



Chemistry 105aL Spring 2020

Lecture website: <http://chemmac1.usc.edu/chem105a/>

Lab website: Blackboard

Lecturer

Dr. Franklin Ow
franklio@usc.edu
Office Hrs:
SGM 460
MWF 8-8:50am
Or by appointment

Lab Coordinator

Dr. Catherine Skibo
SGM 138
(213)740-8265
skibo@usc.edu
Office hours:
MW 1:30-3pm

Course Coordinator

Paperwork for the Course Coordinator may be emailed as a PDF, or brought to the Receptionist in SGM 401.

coord105@chemmail.usc.edu
Electronic office hours: MW 1:30-3pm,
emailed questions answered at this time

CHEM 105a introduces the basic chemical principles that underlie much of science and research (from materials and nanoscience to medicine and biochemistry). During this course students will: 1) accrue good laboratory practices and critical thinking skills; 2) become better prepared for advanced science classes; and 3) develop an understanding of everyday life at the molecular level.

Lectures 9 am MWF in SGM 124.

Textbooks *Chemistry: A Molecular Approach* (5th edition) by Tro (I will not be using Mastering Chemistry)
Solutions Manual to Chemistry: A Molecular Approach (optional)
Laboratory Manual (required, purchase in USC Bookstore)
Calculations in Chemistry by Dahm, 2nd edition (optional; recommended for students who desire additional practice with critical math and chemistry skills)

Calculator CHEM 105 students may only use **TI 30x IIS** calculators on exams. This rule is severely enforced; use of another calculator model, brand or electronic device is an automatic 0 on whatever exam you are taking. *It is recommended that you use the TI 30x IIS for homework so you get used to it.*

Grading	Web Quizzes (top 10 of 14)	10@ 10 points	100 points
	Exams	4 @ 100 points	400 points
	Laboratory	1 @ 300 points	300 points
	Final Exam	1 @ 200 points	200 points
		Total	1000 points

Satisfactory completion of all lab experiments and reports is required to receive a passing grade. Students who set up their password on the course website by 5:00 pm Jan 13 earn a 5 pt bonus.

A	93-100%	B	83-86.9%	C	73-76.9%	D	63-66.9%
A-	90-92.9%	B-	80-82.9%	C-	70-72.9%	D-	60-62.9%
B+	87-89.9%	C+	77-79.9%	D+	67-69.9%	F	<60%

I reserve the right to change the grading scale, number and weight of assessments at my discretion.

Week 8 grade Students will be assigned an approximate letter grade at the end of the eighth week based solely on the first two exams. This mid-semester grade is no guarantee of a student's final grade.

Exams Four 1-hour exams will be administered during the quiz session on certain Tuesdays (see p. 3) at 3:30 p.m. **There are no makeup exams and you cannot take exams at any other time.** The material covered on each exam will be announced in lecture prior to that exam. Bring USCard, TI 30x IIS calculator and pens and a DARK pencil. Exams may be written in blue or black pen (i.e., not red) or DARK lead (i.e., not colored) pencil. Exams that are too light will not be rescanned. All other electronic devices such as cell phones are prohibited and cannot be used for any purpose during the exam, including keeping time. A countdown timer will be projected in each exam room. **Using or wearing a smart watch during exams will automatically earn you a 0 on the exam.** The one-hour time period will be strictly enforced; no one is allowed to leave early. Anyone with special exam needs should contact the Course Coordinator beforehand. An answer key for each exam will be posted on the course website under "Grades/Keys". PDF scans of

graded exams will be posted in GradeScope.com. **The exam regrade deadline is 5pm Monday following each midterm and by 12 noon on Monday following the final exam.** To request a regrade for an exam, compare your answers carefully with the posted key. Submit regrades via GradeScope.com but be warned: submit a regrade and your entire exam may be regraded.

