

FABE 481 Introduction to Food Engineering Syllabus Spring 2006

Week	Date	Topic	Textbook
1	3/27	Introduction, flow chart	
	3/29	Units, unit conversions	2.1, 2.2
	3/31	Dimensional analysis	2.3
	3/31	Recitation	
2	4/3	Force, pressure	2.2
	4/5	Temperature	3.11, 3.1.2
	4/7	Ideal gas law	3.2
	4/7	Recitation, matrix operations (MATLAB & Excel)	
3	4/10	Composition, Material balance single stage	4.1, 4.2
	4/12	Material balance, multiple stage, recycle, bypass	4.2
	4/14	Material balance reaction, unsteady state	4.2
	4/14	Recitation	
4	4/17	Heat capacity, sensible heat, latent heat	4.4
	4/19	Steam tables	4.4
	4/21	Energy balance	4.5
	4/21	Recitation,	
5	4/24	Energy balance	4.5
	4/26	Simultaneous heat and mass balance	9.1, 9.2
	4/28	Exam 1	
	4/28	Material balance laboratory	Lab 1
6	5/1	Psychrometrics	9.1, 9.2
	5/3	Psychrometrics	9.3, 9.4, 9.5
	5/5	Transfer processes, fluid flow	6.1, 6.2.1, 6.2.2, 6.7
	5/5	Recitation	
7	5/8	Viscosity, Types of fluid flow, non-Newtonian fluids	6.3, 6.4
	5/10	Pressure drop in pipes	6.2.4
	5/12	Mechanical energy balance, Bernoulli equation	6.4
	5/12	Recitation	
8	5/15	Friction factor, friction losses in pipes,	6.6
	5/17	Pumps, pump power requirement	7.1
	5/19	Mixing	14.1
	5/19	Pressure drop laboratory	Lab 2
9	5/22	Mixing, Modes of heat transfer	7.2
	5/24	Conduction, Convection, overall heat transfer coefficient	7.3
	5/26	Heat exchanger	7.4
	5/26	Heat exchanger lab	Lab 3
10	5/29	Memorial Day	No class
	5/31	Exam 2	
	6/2	Unsteady state heat transfer	7.7
	6/2	Mass transfer, Review for final exam	

Final exam: Monday, June 5, 2006

9:30 AM - 11:18 AM.