

Instructor: Dr. John B. Miller  
3156 Wood (Office)  
4020/4030 M<sup>C</sup>Cracken (lab)  
387-2871  
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Office Hours: M 1400-1450  
W 1600-1720  
or by appointment

Class: Lecture 1730–1845 M, W M<sup>C</sup>Cracken 3190

Prerequisites: CHEM 431

Text: Steinfeld, Francisco, Hase, *Chemical Kinetics and Dynamics*, 2nd edition.

Course Topics:

Simple and complex reaction kinetics. Kinetics measurements. Homogeneous and heterogeneous reactions and catalysis. Molecular dynamics. Transition states. Dynamics of condensed phases. Kinetics far from equilibrium. Statistical mechanics topics will be addressed as required.

Homework:

Reading and homework assignments will be suggested regularly. Homework will not be collected. However, performance in the class is *highly* correlated with completion of the reading and homework problems. Group study may be very useful. Examination questions are likely to be conceptually similar to the homework problems.

Project/Presentation:

A brief (15-20 minute) presentation of an independent project related to kinetics will be required. The topic will be selected in consultation with Dr. Miller. These will be scheduled throughout the term. Examples include: application of kinetics software to a research problem, kinetics analysis of a portion of research, or *detailed* analysis of a literature paper.

Exams:

Three hour examinations will be given. They are tentatively scheduled for 3 February, 10 March, and 31 March (all Wednesdays).

There will be a comprehensive take-home final examination. It will be handed out at the last class session (Wed 14 April) and is due 1700 Mon 19 April.

Grading:

Hour Exams (3)	3 @ 100 points
Project/Presentation	100 points
<u>Take-Home Final Exam</u>	<u>200 points</u>
TOTAL	600 points

The grading scale cannot be precisely defined in advance, but as an initial benchmark:

93-100	A
88-92	BA
80-87	B
75-79	CB
66-74	C
0-65	E

Absence Policy:

Attendance in class is important for success in this course. Students should contact Dr. Miller if they know they are going to miss a class. *Makeup examinations will only be given with notice prior to the exam.* Valid excuses include illness, death in the family, or other events beyond the student's control. *Documentation will be required!*