- Final Exam** A comprehensive two-hour final exam will be given **8 - 10 a.m. Friday, May 8th 2020** in rooms to be announced. This is the only time during which the final exam may be taken; there are no make-ups. Absences on the final exam do not automatically qualify for a grade of incomplete. **If you cannot take the final during this designated time, you should not take this course.**
- Absences** No makeup exams will be given. Students will only be excused from exams based on official University policy (verifiable illness or necessity). **For illness/emergency, telephone the Course Coordinator 213-740-7036 on the morning of the absence (or prior).** In the case of non-illness necessity, email the Course Coordinator about the written verification *prior* to the absence. All excuses will be verified. Students with an excused absence are assigned the weighted average of their other midterm exams: $[(\text{sum of the student's other 3 midterm exam scores}) / (\text{sum of those class averages})] * (\text{class average of excused exam})$. Only one exam can be excused. All *unexcused* absences will result in a score of zero for that exam.
- For lab absences, email Dr. Skibo (skibo@usc.edu) as soon as possible in order to arrange a make-up lab or a make-up lab exam.** Satisfactory completion of all labs and lab work is required to pass the class.
- Homework** There is no online homework in this class. Suggested homework problems from the Tro text for each chapter are listed under the "Assignments" tab of the class web site and on p. 4 of this syllabus. These problems are highly recommended but will be neither collected nor graded. Many students observe a direct correlation between the completion of these assignments and their success in this class.
- Web Quizzes** There will be a 10-question web quiz assigned each week this semester. There will be 14 web quizzes but only the highest 10 WQ scores will count toward your grade. No late web quizzes will be accepted regardless of the reason. Any questions regarding the chemistry of the questions in the web quizzes should be directed to Prof Ow. For any technical problems with the website, email Dr. Herreros (herreros@usc.edu).
- Office Hours** You are strongly encouraged to see *any* TA during their office hours, not just your own TA. Office hours for all TA's are posted in SGM 149 (Chemistry Study Center) and on the class web page. The Study Center is open Monday through Friday, 9 - 5.
- SI** The University has a Supplemental Instruction Program (<https://dornsife.usc.edu/chem105a/>) that we encourage you to use. The SI instructors hold weekly sessions going over the course material and problems. They also prepare mock exams, which you can use to test yourself before the midterms and final exam. The SI leaders attend all of the lectures and are familiar with the lecture material.
- Laboratory** The **mandatory lab orientation** will be given during the quiz period on Tues Jan 21 in SGM 123, at 3:30. You must attend the lab orientation in order to maintain your space in the lab and thus to remain in the course. The laboratory curriculum starts with the lab orientation lecture. Attendance at this lecture and at the first scheduled lab meeting is mandatory for all registered students. If you cannot attend both at your assigned times, you won't be permitted to continue in the laboratory portion of the course.
Safety glasses and a lab coat (100% cotton) are required for every person in the lab at all times. All persons in the lab are required to wear long pants, shirt with sleeves, socks and covered/closed-toe shoes.
- Lab begins with Check-in** at your scheduled lab time on Jan 22-23. **Be properly dressed and bring with you to your first lab period** (all available in USC Bookstore):
- Safety Glasses
 - Lab notebook
 - Lab manual
 - Lab coat, only 100% cotton
- Quiz Period/ Lab Lecture** There will be 30-minute lab lectures given during the quiz period each week in SGM 123 at 3:30 in which the quiz period is not used for the assessment test, midterms or lab orientation. A schedule of the lab lecture topics will be posted on Blackboard.
- Blackboard** See Blackboard for all laboratory information, lab grades and lab assignments. See the class website (<http://chemmac1.usc.edu/chem105a/>) for lecture notes, exam scans & scores, exam seat #, letter grades.
- Lab Exam** At the end of the semester there will be one 60-minute cumulative lab exam and one 60-minute lab practical. Questions typically cover relevant procedure, safety issues, chemical formulas and chemical equations, observations, calculations and data analysis (bring a calculator).

Disabilities Any student requesting academic accommodations based on a disability is required to register each semester with Disability Services and Programs (DSP), which provides certification for students with disabilities and helps arrange relevant accommodations, <http://dsp.usc.edu>. A letter of verification for approved accommodations can be obtained from DSP. Please be sure to email the pdf of the letter to the Course Coordinator as early in the semester as possible. Please also see p. 5 of this syllabus.

Evaluations Students submit confidential course evaluations online during week 15. More information will be provided in lecture.

