

CHEG 251: PROCESS KINETICS

Instructor: Dr. Benjamin A. Wilhite

Time: MWF, 9:00 – 9:50AM

TEXT: ELEMENTS OF CHEMICAL REACTION ENGINEERING
by H. Scott Fogler, Prentice Hall Publishing Co., Fourth Edition (2005), Sixth Printing

TIME/LOCATION: MWF at 9 AM in UTEB, Room 175

PROFESSOR: Benjamin A. Wilhite, Eng II, Unit 3222
Hours: 11AM – Noon, Monday & Wednesday
E-mail: bwilhite@engr.uconn.edu

TEACHING ASSISTANT: Daejin Kim, UTEB 471
Hours: 2 – 4PM, Tuesday & Thursday
E-Mail: Daejin.Kim@uconn.edu

PROBLEMS DUE: On due date at start of class (usually on Friday)
NO CREDIT FOR LATE PROBLEMS or MISSED EXAMS UNLESS PRIOR
ARRANGEMENT MADE with Dr. Wilhite

EXAMS: Open Notes, Open Book

COURSE GRADING:

Exam I	20%
Exam II	20%
Exam III	20%
Homework	20%
Final	20%

RELATED TEXTBOOKS:

- **Chemical Reaction Engineering**, Third Edition (1999) by Octave Levenspiel, Wiley
- **Chemical and Catalytic Reaction Engineering** (1976) by James J. Carberry, McGraw-Hill
- **The Engineering of Chemical Reactions** (2005) by Lanny D. Schmidt, Oxford University Press

EXAM 1: Tentative Date February 21th, 2006. Spanning Rate Expressions, Differential Mass Balances, Isothermal Reactor Design, Reaction Stoichiometry, Multiple Reactions in Parallel or Series. Chapters 1,2,3,4, & 6.

EXAM 2: Tentative Date March 23rd, 2006. Spanning Kinetics, Derivation of Rate Expressions, Analysis of Reaction Data, Reactive Intermediates, Reaction Mechanisms, Enzymatic Reactions, Michaelis-Menton Kinetics, Isothermal Reactor Design for Non-Elementary Kinetics. Chapters 5,7.

EXAM 3: Tentative Date April 20th, 2006. Spanning Non-Isothermal Reactor Design, Heterogeneous Catalysis, Reaction and Diffusion, Mass Transfer Effects, Industrial Reactor Design, Chapters 8,9,10.

FINAL EXAM: Spanning design of industrial chemical processes, analysis of actual kinetic data, novel reactor configurations, and comprehensive review of course material.