

# Chemistry 105bL Spring 2019

# 9, 11 am lectures

Lecture Website <http://chemmac1.usc.edu/chem105b/> See Blackboard for lab

<b>Lecturer</b> Prof. Rebecca Broyer SGM 305 (213)740-0620 <a href="mailto:rbroyer@usc.edu">rbroyer@usc.edu</a> TBA second half of semester only	<b>Lecturer</b> Prof. Jasmine Bryant SGM 450 (213)740-3235 <a href="mailto:bryantja@usc.edu">bryantja@usc.edu</a> W 1:30-3 pm Th 10-11:30 am first half of semester only	<b>Lab Coordinator</b> Dr. Catherine Skibo SGM 138 (213)740-8265 <a href="mailto:skibo@usc.edu">skibo@usc.edu</a> MW 1:30-3	<b>Course Coordinator</b> Paperwork for the Course Coordinator may be emailed as a PDF, or brought to the Receptionist in SGM 401. <a href="mailto:Coord105@chemmail.usc.edu">Coord105@chemmail.usc.edu</a> Electronic office hours: MW 1:30-3. Questions emailed during this time slot will be processed first.
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The purpose of CHEM 105b is to introduce the basic chemical principles that underlie all of the molecular sciences (from materials and nanoscience to medicine and the machinery of biology). It will introduce good lab practice and how to make decisions based on sound data. After this course you will be both better prepared for your continuing studies and have an understanding of molecular principles coming up in everyday life.

**Lectures:** 9 or 11 MWF in SGM 123

**Textbooks:** Chemistry (3<sup>rd</sup> custom edition for USC, or the 4<sup>th</sup> edition text) by Tro; package from USC Bookstore includes for free the eText and Mastering Chemistry (MC not required). Solutions Manual (optional). Laboratory Manual (required, purchase in USC Bookstore). Calculations in Chemistry by Dahm (optional, recommended for students who are rusty in chem, math).

**Calculator:** To have a level playing field, CHEM 105 requires everyone use the exact **same** calculator on exams, the **TI 30x IIS**, which is around \$15. Sorry, this rule is strictly enforced: no other models or brands of calculators or other electronic devices allowed. *Be sure to practice HW with it prior to exams.*

<b>Grading:</b>	Video Quizzes (top 30 of 40)	30@ 1 point	30 points
	Group Quizzes (in-class, top 6 of 8)	6 @ 20 points	120 points
	One-hour exams (total of three)	3 @ 120 points	360 points
	Laboratory	1 @ 290 points	290 points
	Final Exam	1 @ 240 points	240 points
			<b>Total: 1040 points</b>

Satisfactory completion of all laboratory experiments and reports is required to receive a passing grade.

Any student earning less than 50% of the course points (<520) will **not** pass the course.

**Students who set up their password on the course website by Thurs Jan 10, 5:00 pm earn a 5 pt bonus.**

**Week 9 grade:** We do our best to inform you on your progress in the course by assigning an approximate letter grade at the end of the eighth week. This is based on your performance on the first two exams. Note: this advisory letter grade you receive at week 9 is no guarantee of your final grade. Final grades are assigned using guidelines from previous semesters, but there is no strict grading curve.

**Schedule:** The class schedule (lectures, exams, lab exam/practical, etc.) is on p. 3, 4 of this syllabus.

**Exams:** There will be three 1-hour exams given during the scheduled quiz sessions on certain Thursdays at 3:30 p.m. (see p. 3,4). **There are no makeup exams. 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, plus a DARK pencil for the ID bubbles. Exams may be written in blue or black pen or DARK pencil (no red). 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. **Apple watches and other smart watches may not be used during exams.** A countdown timer will be projected in each exam room. The one-hour time period will be strictly enforced; no one is allowed to leave early. Anyone with special needs should contact the Course Coordinator. An answer key for each exam and graded exams will be posted on the Grades/Exams page, viewable with one's class password. **The regrade deadline is 5pm on Mon following each midterm exam and 12 noon on Thurs following the final exam.** To request a regrade for an exam, compare your answers carefully with the posted key. Submit regrades via the form found on the course website under "Grades/Exams" but be warned: submit a regrade and your entire exam will be regraded.

**Final Exam:** A comprehensive two-hour **final exam** will be given **8-10 a.m. Thursday, May 2<sup>nd</sup> 2019** in rooms to be announced. Note that this is **not the regular final exam time for classes that meet at 9, 10 or 11a.m.** 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. Absences will be excused 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 (see page 1) 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: (sum of the student's other 3 midterm exam scores) / (sum of those class averages) \* (class avg 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.

