Spring 2017 GENERAL CHEMISTRY LAB: CHEM 1142D

Instructor: Dr. Xiaohui (Kelly) Cai
Office: Robertson Hall, Room 212A
Office Hours: Monday 1-2 pm and Friday 1-2 pm.
I am on campus most time from 9 am to 5 pm, other times by appointment
Office Phone: (713)-525-2127
Email address: caix@stthom.edu

CHEM 1142 D Lab Hours: 2:10 PM – 5:00 PM, Wednesday

Course Objective: Chem 1142 lab illustrates fundamental concepts in chemistry through qualitative and quantitative experiments. The lab consists of experiments that are designed to teach the following objectives:
1. To stress the importance of practicing laboratory safety.
2. To instruct students in the proper use of laboratory equipment.
3. To develop students observation and interpretation skills.
4. To provide opportunities for students to develop their communication skills.

Course Requirements:
1. splash-proof safety goggles and lab coat
2. dishwashing soap, matches, and a towel
3. attendance at all lab sessions

Safety: Safety is an essential component of each lab session. Safety training will be conducted during the first lab period and a safety quiz administered following the presentation. You will not be allowed to conduct experiments without completing the training and earning a perfect score on the quiz. Disregard for lab safety can result in your dismissal from the lab and a zero on that week’s laboratory assignment. You must wear safety goggles, lab coat, appropriate clothing and sturdy shoes in lab.

Lab Format: Lab begins in ROB 213 with prelab discussion of the experiment. The general structure of a lab class period is as follows (times are approximate):
2:10 – 2:30 p.m. Pre-lab discussion
2:30 – 5:00 p.m. Laboratory work

Expectations and Rules of Conduct
1. Demonstrate and apply safe laboratory practices at all times.
2. Come to lab prepared by reading the lab procedure and finish pre-lab form.
3. The use of cell phones and other mobile devices is not permitted in the pre-lab session and in the laboratory.
4. Food and beverages are not permitted.
5. Lab coats, goggles, and appropriate attire (long pants and closed footwear) are mandatory. Students without the proper attire WILL NOT be permitted to perform laboratory work.

Lab Procedures: All laboratory procedures are posted on the Blackboard site for this course. Please download and print a copy of the experiment and read it before lab starts.
**Grading**

<table>
<thead>
<tr>
<th>Component</th>
<th>Frequency</th>
<th>Unit Value</th>
<th>% of Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety Quiz</td>
<td>1</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>Pre-lab report</td>
<td>9</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Quiz</td>
<td>5</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>Lab Report</td>
<td>8</td>
<td>10</td>
<td>50</td>
</tr>
<tr>
<td>Formal Lab Report</td>
<td>1</td>
<td>10</td>
<td>15</td>
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<tr>
<td><strong>TOTAL</strong></td>
<td></td>
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<td><strong>100</strong></td>
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**Grading Scale**

- A: 100–93
- A-: 92–90
- B+: 89–86
- B: 85–83
- B-: 82–80
- C+: 79–76
- C: 75–73
- C-: 72–70
- D+: 69–66
- D: 65–60
- F: <60

**Lab Quizzes**

There are 5 quizzes during the course of the semester. These quizzes will cover theory, calculations, and procedures of the current week’s lab and the previous labs.

**Laboratory Report**

Each laboratory topic has data sheet(s) for the recording of observations and data. Data must be entered using non-erasable ink. The use of white-out, or writing in pencil followed by overwriting in ink is not permitted. If you make a mistake, line through it and initial.

The data sheets must be initialed by the instructor/TA before the student leaves for the day. Completed data sheets are due the next lab time. A penalty of 10% per day will be incurred for late reports. Lab reports must be turned in within 1 week of the due date to receive any credit.

**Formal Laboratory Report**

There is one formal laboratory report for the course. This formal report will be based on the kinetics experiment. The formal lab report is due at beginning of the pre-lab session on the date shown in the following tentative schedule. The requirements for this report are given in the procedure for this experiment.

**Important Notice**

Failure to complete a lab will result in a zero score for the lab. **Failure to complete two labs will result in a failure grade (F) for the course.** Everyone is expected to be present at each lab session at the assigned time. In case of illness or necessary absence, labs may be made up during another lab period if space is available. Labs must be made up as soon as possible, normally within the week the lab is scheduled. Permission to make up a lab must be obtained from both lab instructors involved prior to the lab period.

All students are expected to collect a complete set of data themselves. Sharing of data and results will result in a zero score for the lab. Discussions between students and instructors concerning procedures, techniques, calculations, etc. are expected and encouraged.
Any questionable conduct will be treated as dishonest behavior. Please see the current undergraduate catalogue for details concerning the University’s policy on academic dishonesty.

Any student requiring academic accommodations should register with the Counseling and Disability Services Office on the second floor of Crooker Center. Their phone numbers are 713-525-2169 or 713-525-6953.

**Lab Breakage Fees:** The lab glassware and equipment is not covered by the “lab fee” of the University. Make sure you have a complete set of glassware/equipment at the beginning of the semester. You will be expected to pay to replace any glassware/equipment that you broke or that is missing at the end of the semester at checkout. A list of equipment and cost will be posted in the lab.

### 2017 Spring Course Schedule

<table>
<thead>
<tr>
<th>Tuesday</th>
<th>Quiz</th>
<th>Lab Experiment</th>
</tr>
</thead>
<tbody>
<tr>
<td>25 Jan</td>
<td></td>
<td>Safety Instruction and Lab Check-in</td>
</tr>
<tr>
<td>1 Feb</td>
<td></td>
<td>Qualitative Analysis Known</td>
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<tr>
<td>8 Feb</td>
<td>1</td>
<td>Qualitative Analysis Unknown</td>
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<tr>
<td>15 Feb</td>
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<td>Heat of Neutralization</td>
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<tr>
<td>22 Feb</td>
<td>2</td>
<td>Conductance</td>
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<tr>
<td>1 Mar</td>
<td></td>
<td>Colligative Properties</td>
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<tr>
<td>8 Mar</td>
<td>3</td>
<td>Kinetics</td>
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<tr>
<td>15 Mar</td>
<td></td>
<td>No lab this week (Spring Break)</td>
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<tr>
<td>22 Mar</td>
<td></td>
<td>Chemical Equilibria</td>
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<tr>
<td>29 Mar</td>
<td>4</td>
<td>Titration curves and the pKa of Acetic Acid</td>
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<tr>
<td>5 Apr</td>
<td>5</td>
<td>Electrochemistry</td>
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<tr>
<td>12 Apr</td>
<td></td>
<td>Lab Check-out</td>
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