

Chemistry 4011/8011
Mechanisms of Chemical Reactions
Fall 2017
MWF 10:10 am – 11:00 am, Smith 231
and optional review sections (to be announced)

Instructor: Professor Kent R. Mann
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Office hour: to be announced

TA: Caitlin Bouchey
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Office hour: to be announced

Materials: **Chemical Kinetics & Reaction Mechanisms, 2nd Edition**
Author: James H. Espenson; Edition: ; ISBN: 9780072883626
Publisher: MCGRAW HILL BOOK COMPANY
Required (*Also on reserve, Walter Library*)

Determination of Organic Reaction Mechanisms
Author: Barry K. Carpenter; Edition: ; ISBN: 9780471893691
Publisher: Wiley
Optional (*Also on reserve, Walter Library*)

Modern Physical Organic Chemistry
Author: E. V. Anslyn, D. A. Dougherty; Edition: ; ISBN:
9781891389313 Publisher: UNIVERSITY SCI BOOKS
Optional (*Also on reserve, Walter Library*)

Inorganic and Organometallic Reaction Mechanisms, 2nd
Author: Jim D. Atwood; ISBN 1560816422 Publisher VCH
Publishers, INC.
Optional (*Also on reserve, Walter Library*)

Chemical Kinetics and Dynamics
Authors: Steinfeld, Jeffrey I. Francisco, Joseph Salvatore.;
Hase, William L. Englewood Cliffs, N.J. : Prentice Hall [1989]
Optional (*Also on reserve, Walter Library*)

M. R. Wright, *An Introduction to Chemical Kinetics* (John
Wiley and Sons, Chichester, UK, 2004). *On reserve, Walter
Library.*

Problem Sets: Problem sets will be assigned periodically during the semester. The problem sets will be made available on the course website or sent by e-mail at least a week in advance of the due date, and earlier in most cases. Answer keys will be available on the web on the due date. Because the answer keys will be available immediately after the problem sets are due, sets cannot be turned in late. Due to a lack of adequate TA grading time problem sets will not be directly graded. Points will be assigned for handing in the solutions to a problem set. Instead a very short quiz (usually one or two questions) will be given on the due date of the problem set. You will be allowed to use your completed problem set to write down the answers. **The time given for these quizzes (5 minutes or less) will not be adequate for you to compute the answers “on the spot” and you will need to hand in a problem set solution to receive any points for the quiz.** Working together on problems is *highly* encouraged, but you must submit your own copy of your own solutions to receive credit. Identical computer printouts of the same answer from different students will not be accepted. Some of the work for the problem sets will require computer work (Excel or Mathematica, for example) at the Chemistry Department Microcomputer Lab (<http://www1.chem.umn.edu/services/microlab/>); **you should become familiar with this resource.**

Quizzes: Many lectures will start out (or end) with a short (5 minutes) quiz. These can be announced or not. They can cover material in the problem sets (as described above), previous lectures, readings or the lecture of that day. They will be graded and the points will be added in to the problem set points.

Paper: Students enrolled in Chem 8011 (4 cr) will also be assigned a paper on a specific research topic in chemical kinetics and/or thermodynamics. More information about this assignment will be available after class begins.

E-mail policy:

All students and instructors should be reachable at their University-wide e-mail accounts.

Academic Integrity: Academic integrity is essential to a positive teaching and learning environment. All students enrolled in University courses are expected to complete coursework responsibilities with fairness and honesty. Failure to do so by seeking unfair advantage over others or misrepresenting someone else's work as your own can result in disciplinary action. More information on the definition and consequences of academic dishonesty can be found at the Office for Student Academic Integrity website (<http://www1.umn.edu/oscai/>). In this course, direct copying of homework assignments or lab reports, or any cooperation on exams, will be considered dishonest. Any student responsible for scholastic dishonesty can be assigned a penalty up to and including an "F" or "N" for the course. If you have any questions regarding the expectations for a specific assignment or exam, please ask.

Our goal is to be as available and as accommodating as we can be. If you are having troubles or concerns about the class, please feel free to contact us directly **and early**.

We hope you learn a lot this semester in our course!