

**CHE 151: General Chemistry for Engineers Laboratory**  
**Fall 2014**

**GENERAL COURSE INFORMATION**

**Instructor Information**

Dr. Mary Boyden

Office: 1-040 Center for Science and Technology

Office Hours: By appointment; appointments are scheduled via e-mail.

Phone: 443-2695

Email: [mnboyden@syr.edu](mailto:mnboyden@syr.edu)

Course Website: <http://blackboard.syr.edu>

My Teaching Assistant (TA): \_\_\_\_\_

TA Email: \_\_\_\_\_

Chemistry Undergraduate Department Office: LSB 120 (You may drop off doctor's notes here.)

**Course Description**

This laboratory course is designed for engineering students enrolled in CHE 150. A practical experience is provided that complements and expands upon the subject matter covered in the lecture. This course concentrates on scientific measurement, chemical reactions, equilibrium, thermodynamics, materials properties, and electrochemistry. This subject matter helps prepare students for the common section of the NCEES Fundamentals of Engineering (FE) Exam.

**Class Times and Locations**

A single, three-hour lab period per week

**Textbook and Supporting Materials**

- Boyden and Korter. *General Chemistry for Engineering Students Laboratory Manual, Second Edition*. 2014. (available in the SU bookstore)
- Scientific Calculator (You may not use your mobile phone or another type of electronic device.)

**If you are having difficulty with this course:**

The teaching assistants (TAs) for this course hold office hours in Room 117 Life Science Building. You may attend the office hours of any CHE 151 TA to obtain help. The times are listed on the course website: <http://blackboard.syr.edu>

**IT IS THE RESPONSIBILITY OF THE STUDENT TO SEEK HELP IN A TIMELY MANNER.**

**LABORATORY SCHEDULE**

<b>Date (week of)</b>	<b>Experiment #</b>	<b>Experiment</b>	<b>Manual Page #</b>
Aug 25		No Labs This Week	
Sept 1		No Labs This Week	
Sept 8		Safety Orientation	1-2, 15
Sept 15	1	Measurement	3-11, 17-26
Sept 22	2	Chemical Reactions #1	27-34
Sept 29	3	Chemical Reactions #2	35-46
Oct 6		No Labs This Week	
Oct 13	4	Enthalpy	Handout
Oct 20	5	Atomic Spectra	47-56
Oct 27	6	Molecular Geometry	57-73
Nov 3	7	Crystalline Solids	75-84
Nov 10	8	Semiconductors	85-92
Nov 17	9	Chemical Equilibrium	Handout
Nov 24		No Labs This Week	
Dec 1	10	Electrochemistry	Handout

## COURSE POLICIES

### **Academic Honesty** (from <http://academicintegrity.syr.edu>)

Complete academic honesty is expected of all students. Any incidence of academic dishonesty, as defined by the Syracuse University Academic Integrity Policy (<http://academicintegrity.syr.edu>), will result in both course sanctions and formal notification of the College of Arts & Sciences.

In this course, students are allowed to work in the laboratory with partners as indicated by the instructor, but laboratory assignments, quizzes, and reports must represent the work of the individual student. All data reported must be obtained by you and your approved partner during the *current* laboratory period. You may not report data obtained at another time, even if it is your own data.

No electronic devices except calculators and course-provided laboratory equipment may be used in the laboratory. The use of recording and other electronic devices, including mobile phones, tablet computers, and cameras during this class is forbidden. Use of such devices will constitute cheating.

### **Attendance**

Attendance is required in the laboratory. Students must attend the laboratory section for which they are registered. All students must arrive to class on time. If a student arrives late, that student may not be permitted to carry out the experiment. *Students may not leave the laboratory until they are completely finished unless they obtain permission from the TA.*

Acceptable excuses for missing lab include medical, religious, and University-sponsored activities (e.g. athletics). In all cases official, written documentation is required. Requests for special accommodations (except medical) must be made two weeks in advance. NO VERBAL EXCUSES WILL BE ACCEPTED.

