

Instructor: G.L. Price

Office: 316 Chemical Engineering Building

Text: "Heterogeneous Catalysis in Industrial Practice" by C.N. Satterfield

Supplement: "An Introduction to Chemical Engineering Kinetics and Reactor Design" by C.G. Hill

Grading:

Mid-semester Exam	30%	Homework II, Heterogeneous Kinetics	10%
Final Exam	30%	Homework III, Diffusion and Reaction	10%
Homework I, Adsorption	10%	Class presentation and Report	10%

A=	90-100
B=	80-89
C=	70-79
D=	60-69
F=	below 60

Other Policies:

1. Attendance: Class attendance is encouraged, but not required. The experience of the instructor has been that students that don't attend class usually do poorly.
2. No late homework is accepted.
3. Please do everything possible to notify the instructor prior to the exam if you must miss an exam.
4. Instructor contact hours are 8:30 - 11:30 a.m. every weekday. Student are especially encouraged to seek help from the instructor right after class in his office in the Chemical Engineering Building. Other times are available by appointment. Try labs 321 and 323 if you can't find him in his office.
5. Though students are encouraged to work together on homework, copying of homework is strictly prohibited. There is a difference between similar solutions that might be expected after students study together and copied solutions.

Syllabus:

- I. Introduction  
Satterfield, Chapter 1
- II. Adsorption and Physical Properties
  - A. Physical
  - B. Chemical
  - C. Surface area and pore volume
 Satterfield, Chapters 2 and 5
- III. Langmuir-Hinshelwood-Hougen-Watson Kinetics  
Satterfield, Chapter 3  
Hill, Chapter 6
- IV. Catalyst Manufacture  
Satterfield, Chapter 4
- V. Supported Metals  
Satterfield, Chapter 6
- VI. Zeolites  
Satterfield, Chapter 7
- VII. Diffusion and Reaction in Porous Materials  
Hill, Chapter 12
- VIII. Selected Commercial Catalysis  
Satterfield, Chapters 8, 9, and 10  
Student paper presentations - details depending upon class size