**Fundamentals of Chemistry I Laboratory**  
**CHEM 1141-B (1035)**  
**Spring 2017**

**Instructor:** Dr. Richa Chandra, Assistant Professor  
**Office:** Robertson B111  
**Email:** chandrr@stthom.edu  
**Phone:** 713-942-5928

**Office hours:** Tu 1 – 3:30 PM – 2 PM; W 11 AM – 12:30 PM, 2 – 3:30 PM; F 11 AM – 12:30 PM  
If you cannot make it to scheduled office hours, please email me in advance to set up an appointment.

**CLASS MEETING:**  
Laboratory: Friday, 2:10-5 PM - Robertson 213  
Laptop, tablet and/or smart phone use is NOT PERMITTED during laboratory.

**COREQUISITE:** CHEM 1341

**COURSE MATERIALS:** dishwashing soap, matches, towel, lab coat, and splash-proof safety goggles

**COURSE DESCRIPTION:** Fundamentals of Chemistry I Laboratory is the laboratory course that accompanies the lecture course General Chemistry I. The experiments conducted in this course will illustrate and reinforce chemical principles and concepts by use of quantitative and qualitative methods. Emphasis is on the interpretation and reporting of data as well as facility in handling laboratory equipment.

**LEARNING OUTCOMES:** Students will
- learn to prepare in order to perform a laboratory experiment efficiently and safely  
- learn to apply course material and gain factual knowledge  
- develop competency with common chemistry laboratory techniques  
- develop and communicate clearly and effectively in writing critical scientific thinking and analytical reasoning skills to properly analyze data and make scientific conclusions  
- develop specific skills, competencies and points of view needed by chemists  
- acquire skills in working with others as a member of a team

**GRADING:** The percent contribution of each type of assignment, participation, and exams to the final grade is shown below. For further descriptions of each category, see below.

<table>
<thead>
<tr>
<th>Assignment/Exam</th>
<th>Contribution to Final Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quizzes</td>
<td>20%</td>
</tr>
<tr>
<td>Laboratory Performance</td>
<td>15%</td>
</tr>
<tr>
<td>Laboratory Reports</td>
<td>50%</td>
</tr>
<tr>
<td>Formal Laboratory Report</td>
<td>15%</td>
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</tbody>
</table>

Final letter grades will then be determined by calculating the percentage points earned compared to the total number of points possible, and grades will be assigned on the following scale. Final letter grades may be reported with a plus or minus.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
</tr>
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<tbody>
<tr>
<td>A</td>
<td>100–93</td>
</tr>
<tr>
<td>A-</td>
<td>92–90</td>
</tr>
<tr>
<td>B+</td>
<td>89–86</td>
</tr>
<tr>
<td>B</td>
<td>85–83</td>
</tr>
<tr>
<td>B-</td>
<td>82–80</td>
</tr>
<tr>
<td>C+</td>
<td>79–76</td>
</tr>
<tr>
<td>C</td>
<td>75–73</td>
</tr>
<tr>
<td>C-</td>
<td>72–70</td>
</tr>
<tr>
<td>D+</td>
<td>69–66</td>
</tr>
<tr>
<td>D</td>
<td>65–60</td>
</tr>
<tr>
<td>F</td>
<td>&lt; 60</td>
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</tbody>
</table>
ELECTRONIC RESOURCES: Laboratory experiments are available on Blackboard. You are required to check your Blackboard account and UST email for such information and other important announcements for the class daily.

QUIZZES: Quizzes will take place at the beginning of lecture. This will be prior to the pre-lab lecture. Following the safety training of the first lab period, a quiz will be administered after the presentation. This will be the only quiz that will take place immediately after the pre-lab presentation. You will not be allowed to conduct experiments without completing the training and earning a perfect score on the quiz.