Important Dates to Remember

January 13 (M)	First Day of Classes
Jan 13 (M) 5:00pm	5 pt bonus for setting up class PW
Jan 14 (Tu)	Chem assessment test, 30 min , for all students; get room # on grades/exams page using class PW
Jan 20 (M)	Dr. Martin Luther King Day, No Classes
Jan 21 (Tu)	Mandatory Lab Orientation Lecture
Jan 22-23 (W-Th)	Labs begin with checkin at your scheduled time. Arrive properly attired, with PPE and having passed the online safety training.
Jan 31 (F)	Last day to drop <u>without a "W" to avoid tuition charges</u>
Feb 11 (Tu)	First Hour Exam Regrade deadline: 5pm Mon Feb 17
Feb 28 (F)	Last day to drop <u>without a "W" but still incurring tuition charges for this class</u>
Mar 03 (Tu)	Second Hour Exam Regrade deadline: 5pm Mar 09
Mar 06 (F)	Midterm Grade Assigned
Mar 16-20 (M-F)	Spring Recess
Apr 03 (F)	Last day to drop <u>with a "W"</u>
Apr 07 (Tu)	Third Hour Exam Regrade deadline: 5pm Mon Apr 13
Apr 21 (Tu)	Written Lab Exam
Apr 28 (Tu)	Fourth Hour Exam Regrade deadline: 5pm Mon Apr 27
Apr 29-30 (W-Th)	Lab Practical in lab section/rooms
May 01 (F)	Last Day of Class
May 8 (F)	Final Exam, 8:00 - 10:00 a.m. Regrade deadline: 5pm Mon May 11

<p>If you cannot take the final during this time, do not take this course. This is the <u>only</u> time during which the final exam may be taken. No make-ups.</p>
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Recommended Chapter Readings

Chapter	Contents
1.3 - 1.9	Matter and Measurement
2.5 - 2.9	Atoms and Elements
3.2 - 3.10	Molecules and Compounds
4.2 - 4.4	Stoichiometry
5.2 - 5.7, 5.9	Aqueous Reactions
6.2 - 6.10	Gases
7.2 - 7.9	Thermochemistry

Chapter	Contents
8.2 - 8.6	Quantum-Mechanical Model
9.2 - 9.9	Periodic Trends
10.2 - 10.10	Chemical Bonding I
11.2 - 11.8	Chemical Bonding II
12.2 - 12.3, 12.5 - 12.8	Liquids and Solids
14.2, 14.5 - 14.7	Solutions

Recommended End-of-Chapter Odd # Exercises See also p. 3 of this syllabus

Chapter 1: 33, 37, 39, 41, 47, 49, 51, 53, 55, 57 (skip b), 59 (skip ks), 61, 63, 65, 67, 69, 71, 73, 75, 77, 79, 81, 83, 85, 87, 89, 91, 95, 99, 101, 103, 115, 119, 125
Chapter 2: 29, 47, 49, 51, 53, 55, 57, 59, 61 (skip indium), 63, 65, 67, 69, 71, 73, 75, 77, 81, 83, 85, 87, 89, 91, 93, 95, 99, 103, 105, 107, 115, 131, 133, 135
Chapter 3: 23, 25, 27, 29, 31, 33, 35, 37, 39, 41, 43, 47, 49, 51, 53, 55, 57, 59, 61, 63, 65, 67, 69, 71, 73, 75, 77, 79, 81, 83, 85, 87, 89, 91, 93, 95, 97, 99, 109, 119, 121, 123, 125, 127, 129, 131
Chapter 4: 25, 27, 29, 31, 33, 35, 39, 41, 43, 45, 47, 49, 53, 61, 75
Chapter 5: 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, 41, 43, 45, 47, 49, 51, 53, 55, 57, 61, 63, 65, 73, 75, 77 (a and c only), 81, 83, 85
Chapter 6: 27abc, 29, 31, 33, 35, 37, 39, 41, 45, 47, 49, 51, 53, 55, 57, 59, 61, 63, 65, 67, 69, 71, 73, 75, 77, 79, 81, 85, 87, 89, 95, 97, 99, 101, 105, 115, 123, 125, 129
Chapter 7: 33, 37, 39, 41, 43, 47, 49, 51, 53, 55, 57, 59, 61, 63, 65, 67, 69, 71, 73, 75, 77, 79, 81, 83, 85, 87, 91, 99, 103, 109, 111, 113
Chapter 8: 35, 39, 41, 43, 45, 49, 51, 53, 55, 57, 59, 61, 63, 65, 67, 69, 71, 73, 79, 85, 87, 89, 91
Chapter 9: 39, 41, 43 (skip c), 45 (skip d), 47, 49, 51, 55, 57, 59, 61, 63, 65, 67, 69, 71, 73, 77, 79, 81, 85, 97 (note: 6A = Group 16, 7A = Group 17), 105, 125
Chapter 10: 35, 37, 39, 41, 43, 45, 47, 49, 51, 53, 55, 57, 59, 61, 63, 65, 67, 69, 71, 73, 75, 77, 79, 81, 83, 85, 87, 89, 91, 93, 95, 97, 101, 105, 109, 111, 127, 129
Chapter 11: 31, 33, 35 (skip c), 37, 39 (only determine molecular geometry), 41 (skip c), 43, 47, 49, 51, 53, 55, 57, 59, 61, 63, 65, 67, 69, 71, 73, 75, 77, 79, 81, 83, 85, 87, 89, 91, 93, 95, 97
Chapter 12: 35, 37, 39, 41, 43, 45, 53, 57, 59, 61 (don't plot), 63, 65, 67, 69, 71, 73, 77, 79, 83, 85, 95, 99
Chapter 14: 29, 31, 33, 51, 53, 55, 57, 59, 63, 65, 67, 69, 71, 73, 75, 77, 79, 81, 83, 85, 87, 89, 91, 93, 95, 97, 99, 107, 109, 111, 113, 115, 117, 119, 121

