

Instructor: Dr. John B. Miller
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387-2871
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Office Hours: M 1500-1600
R 1300-1400
or by appointment

Class: Lecture 1100–1150 M, W, R, F, M^cCracken 3292

Prerequisites: CHEM 120, CHEM 430, PHYS 210, PHYS 211, and MATH 272

Text: Atkins, *Physical Chemistry*, 5th edition. Chapters 26-27, 11-20 will be covered. Additional chapters may be added, time permitting.

Course Topics:

Complex Chemical Kinetics, Quantum Mechanics, Symmetry and Structure, Spectroscopy, Statistical Thermodynamics. If time permits, additional topics may include Diffraction, Surface Chemistry, and Catalysis.

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. A solutions manual for the text is available.

Quizzes:

Ten quizzes make up the largest share of evaluation. *The lowest two quiz grades will be dropped* Quizzes will be given approximately weekly and will require one half of a class period. Quiz problems will be very similar to those that appear in the homework assignments. *Always come prepared:* please bring a calculator (no computers) to each class meeting. Do not be complacent; surprise quizzes are possible. At least two of the quizzes will be administered electronically.

Online Resources:

Online computer resources will be used extensively in this course. Each student will be given a computer account for use in the course. All resources can be accessed through the World-Wide Web at the URL <http://www.wmich.edu/chem431>.

A course conference will also be established using the Confer V program on the University VMS cluster. This is a forum to: (1) seek help or elaboration from the instructor *and other members of the class*, (2) discuss material from the course and (3) provide feedback to Dr. Miller. This resource will only be as useful as the members of the class make it. Individuals' participation in the class conference will be subjectively evaluated by the instructor, but has minimal *direct* impact on the course grade. The real benefit of the conference is to enable questions and discourse that the limited class time does not permit.

Computer facilities are available in the basement of the Bernhard Center, in the UCC labs, and in McCracken 4260. Dialup connections via the University modem pool (387-2040, -2070, -2080) may also be used. Three (or more) tutorial sessions will be scheduled during the first and second weeks of class to instruct students in the use of these online resources.

Exams:

A midterm examination is tentatively scheduled for class on Wednesday 26 February. The final examination will be comprehensive and is scheduled for Friday 25 April at 10:15. Review sessions will be scheduled on an *ad hoc* basis.

Grading:

Quizzes (10)	8 @ 50 points	(56%) (two low scores dropped)
Online Conference (Confer)	10 points	(~2%)
Midterm Exam	100 points	(14%)
Final Exam	200 points	(28%)
TOTAL	710 points	

Current individual scores and the score distribution will be posted on the class Web site (<http://www.wmich.edu/chem431/grades.htm>).

Absence Policy:

Attendance in class is critical to success in this course. Students should contact Dr. Miller if they know they are going to miss a class. Valid excuses for missing a quiz or examination include illness (doctor's note required), death in the family (funeral program or newspaper obituary required), or other events beyond the student's control *with prior instructor approval*. Unexcused absences from a quiz or exam will result in no credit for that item.