

ME 418 - Engineering of Environmental Systems and Equipment

Course Schedule (Tentative)

Fall 2025

Lecture	Day	Date	Topics Covered	Reading	HW Due
Section 1 - Fundamentals					
1	T	8/26	Introduction	Ch. 1, 2	
2	Th	8/28	Review of Basic Thermodynamics	3.1-3.5	
3	T	9/2	Review of Basic Fluid Flow	3.6-3.9	
4	Th	9/4	Air-Water Vapor Mixtures (Psychrometrics)	5.1-5.5	
5	T	9/9	Air-Water Vapor Mixtures (Psychrometrics)	5.6, 5.8	HW1
6	Th	9/11	Basic Heat Transfer Relations	4.1-4.3	
7	T	9/16	Basic Heat Transfer Relations	4.4; 4.6-4.7; 5.7	HW2
8	Th	9/18	Engineered Environments	Ch. 6, 7, notes	
Section 2 - Equipment					
9	T	9/23	Heat Exchanger Analysis and Design	13.1-13.3, SM1.1	HW3
10	Th	9/25	Heating Coil Analysis and Design	SM1.2-1.5; 13.5-13.6	
11	T	9/30	Cooling Coil Analysis and Design	SM2.2-2.3	
12	Th	10/2	Cooling Tower Analysis and Design	14.1-14.3; SM3.1-3.2	
13	T	10/7	Other Heat and Mass Exchangers	14.5-14.6; SM4.1-4.2	HW4
14	Th	10/9	Other Heat and Mass Exchangers	SM4.3-4.5	
	T	10/14	<i>October Break</i>		
15	Th	10/16	Vapor Compression Equipment	15.1-15.2	HW5
16	T	10/21	Vapor Compression Equipment	15.3	
	Th	10/23	EXAM (Lectures 1 – 14)		
17	T	10/28	Vapor Compression Equipment	SM6.1-6.2,6.4	HW6
18	Th	10/30	Vapor Compression Equipment	SM7.3,7.5	
19	T	11/4	Vapor Compression Equipment	Ch. 16; SM6.5	
20	Th	11/6	Combustion	SM9.1-9.5	
21	T	11/11	Combustion Furnaces and Boilers	SM9.6-9.9	
22	Th	11/13	Capacity Control	Class notes	HW7
Section 3 – Load & Energy Requirements					
23	T	11/18	Indoor Environment Mass / Energy Flows	9.1; 8.7-8.8	
24	Th	11/20	Wall and Window Heat Transfer	9.2-9.7	HW8
25	T	11/25	Ventilation, Infiltration, Internal Gains	9.8-9.9	
	Th	11/27	Thanksgiving Break	10.1-10.7	
26	T	12/2	Estimating Energy Requirements	Ch. 18	HW9
27	Th	12/4	Estimating Energy Requirements	8.4-8.5	
28	T	12/9	Guest Lecture / Review		
29	Th	12/11	Guest Lecture / Review		

FINAL EXAM