

**CHEM 436/636: Advanced Physical Chemistry
FALL 2009**

CREDITS: 3

CLASS MEETING TIME: T TH, 9:30 AM -10:50 AM
LOCATION: 105 Life Science

INSTRUCTOR: Professor Ari Chakraborty
4-008 CST
archakra@syr.edu

OFFICE HOURS: Held in room 4-008 CST
Thursday 2-3 pm
and by appointment.

COURSE MANAGEMENT SYSTEM: <http://blackboard.syr.edu/>

The site will have class information posted including:

- Lecture notes
- Test schedules, results, and post-exam answers
- Homework assignments
- Other important class information

TEXTBOOK AND OTHER MATERIALS:

Quanta, Matter and Change: A molecular approach to physical chemistry by Peter Atkins, Julio de Paula, and Ronald Friedman

DESCRIPTION:

Applications of quantum mechanics and statistical mechanics to chemical bonding, molecular properties, chemical kinetics, catalysis, solid state, and spectroscopy.

PREREQUISITES:

The prerequisite for this course is CHE 356. If you have any questions about your preparation for this course, you should talk to the instructor as soon as possible.

Students with any type of disability who may need special consideration or accommodations are encouraged to discuss their concerns with the instructor right away to make arrangements.

More information on <http://supolicies.syr.edu/>

EXAMINATIONS:

There will be **two** mid-term examinations (given out of class) and a final exam during the official university final exam period. The exams are tentatively set for the dates listed below.

EVALUATION:

Exam 1:	October 02, 2009	20%
Exam 2:	November 06, 2009	20%
Final Exam:	December 16, 2009	40%
Homework Assignments		20%

WEEKLY SCHEDULE (Tentative):

Week	Tuesday	Topic	Thursday	Topic
1	1-Sep	Intro/QM-fundamentals	3-Sep	QM-fundamentals
2	8-Sep	QM-fundamentals	10-Sep	Atoms and Molecules
3	15-Sep	Atoms and Molecules	17-Sep	Atoms and Molecules
4	22-Sep	Spectroscopy	24-Sep	Spectroscopy
5	29-Sep	Spectroscopy	1-Oct	Review before exam1
Exam 1 (October 2, 2009)				
6	6-Oct	Solid State	8-Oct	Solid State
7	13-Oct	Solid State	15-Oct	StatMech-fundamentals
8	20-Oct	StatMech-fundamentals	22-Oct	StatMech-fundamentals
9	27-Oct	Thermodynamics	29-Oct	Thermodynamics
10	3-Nov	Thermodynamics	5-Nov	Review before exam2
Exam 2 (November 6, 2009)				
11	10-Nov	Dynamics-fundamental	12-Nov	Dynamics-fundamentals
12	17-Nov	Kinetics	19-Nov	Kinetics
13	24-Nov	Catalysis	26-Nov	***Thanksgiving***
14	1-Dec	Catalysis	3-Dec	Review QM
15	8-Dec	Review StatMech	10-Dec	Review Dynamics
Final Exam TBA				

ACADEMIC ETHICS:

Possession of unauthorized materials during exams, alteration of exams prior to submission for regrading, plagiarism, or other forms of cheating will be considered serious violations of academic ethics and treated as such. They may result in a failing grade on an exam or in the course and may also be referred to the University disciplinary system.

All Syracuse University policies (<http://supolicies.syr.edu/>) regarding ethics and honorable behavior apply to this course.