**Group Quizzes:** There will be a total of eight, 20-minute group quizzes administered during lecture throughout the semester. Groups will consist of 3 students. Quizzes may be taken only in one's own registered lecture section, and will be closed notes. Your top six scores will count toward your final grade. The schedule will be posted on the course website and on p. 4 of the syllabus. **There are no make-ups for group quizzes.**

**Homework:** Suggested Homework Assignments (not graded) assigned for each chapter are listed on the "Assignments" page of the class web site, and *should be solved the same day the material is covered in class.* Although the Suggested HW Assignments will not be graded, *students are expected to do them.* It is best to check the solutions manual only after the problems have been worked.

**Video Quizzes:** Throughout this semester we will be adding more active learning to the lecture time. Prior to each lecture you will be asked to watch a short video. There will be questions inserted into the videos that you will be graded on. There are a total of 40 videos throughout the semester. You will earn 1 point for answering 2/3 of the questions in the video correctly. Your top 30 scores will count toward your final grade. You will not earn points for submitting answers after the deadline. **There are no make-ups for video quizzes.**

**Office Hours:** You are strongly encouraged to see *any* T.A. during their office hours, not just your own T.A. Office hours for all T.A.'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/chem105b/>) 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 finals. The SI leaders attend all of the lectures and are familiar with the lecture material.

**Laboratory:** The **mandatory lab orientation** lecture will be given during the **quiz period on Thurs Jan 10** 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 & Experiment 1** at your scheduled lab time on Jan 14-16.

**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 in SGM 123 at 3:30 each week that the quiz period is not used for assessment test, exams 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 class website (<http://chemmac1.usc.edu/chem105b/>) for lecture information, lecture scores, exam seating information, final course letter grade.

**Lab Exam:** At the end of the semester there will be one 60-minute cumulative lab exam and one 60-minute lab practical. The **written lab exam** will be held during the Thurs Apr 25 quiz period in your assigned exam room (same as for midterm exams). Questions typically cover the procedure, safety issues, relevant chemical formulas and chemical equations, observations, calculations and data analysis (bring a calculator). The **lab practical** will be held during your scheduled lab section (Apr 22-24).

**Students with 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 letter to the Course Coordinator as early in the semester as possible.

**Academic Conduct:** USC seeks to maintain an optimal learning environment. General principles of academic honesty include the concept of respect for the intellectual property of others, the expectation that individual work will be submitted unless otherwise allowed by an instructor, and the obligations both to protect one's own academic work from misuse by others as well as to avoid using another's work as one's own. 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" <https://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, <http://policy.usc.edu/scientific-misconduct>.

Should there be any suspicion of academic dishonesty, students will be referred to the Office of Student Judicial Affairs and Community Standards (SJACS) for further review.

**Course Evaluations:** Students will submit confidential course evaluations, available online during week 15. More information will be provided in lecture.

See the **Frequently Asked Questions** (FAQ page) on the class website.

### Important Dates to Remember

January 07 (M)	First Day of Classes
<b>Jan 10 (Th)</b>	<b>Mandatory Lab Orientation Lecture</b>
<b>Jan 10 (Th) 5:00pm</b>	<b>5 pt bonus for setting up class PW and preferred exam room</b>
<b>Jan 14-16 (M,Tu,W)</b>	<b>Labs begin with checkin at your scheduled time. Be properly attired, bring completed prelab assignment in lab notebook.</b>
<b>Jan 17 (Th)</b>	<b>Chem assessment test, 30 min, for all students; get room # on grades/exams page using class PW</b>
Jan 21 (M)	Dr. Martin Luther King Day, No Classes
Jan 25 (F)	Last day to drop <u>without a "W" to avoid tuition charges</u>
<b>Feb 07 (Th)</b>	<b>First Hour Exam</b> Regrade deadline: Mon Feb 11
Feb 18 (M)	Presidents' Day
Feb 22 (F)	Last day to drop <u>without a "W" but still incurring tuition charges for this class</u>
<b>Mar 07 (Th)</b>	<b>Second Hour Exam</b> Regrade deadline: Mon Mar 18 (right after spring break)
Mar 08 (F)	Midterm Grade Assigned
Mar 11-16 (M-F)	Spring Break
Apr 05 (F)	Last day to drop <u>with a "W"</u>
<b>Apr 11 (Th)</b>	<b>Third Hour Exam</b> Regrade deadline: Mon Apr 15
<b>Apr 22-24 (M,Tu,W)</b>	<b>Lab Practical in lab section/rooms</b>
<b>Apr 25 (Th)</b>	<b>Written Lab Exam</b>
Apr 26 (F)	Last Day of Class
<b>May 02 (Th)</b>	<b>Final Exam 8:00 - 10:00 a.m.</b> Regrade deadline: 12 noon Mon May 06

**This is the only time during which the final exam may be taken. There are no make-ups or other times. If you cannot take the final during this designated time, you should not take this course.**

**Exam**                      The deadline for regrade requests of a midterm is 5pm on Mon following each midterm exam,  
**Regrades:**              and 12 noon on Thurs following the final exam.

