

Ohio University
 Department of Chemical Engineering
 ChE-400 Applied Chemical Engineering Calculations
 Fall Quarter 2008

Tentative Schedule

Week	Date	Subject/Comments	Assignment		Reading
			Assigned	Due	
Week 1	09/08/08	Syllabus. Examples of Applications	HW-1		H-1
	09/10/08	Problem Solving Methodology. Hands-on. Case Studies Material Balance. (Unit Operations Lab)			H-2
	09/12/08	Tutorial I: Basic Operation with Matlab and Excel (computer lab). Each Student will work independently on this review tutorial. TAs will be in the computer lab providing guidance to questions.			Tutorial I (review Plotting in Matlab and Function files, see notes of ChE-101)
Week 2	09/15/08	Problem Solving Methodology	HW-2	HW-1	Class Notes
	09/17/08	Problem Solving Methodology Applications of Problem Solving Methodology			Class Notes
	09/19/08	Applications of Problem Solving Methodology Muddiest Point: Problem Solving Methodology			Class Notes
Week 3	09/22/08	Applications of Problem Solving Methodology			Class Notes
	09/24/08	Applications of Problem Solving Methodology Muddiest Point: Problem Solving Methodology Roots of Equations	Project HW-3	Q-1 HW-2	Class Notes H-3
	09/26/08	Tutorial II: Using Excel and Matlab to Estimate Roots of Equations (computer lab)			Tutorial II
Week 4	09/29/08	Roots of Equations			Class Notes
	10/01/08	Roots of Equations Muddiest Point: Roots of Equations Linear Algebraic Equations	HW-4	Q-2 HW-3	H-4
	10/03/08	Linear Algebraic Equations Muddiest Point: LAE			H-4 Class Notes
Week 5	10/06/08	Non Linear Algebraic Equations			H-5
	10/08/08	Exam I: We will meet in the computer lab (problem solving methodology and roots of equations)			All material
	10/10/08	Non-linear Algebraic Equations			Class notes

Week 6	10/13/08	Tutorial III: Using Excel and Matlab to solve LAE and Non-LAE. We will meet in the computer lab Muddiest Point: Non-LAE	HW-5	Q-3 HW-4	Tutorial III (review Tutorial IX “fsolve” of ChE-101)
	10/15/08	Numerical Differentiation/Integration Tutorial IV: Using Excel and Matlab to Integrate/Differentiate (computer lab)			H-6 Tutorial IV
	10/17/08	Numerical Differentiation/Integration			Class Notes
Week 7	10/20/08	Numerical Differentiation/Integration Muddiest Point: Numerical Differentiation/Integration		Q-4 HW-5	Class Notes
	10/22/08	Exam II: We will meet in the computer lab (LAE, non LAE, numerical differentiation/integration, and all material covered in Exam I)			
	10/24/08	Ordinary differential Equations			H-7a
Week 8	10/27/08	ODE: Characteristic Polynomial Method			Class Notes
	10/29/08	ODE: Characteristic Polynomial Method Muddiest Point: Characteristic Polynomial Method			Class Notes
	10/31/08	ODE: Laplace Transforms			H-7b
Week 9	11/03/08	ODE: Laplace Transforms			Class Notes
	11/05/08	ODE-Laplace Transforms Tutorial V: Use of Matlab to Perform Operations with Laplace Transforms			Class Notes Tutorial V
	11/07/08	Muddiest Point: Laplace Transforms ODE: Numerical Solutions			Class Notes H-7c
Week 10	11/10/08	ODE: Numerical Solutions			Class Notes
	11/12/08	Tutorial VI: Numerical Solution of ODE using Excel and Matlab			Tutorial VI
	11/14/08	Muddiest Point: ODE numerical solutions		Project	Class Notes

Final Exam: Tuesday, November 18, at 8:00 am. Stocker 049 (**Computer Lab**)

Legend:

H: Hand Out

HW: Homework

Q: Quiz (only 15 minutes)