LABORATORY PERFORMANCE: You will be evaluated and graded on your laboratory performance in terms of pre-laboratory write-up, appropriate lab attire, timeliness, safety, laboratory skills, preparedness for the experimental procedure, cleanliness and respect for your classmates, the common areas in the laboratory and your personal work space. I will be watching for all of the above and also keep track of how you record (data sheets) and perform the experiment. Your pre-lab write up is an outline of the experimental procedure. You will bring this outline and print outs of the data sheets stapled together. At the beginning of lab, I will check your pre-lab as you walk into the classroom. You should not simply copy the pre-laboratory from the handouts, but write a procedure IN YOUR OWN WORDS. During the pre-lab lecture, we will have a brief discussion to clarify and answer questions you have about the experimental procedure. During the lab, you will record your data only on your printed data sheets. These must be completed in non-erasable ink (no pencils, write-overs or white out). You must complete your entire experiment and clean up by the end of the class time (5:00 PM). You will receive a 10 minute warning before the end of the laboratory period for cleaning up. For every minute that you stay past 5 PM, I will deduct 1 out of the 10 points for your performance grade for that day. **There are no make-up labs.**

LABORATORY REPORTS: The next lab meeting following the completion of a laboratory experiment, you will turn in your pre-lab experimental procedure, data sheets and follow-up questions together for grading. These reports will be 50% of your total grade and will be graded for completeness and correctness. Late work will not be accepted.

FORMAL LABORATORY REPORT: There will be one formal report during the semester; details will be provided at a later time.

ACADEMIC HONESTY: I expect that you do all work within this course (including written in class assignments, homework, and exams) with honesty and integrity. Academic Dishonesty includes (but not limited to) cheating on exams or quizzes and plagiarizing from sources such as textbooks, websites, or classmates work. I consider it academically dishonest to submit work plagiarized from any source including a solutions manual or exam/homework file.

ACCOMMODATIONS FOR STUDENTS WITH DISABILITIES: University of St. Thomas will make reasonable accommodations for students with documented disabilities. To arrange accommodation students should contact the Counseling and Disability Services Office in Crooker Center. This office can be reached at (713) 525-2169 or 6953. It is the student’s responsibility to discuss any necessary accommodations with the appropriate faculty member. Testing accommodations are provided at the Career Services and Testing Center as a convenience for faculty and students. The Career Services and Testing Center is located at 3909 Graustark on the second floor of Crooker Center. The center works on an appointment basis. The student is responsible for making his/her own appointment by speaking with a Testing Center staff member.

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UPDATED COURSE INFORMATION: Occasionally, I will send out an email or post an announcement on Blackboard. You are required to use your UST account to access such updated course information.

DISCLAIMER: I will adhere to the schedule and policies in this document as much as possible, but changes may be made during the semester. Announcements to this effect will be announced in lecture, by email or on your Blackboard account.

COURSE ETIQUETTE: Please be respectful of your classmates and your professor. Safety in the laboratory is paramount therefore no horsing around. If you are not respectful of the professor and your classmates, I will deduct points earned from your laboratory performance and ask you to leave. To reiterate, the use of electronic devices is prohibited in the laboratory. If you have an emergency and need the use of your mobile devices for personal use, please step outside of the class to attend to it.

Tentative Course Schedule

Note: This is a tentative schedule for laboratory experiments and may change as the semester progresses.

<table>
<thead>
<tr>
<th>Date</th>
<th>LABORATORY EXPERIMENT</th>
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<tbody>
<tr>
<td>Jan 27</td>
<td>Lab Orientation, Equipment Check In and Safety</td>
</tr>
<tr>
<td>Feb 3</td>
<td>Introductory Laboratory</td>
</tr>
<tr>
<td>Feb 10</td>
<td>Measurements (Dr. Cai substituting)</td>
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<tr>
<td>Feb 17</td>
<td>Separations</td>
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<tr>
<td>Feb 24</td>
<td>Lewis Dot Structures and MO Theory</td>
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<tr>
<td>Mar 3</td>
<td>The Alkaline Earth Elements</td>
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<tr>
<td>Mar 10</td>
<td>Introduction to MicroLab</td>
</tr>
<tr>
<td>Mar 17</td>
<td><strong>NO LAB THIS WEEK – SPRING BREAK</strong></td>
</tr>
<tr>
<td>Mar 24</td>
<td>Analysis of a Copper Sulfate Sample – Part 1</td>
</tr>
<tr>
<td>Mar 31</td>
<td>Analysis of a Copper Sulfate Sample – Part 2</td>
</tr>
<tr>
<td>Apr 7</td>
<td>Acid-Base Titrations / Lab Check Out</td>
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