Statement on Academic Conduct and Support Systems

Academic Conduct:

Plagiarism – presenting someone else’s ideas as your own, either verbatim or recast in your own words – is a serious academic offense with serious consequences. Please familiarize yourself with the discussion of plagiarism in SCampus in Part B, Section 11, “Behavior Violating University Standards” policy.usc.edu/scampus-part-b. Other forms of academic dishonesty are equally unacceptable. See additional information in SCampus and university policies on scientific misconduct, policy.usc.edu/scientific-misconduct.

Support Systems:

Counseling and Mental Health - (213) 740-9355 – 24/7 on call
studenthealth.usc.edu/counseling

Free and confidential mental health treatment for students, including short-term psychotherapy, group counseling, stress fitness workshops, and crisis intervention.

National Suicide Prevention Lifeline - 1 (800) 273-8255 – 24/7 on call
suicidepreventionlifeline.org

Free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week.

Relationship and Sexual Violence Prevention and Services (RSVP) - (213) 740-9355(WELL), press “0” after hours – 24/7 on call
studenthealth.usc.edu/sexual-assault

Free and confidential therapy services, workshops, and training for situations related to gender-based harm.

Office of Equity and Diversity (OED)- (213) 740-5086 | Title IX – (213) 821-8298
equity.usc.edu, titleix.usc.edu

Information about how to get help or help someone affected by harassment or discrimination, rights of protected classes, reporting options, and additional resources for students, faculty, staff, visitors, and applicants. The university prohibits discrimination or harassment based on the following *protected characteristics*: race, color, national origin, ancestry, religion, sex, gender, gender identity, gender expression, sexual orientation, age, physical disability, medical condition, mental disability, marital status, pregnancy, veteran status, genetic information, and any other characteristic which may be specified in applicable laws and governmental regulations. The university also prohibits sexual assault, non-consensual sexual contact, sexual misconduct, intimate partner violence, stalking, malicious dissuasion, retaliation, and violation of interim measures.

Reporting Incidents of Bias or Harassment - (213) 740-5086 or (213) 821-8298
usc-advocate.symplicity.com/care_report

Avenue to report incidents of bias, hate crimes, and microaggressions to the Office of Equity and Diversity |Title IX for appropriate investigation, supportive measures, and response.

The Office of Disability Services and Programs - (213) 740-0776
dsp.usc.edu

Support and accommodations for students with disabilities. Services include assistance in providing readers/notetakers/interpreters, special accommodations for test taking needs, assistance with architectural barriers, assistive technology, and support for individual needs. Please also see p. 3 of this syllabus.

Campus Support & Intervention - (213) 821-4710
campussupport.usc.edu

Assists students and families in resolving complex personal, financial, and academic issues adversely affecting their success as a student.

Diversity at USC - (213) 740-2101
diversity.usc.edu

Information on events, programs and training, the Provost’s Diversity and Inclusion Council, Diversity Liaisons for each academic school, chronology, participation, and various resources for students.

USC Emergency - UPC: (213) 740-4321, HSC: (323) 442-1000 – 24/7 on call
dps.usc.edu, emergency.usc.edu

Emergency assistance and avenue to report a crime. Latest updates regarding safety, including ways in which instruction will be continued if an officially declared emergency makes travel to campus infeasible.

USC Department of Public Safety - UPC: (213) 740-6000, HSC: (323) 442-120 – 24/7 on call
dps.usc.edu

Non-emergency assistance or information.