Chem 371 Laboratory **Prof. Kutz**
Syllabus **Fall 2005**

Catalog — Examines thermodynamics, kinetics, and quantum mechanics with applications to physical and chemical properties of matter. Fall semester. *Lecture 3 hours, laboratory 3 hours Prerequisites: Chemistry 341, 351/353; Mathematics 161/162. Co- or Pre-requisite: Physics 104/184 or 231/281.*

Required — Experiments in Physical Chemistry I, UTC Dept. of Chemistry, 2005
Laboratory Research Notebook, National Brand 43-645
Goggles, Encon, Model 503R

Attendance — You are expected to attend all sessions of the course and to be present by the beginning of the period. If you are absent, you must see me immediately about making up the work. In order to do make up work you must have a legitimate reason. Unacceptable absences and excessive absences count as zeroes. Late arrivals will be penalized.

Office Hours — Grote 329, Monday through Friday, 8:30 - 9:30, and by appointment. Please see me in person for help with all matters related to the course. Phone calls and e-mail are reserved for emergencies.

Experiments — You will perform ten experiments this semester. You will write one major laboratory report and nine mini-reports.

Notebook — You are required to record all information in the laboratory notebook (National Brand 43-645). The white pages must remain in the notebook, and the yellow carbon pages must be turned in at the end of each period. The yellow pages will be graded for all experiments except the two computational chemistry activities. The notebook pages will count a total of 16 points.

Reports — A major laboratory report will be required for one experiment. This major report will count 12 points. Mini reports will be required for nine experiments. Each mini report will be worth eight points. A total of 72 points will be based on the mini-reports.

Reports are due at the beginning of the period. Late reports will experience an automatic 50% penalty. Reports more than one week late will not be accepted.

Safety — You are expected to follow all safety rules. Safety goggles must be worn at all times in the laboratory. You are expected to be familiar with the experimental procedures beforehand and to be knowledgeable about all safety precautions. See me during office hours if a question about safety comes up while you are preparing for an experiment.

ADA — Please speak with me if you have a disability requiring assistance or accommodations. You should also contact the Office of Students with Disabilities, 108 Frist Hall, 755-4006.

The counseling & Career Planning Center, 338 University Center, 425-4438, is available to help you deal with stress or anxiety issues.

Honor Code

Although you will be performing most measurements with a partner, you are expected to enter all information directly in your own notebook. If you are absent, you must obtain permission from the instructor before making up missed work.

It is a violation of the UTC Honor Code to submit copied or fabricated data. It is also a violation for you to provide information to someone else. You are expected to write your laboratory report completely by yourself. You should discuss the calculations with your partner, but the report you submit must represent your own writing efforts exclusively.

Instances of cheating may result in a grade of zero on the graded activity, a grade of F in the course, or if the instance is sent to the Honor court the penalty may be suspension from the University.

Lab Grade

Your lab grade is based on the following: 16 points from the notebook yellow pages, 12 points from the major report, and 72 points from the nine mini reports. The lab grade reported to the lecture instructor is incorporated as 25% of the single course grade you receive in Chem 371.

Objectives

Physical chemistry is one of the most important courses in the chemistry curriculum. This rigorous course provides an in-depth analysis of key topics in chemistry and serves as a preparation for advanced chemistry courses.

Also of significance is the extent to which this course helps you in your development as a university-prepared professional.

Specific objectives of this course are:

- To provide you with experiments designed to help you master key core chemistry topics
- To help you develop a work ethic indicative of a university-prepared professional: arriving on time, coming to lab fully prepared, working productively, and submitting quality reports
- To help you develop good communication skills reflected in well-written reports
- To help you develop the ability to record laboratory activities in a scientific notebook
- To help you develop the ability to find chemical information in the literature
- To help you develop the ability to evaluate the quality of laboratory work and to know when to perform additional measurements
- To help you develop the ability to work independently and to make important decisions on what steps to perform next
- To help you develop the ability to work effectively and courteously with others
- To help you develop integrity of absolutely the highest level

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Section 501 **Fall 2005**

	Date	Activity	Report Due
August	23	Introduction	
	30	Expt. 1	
Sept.	6	Expt. 1	
	13	Expt. 2	Major, Expt. 1
	20	Expt. 3	Mini, Expt. 2
	27	Expt. 4	Mini, Expt. 3
Oct.	4	Expt. 5	Mini, Expt. 4
	11	Expt. 6	Mini, Expt. 5
	18	Expt. 7	Mini, Expt. 6
	25	---------	
Nov.	1	--------- (SERMACS)	
	8	Expt. 8	Mini, Expt. 7
	15	Expt. 9	Mini, Expt. 8
	22	Expt. 10	Mini, Expt. 9
	29	---------	Mini, Expt. 10