1, 6:30 to 7:30 p.m.		
BHEE-129 (Divisions 1 and 2), CL-1950 (Divisions 3 and 4), PHYS-114 (Division 5)					
	F	17-Feb	No Class Due to Exam 1		
17	M	20-Feb	System integration	4.11	HW-17 (24-Feb)
18	W	22-Feb	Energy analysis of cycles	2.6	HW-18 (24-Feb)
19	F	24-Feb	Transient analysis	4.12	HW-19 (3-Mar)
20	M	27-Feb	Introducing the 2nd Law; irreversibilities	5.1-5.4	HW-20 (3-Mar)
21	W	1-Mar	Thermodynamic cycles and the 2nd Law	5.5-5.8	HW-21 (3-Mar)
22	F	3-Mar	Maximum cycle performance measures	5.9	HW-22 (20-Mar)
23	M	6-Mar	Carnot cycle, Clausius inequality and its significance	5.10, 5.11	HW-23 (20-Mar)
24	W	8-Mar	Entropy as a property	6.1, 6.2	HW-24 (20-Mar)
	Th	9-Mar	Exam 2, 6:30 to 7:30 p.m.		
BHEE-129 (Divisions 1 and 2), WTHR-200 (Divisions 3 and 4), WALC-1055 (Division 5)					

	F	10-Mar	No Class Due to Exam 2		
			Spring Break - No Class		
25	M	20-Mar	T-ds relations; Entropy change for incompressible substance	6.3, 6.4	HW-25 (24-Mar)
26	W	22-Mar	Entropy change for ideal gas	6.5	HW-26 (24-Mar)
27	F	24-Mar	Internally reversible process; 2nd law w/o mass flow	6.6, 6.7	HW-27 (31-Mar)
28	M	27-Mar	Entropy increase principle; 2nd law w/t mass flow	6.8.1, 6.9	HW-28 (31-Mar)
29	W	29-Mar	2nd Law practice	6.10	HW-29 (31-Mar)
30	F	31-Mar	Isentropic process	6.11	HW-30 (7-Apr)
31	M	3-Apr	Device isentropic efficiencies	6.12	HW-31 (7-Apr)
32	W	5-Apr	Heat transfer and work in internally reversible flow process	6.13	HW-32 (7-Apr)
33	F	7-Apr	Vapor power systems; Rankine cycle	8.1, 8.2	HW-33 (17-Apr)
34	M	10-Apr	Rankine cycle improvements	8.3	HW-34 (17-Apr)
35	W	12-Apr	Vapor compression refrigeration systems	10.1, 10.2	HW-35 (17-Apr)
	Th	13-Apr	Exam 3, 6:30 to 7:30 p.m.		
	BHEE-129 (Divisions 1 and 2), WTHR-200 (Divisions 3 and 4), WALC-1055 (Division 5)				
	F	14-Apr	No Class Due to Exam 3		
36	M	17-Apr	Heat pumps	10.6	HW-36 (21-Apr)
37	W	19-Apr	Air standard cycle; Otto cycle	9.1, 9.2	HW-37 (21-Apr)
38	F	21-Apr	Diesel and dual cycle	9.3, 9.4	HW-38 (Practice, Do Not Submit)
39	M	24-Apr	Brayton cycle	9.5, 9.6	HW-39 (Practice, Do Not Submit)
40	W	26-Apr	Brayton cycle improvements	9.7, 9.8	HW-40 (Practice, Do Not Submit)
41	F	28-Apr	Course review		
			Final Examination: Lectures 1-41	Date, Location, and Time TBD	