In case of illness you should inform your TA as soon as possible, prior to class time is preferred unless you have been admitted to a hospital. Medical absences will be excused based on written advice from the Health Center or a licensed health-care provider (based upon clinical findings and prescribed treatment recommendations). NO VERBAL EXCUSES WILL BE ACCEPTED. The medical document must specifically indicate that you were unable to attend class. All such absences will be verified by Chemistry Department staff.

There will be NO MAKEUP LABORATORIES except in the case of advanced-notice approved absences. ALL ADVANCED-NOTICE MAKEUP LABORATORIES MUST BE APPROVED AND SCHEDULED BY YOUR INSTRUCTOR.

An absence will not automatically be excused. Written excuses will be evaluated by the instructor. Unexcused absences will result in a score of zero for that laboratory.

**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.

**Disability-Related Accommodations**

If you have a learning or physical disability, please see Professor Boyden as soon as possible (during the first 2 weeks of the semester) to arrange for appropriate accommodations. No provisions/ accommodations will be made retroactively. Students requiring special accommodations MUST register with the Office of Disability Services (804 University Avenue Room 303, Phone: Voice: (315) 443-4498; TDD: (315) 443-1371, E-Mail: [odsched@syr.edu](mailto:odsched@syr.edu)).

**Safety**

Safety is the most important aspect of working in the chemistry laboratory. Students must follow all of the safety protocol as outlined in the manual and directed by the instructor. Students must behave in a respectful manner while in the laboratory. Students may not use electronic devices (e.g. mobile phones) other than calculators or lab equipment in the laboratory. Such devices are a distraction and thus a safety violation. Students must sign the safety agreement and pass a safety quiz prior to working in the laboratory. Students who violate safety protocol, become disruptive/disrespectful, or ignore directions given by the instructor will be asked to leave the laboratory and receive a grade of zero for that laboratory.

**Email**

Email is the official form of communication for this course. If an instructor needs to contact you during the semester, you will receive email at your Syracuse University email account. It is the responsibility of the student to check their SU email regularly.

## COURSE GRADING

The grade for each laboratory experiment will be calculated as follows:

- Pre-Lab Quiz            10%
- Participation            10%
- Laboratory Report      80%
- TOTAL                    100%

The pre-lab quizzes will be given at the beginning of the class period. If you are late for class, you will not be permitted to take the quiz, and you will receive a grade of zero for the quiz.

The participation grade is based upon the student's level of preparation, safety, cleanliness, involvement in the experiment, behavior, and attention to instruction. This grade will be assigned by the teaching assistant.

All laboratory reports are due following the experiment at the end of the laboratory class. You may not take your laboratory report out of the classroom. If you do not turn in your report at the end of class, you will not receive any credit for the report.

You are responsible for the answers on your laboratory report. If there is a problem with the grading of your laboratory report, you must inform me within one week of the report being returned to you. It is the responsibility of the student to inform the instructor of problems in a timely manner.

**STUDENTS MUST COMPLETE A MINIMUM OF 8 LABORATORY EXPERIMENTS IN ORDER TO RECEIVE A PASSING GRADE FOR THE COURSE.**

There is no final exam in this laboratory course.

The course grade will be comprised of the average of the laboratory experiment grades. The preliminary scale for course letter grades is shown below. This scale reflects the minimum scores that are required to achieve each letter grade. It does not explicitly show the +/- ranges for each letter grade nor reflect any curve that may be applied to the grades at the end of the semester. A curve would never lower a letter grade. For example, if you earn a 90% average, the lowest possible letter grade that you would receive is an A-. The determination of whether a curve will be applied will be made at the end of the semester.

Letter Grade	Percentage
A-range	90-100%
B-range	80-89%
C-range	70-79%
D-range	60-69%
F	≤59%