### ChE103c: Transport Phenomena Spring 2008

### **Adminstrata**

Class Times: Monday, Wednesday, Friday from 9:00 AM – 9:55 AM

Classroom: Spalding 106
Recitations: TBD (on request)

Instructor: Dr. Mike Vicic Office: Spalding 117

Contact: e-mail: vicic@cheme.caltech.edu

extension: 4613

Office Hours: Monday 10-11AM; Tuesday 10:30-11:30AM

T.A.: Diana Smirnova Office: Spalding 123

Contact: e-mail: smirnova@caltech.edu

extension: 4591

Office Hours: Monday 8-9PM; Tuesday 2-3PM, 8-9PM

Req'd Texts: Bird, Stewart and Lightfoot (either 1<sup>st</sup> or 2<sup>nd</sup> edition is O.K.)

On Reserve: Bird, Stewart and Lightfoot (SFL, 3 hours/overnight)

# **Syllabus**

Week 1: Introduction

Week 2: Diffusion: Mechanisms, Estimating Coefficients
 Week 3: Mass Transfer with One Independent Coordinate
 Week 4: Mass Transfer with One Independent Coordinate

Week 5: Mass Transfer with More Than One Independent Variable

Week 6: Convective Mass Transfer Week 7: Interfacial Mass Transfer

Week 8: Simultaneous Heat & Mass Transfer

Week 9: Chromatography Intro; LSER

Week 10: Advanced Chromatography; Review (Fri)

### **Grades**

Midterm 40% Final 40% Homework 20% ChE103c: Transport Phenomena Spring 2008

#### **Exams**

Both exams are take-home, 3-hour exams. You are allowed to use the required text, your class notes (including any handouts) and problem sets. No other resources are allowed.

Midterm: Covers material from the first four problem sets.

Distributed at the end of class on 7 May 2008 (Wed). Due in my office by 4PM on 12 May 2008 (Mon). Graded exams will be returned on 16 May 2008 (Fri).

Final: Primarily covers material since the Midterm.

Distributed at the end of class on 6 Jun 2008 (Fri). Due in my office by 4PM on 13 Jun 2008 (Fri). Graded exams will be available on 17 Jun 2008 (Tue).

Grades will be e-mailed to you, on request, on 17 Jun 2008 (Tue).

#### **Homework**

Almost weekly – there are eight problem sets for the term. Problem sets (with suggested reading) are distributed in class every Wednesday and are due the following Wednesday by 4PM in Spalding 117 or my mailbox in Spalding 210. LATE HOMEWORK WILL NOT BE ACCEPTED.

Graded assignments will be returned on the Monday after they are due (or earlier, whenever possible).

Collaboration is allowed but each person must submit his/her own work.

## Other Important Info

**T.A. office hours**: Please respect the teaching assistant's time and only visit her during scheduled office hours. Although, you may e-mail her at any time for help.

**My office hours**: I guarantee that I'll be in the office (or other specified location) during my scheduled office hours and that you'll have first rights during those time periods. Outside of office hours, I'm happy to help if I'm in my office and the door is open (or ajar). Just stop by. You can always e-mail me to make an appointment.