

Instructor:

E. Ko  
DH 2102      268-3857      ek2e@andrew.cmu.edu

Teaching Assistants:

Douglas Cunningham,      HBH1214      x85215  
Kenneth Tyner,      DH3116      x83775

Office hours of instructor and teaching assistants will be announced.

Class Hours:

M 9:30-10:20 a.m      BH355  
W 9:30-10:20 a.m      PHA18A  
F 9:30-11:20 a.m      SH206

Text:

H. S. Fogler, *Elements of Chemical Reaction Engineering*, second edition,  
Prentice-Hall, New York (1992).

Course Objectives:

In this course you will learn to apply the principles of chemical kinetics to the design of reactors. By the end of this semester, you should be able to:

- (1) analyze kinetic data and obtain rate laws,
- (2) develop a mechanism that is consistent with an experimental rate law for homogeneous and heterogeneous systems,
- (3) understand the behavior of different reactor types when they are used either individually or in combination,
- (4) choose an appropriate reactor and determine its size for a given application,
- (5) work with mass and energy balances in the design of non-isothermal reactors,
- (6) understand the importance of selectivity and know the strategies that are commonly used in maximizing yields, and
- (7) appreciate the importance of both external and internal transport effects in gas/solid systems.

The diagram on the next page shows an overall structure of how these concepts are related. In this course we will cover Chapters 1 - 11 in our textbook.

# Schematic Course Outline