## Course Schedule

	Topics/Daily Activities	Readings	Due Dates/Activities
<b>Week 1</b>	Orientation, Kinetics	14.2-14.5, 20.3, 20.6	<b>Lab Orientation (1/10)</b>
<b>Week 2</b>	Kinetics, Mechanisms, Equilibrium	14.6, 15.2-15.4	Lab #1 – Kinetics <b>Group Quiz 1 (1/16)</b> <b>Assessment test (1/17)</b>
<b>Week 3</b>	Equilibrium	15.5-15.7	
<b>Week 4</b>	Acids & Bases	16.2-16.9	Lab #2 – Rate Laws <b>Group Quiz 2 (1/30)</b>
<b>Week 5</b>	Applications of Equilibrium	16.10-16.11, 17.2-17.3	Lab #3 – Equilibrium <b>Exam 1 (2/7)</b>
<b>Week 6</b>	Applications of Equilibrium	17.4-17.8	Lab #4 – Buffers <b>Group Quiz 3 (2/15)</b>
<b>Week 7</b>	Thermodynamics	18.2-18.6	Information Literacy Assignment
<b>Week 8</b>	Thermodynamics	18.8-18.10	Lab #5 – Potentiometric Titrations <b>Group Quiz 4 (2/27)</b>
<b>Week 9</b>	Electrochemistry	19.2-19.6	Lab #6 – Solubility Equilibrium <b>Exam 2 (3/7)</b>
	SPRING BREAK	SPRING BREAK	SPRING BREAK
<b>Week 10</b>	Electrochemistry and Inorganic Chemistry	19.5-19.6, 25.2-25.4	Lab #7 – Electrochemistry <b>Group Quiz 5 (3/20)</b>
<b>Week 11</b>	Inorganic Chemistry & Organic Chemistry	25.7, 21.2-21.5	Lab #8 – Corrosion
<b>Week 12</b>	Organic Chemistry	21.4-21.13	Lab #9 – Transition Metals <b>Group Quiz 6 (4/1)</b>
<b>Week 13</b>	Spectroscopy and Organic Reactions	21.6	Lab #10 – Organic Modeling <b>Exam 3 (4/11)</b>
<b>Week 14</b>	Organic Chemistry		Lab #11 – Spectroscopy <b>Group Quiz 7 (4/19)</b>
<b>Week 15</b>	Organic Wrap-up		<b>Lab Practical</b> <b>Lab Exam (4/25)</b> <b>Group Quiz 8 (4/26)</b>
<b>FINAL EXAM</b>		<b>Exam is cumulative</b>	<b>Thursday, May 2</b> <b>8-10am</b>

## Statement on Support Systems

### *The Office of Disability Services and Programs*

See p. 2 of this syllabus.

### *Student Counseling Services (SCS) - (213) 740-7711 – 24/7 on call*

Free and confidential mental health treatment for students, including short-term psychotherapy, group counseling, stress fitness workshops, and crisis intervention. <https://engemannshc.usc.edu/counseling/>

### *National Suicide Prevention Lifeline - 1-800-273-8255*

Provides free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week. <http://www.suicidepreventionlifeline.org>

### *Relationship and Sexual Violence Prevention Services (RSVP) - (213) 740-4900 - 24/7 on call*

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

<https://engemannshc.usc.edu/rsvp/>

### *Sexual Assault Resource Center*

For more information about how to get help or help a survivor, rights, reporting options, and additional resources, visit the website: <http://sarc.usc.edu/>

### *Office of Equity and Diversity (OED)/Title IX Compliance – (213) 740-5086*

Works with faculty, staff, visitors, applicants, and students around issues of protected class. <https://equity.usc.edu/>

### *Bias Assessment Response and Support*

Incidents of bias, hate crimes and microaggressions need to be reported allowing for appropriate investigation and response. <https://studentaffairs.usc.edu/bias-assessment-response-support/>

### *Student Support and Advocacy – (213) 821-4710*

Assists students and families in resolving complex issues adversely affecting their success as a student EX: personal, financial, and academic. <https://studentaffairs.usc.edu/ssa/>

### *Diversity at USC*

Information on events, programs and training, the Diversity Task Force (including representatives for each school), chronology, participation, and various resources for students. <https://diversity.usc.edu/>

### *USC Emergency Information*

Provides safety and other updates, including ways in which instruction will be continued if an officially declared emergency makes travel to campus infeasible, <http://emergency.usc.edu>

*USC Department of Public Safety – 213-740-4321 (UPC) and 323-442-1000 (HSC) for 24-hour emergency assistance or to report a crime.*

Provides overall safety to USC community. <http://dps.usc.edu>