

## CHE 347: Physical and Analytical Laboratory Syllabus

### Locations and times

Lab lectures are held Mondays in CST 1-019 from 8:25 a.m. to 9:20 a.m. Attendance is mandatory.

Labs are held in LSB 301 Monday, Wednesday, Thursday, and Friday from 2:15 to 5:00 p.m. unless otherwise specified.

### Contact information

Office hours for Dr. Kahan and for TAs are by appointment only. Contact information for Dr. Kahan and for TAs is available on Blackboard under “Information”.

It is your responsibility to contact your TA with questions about assignments in a timely fashion.

### Experiments:

1. Gaussian calculations
2. Heat capacity and calorimeter calibration
3. Heat of combustion
4. Enthalpy of reaction
5. Calibration curves
6. Adsorption isotherms I
7. Adsorption isotherms II
8. Acid-base equilibrium
9. Liquid-vapor phase diagrams

### Order of Experiments

Week	Dates	Experiment	
		Red Group	Blue Group
1	Aug. 25 – 29	Excel and Word tutorials	Excel and Word tutorials
2	Sep. 1 – 5	<b>No lab</b>	<b>No lab</b>
3	Sep. 8 – 12	1. Calculations	1. Calculations
4	Sep. 15 – 19	2. Heat capacity	2. Heat capacity
5	Sep. 22 – 26	3. Heat of combustion	3. Heat of combustion
6	Sep. 29 – Oct. 3	4. Reaction enthalpy	4. Reaction enthalpy
7	Oct. 6 – 10	5. Calibration curves	6. Adsorption isotherms I
8	Oct. 13 – 17	8. Acid-base equilibrium	7. Adsorption isotherms II
9	Oct. 20 – 24	9. Phase diagrams	5. Calibration curves
10	Oct. 27 – 31	6. Adsorption isotherms I	9. Phase diagrams
11	Nov. 3 – 7	7. Adsorption isotherms II	8. Acid-base equilibrium
12	Nov. 10 – 14	Lab exam	Lab exam
13	Nov. 17 – 21	Lab exam	Lab exam
14	Nov. 24 – 28	<b>No lab (Thanksgiving)</b>	<b>No lab (Thanksgiving)</b>
15	Dec. 1 - 5	<b>No lab</b>	<b>No lab</b>

### **Due dates for post-lab work**

All labs will have post-lab questions *and* lab reports. All post-lab work is due by 2:00 p.m. one week after the lab. (So if you perform Experiment 3 on Wednesday, September 10, the post-lab questions and lab report will be due by 2:00 p.m. Wednesday, September 17.) Post-lab work must be handed in to the undergraduate office by this time.

Post-lab work that is handed in late will be penalized at a rate of 20% per day. Note: Work handed in at 2:01 p.m. on the due date **will be penalized 20%**. There will be no exceptions to this policy.

### **Due dates for pre-lab work**

You must prepare an experimental procedure for each experiment. This procedure must be written in your lab notebook in ink or (if prepared on a computer) pasted or taped securely into your lab book. If you do not have a written procedure ready at the beginning of the lab, you will be dismissed and will receive a grade of zero for that experiment.

### **Lab exams and quizzes**

This course has both a written and a practical lab exam. The written component will be held during the lab lecture Monday Dec. 1 in CST 1-019 at 8:25 a.m. The practical component will be held in LSB 301 during regular lab hours the weeks of Nov. 10 and Nov. 17.

Quizzes will be handed out in the lab at 2:15 p.m., and will be collected by the TA at 2:25 p.m. Quizzes will be based on pre-lab reading and on the lab lecture.

### **Grading**

Grades will be assigned as follows:

Lab reports and post-lab questions	60%
Lab exam (practical)	15%
Lab exam (written)	10%
Pre-lab work and quizzes	10%
Performance	5%

There will be no make-up labs. The experiment with the lowest total grade (performance, pre-lab work, quiz, and post-lab work) will be dropped at the end of the semester. If you do not attend a lab for any reason, the grade of zero assigned for that experiment will count as your lowest grade and will be dropped. If you miss more than one lab, only one grade will be dropped, and the other lab(s) you missed will be assigned a grade of zero.

### **Dress code**

Close-toed shoes must be worn in the laboratory, and long hair must be tied back. Safety glasses, lab coats, and gloves will be provided for some experiments. You must wear this protective gear if requested to do so by your professor or TA. Failure to adhere to these rules will result in dismissal from the laboratory and a grade of zero assigned for that experiment.

### **Blackboard Site**

Course information is available through the course Blackboard site: [blackboard.syr.edu](http://blackboard.syr.edu)

Important course information can be accessed there. Tutorials and required readings for labs can also be accessed there. Pre-lab assignments are to be submitted on BlackBoard.

### **Religious Observances Policy** ([http://supolicies.syr.edu/emp\\_ben/religious\\_observance.htm](http://supolicies.syr.edu/emp_ben/religious_observance.htm))

SU recognizes the diversity of faiths represented among the campus community and protects the rights of students, faculty, and staff to observe religious holy days according to their tradition. Under the policy, students are provided an opportunity to make up any examination, study, or work requirements that may be missed due to a religious observance provided they notify their instructors before the end of the second week of classes. For fall and spring semesters, an online notification process is available through MySlice/Student Services/Enrollment/My Religious Observances from the first day of class until the end of the second week of class. The religious observances policy requires accommodation for the religious holiday itself, not for travel days if a student will be observing the holiday elsewhere.

**Academic Integrity:** The Syracuse University Academic Integrity Policy holds students accountable for the integrity of the work they submit. Students should be familiar with the Policy and know that it is their responsibility to learn about instructor and general academic expectations with regard to proper citation of sources in written work. The policy also governs the integrity of work submitted in exams and assignments as well as the veracity of signatures on attendance sheets and other verifications of participation in class activities. Serious sanctions can result from academic dishonesty of any sort. For more information and the complete policy, see [http://supolicies.syr.edu/ethics/acad\\_integrity.htm](http://supolicies.syr.edu/ethics/acad_integrity.htm).

**Special Accommodations:** If you believe that you need accommodations for a disability, please contact the Office of Disability Services (ODS), <http://disabilityservices.syr.edu>, located at 804 University Avenue, room 309, or call (315) 443-4498 for an appointment to discuss your needs and the process for requesting accommodations. ODS is responsible for coordinating disability-related accommodations and will issue students with documented disabilities "Accommodation Authorization Letters." as appropriate. As accommodations may require early planning and generally are not provided retroactively, please contact ODS as soon as possible.