CHEMISTRY 115A - ADVANCED GENERAL CHEMISTRY
FALL 2019 web: http://scf.usc.edu/~chem115

LEARNING OBJECTIVES
Chem 115A introduces chemical principles including: atomic theory, bonding models, stoichiometry, gas laws, thermochemistry, intermolecular interactions, and more. The lecture portion of the course presents the development of scientific laws, theories and models. The course will address how these laws, theories and models are used in current scientific research, particularly their use to solve pressing societal issues such as environmental concerns and the development of alternative energy sources and novel materials. Through the examination of how these principles are applied to nanoscience, biology and medicine, students gain a greater appreciation for the physical world. Students will apply the knowledge that they gain during the lecture in a weekly three-hour laboratory period. During the laboratory section students will collect data, analyze their results and produce a weekly written report, gaining experience in lab procedures and communicating scientifically.

LECTURE
MWF 9-10; SGM 101

MIDTERM EXAMS
Th 3:30-4:50; SGM 101

TA
Office Hour
Bibek Samanta  Daniel Kwasniewski  Jose Godinez
bsamanta@usc.edu  kwasniew@usc.edu  jlgodine@usc.edu
Tue 3-4  Tue 3-4  Tue 4-5

Anna Gurgenidze  Jonas Schaab  Goran Giudetti
gurgenid@usc.edu  jonassch@usc.edu  giudetti@usc.edu
Mon 3:30-4:30  Wed 5-6 pm  Tue 2:15-3:15
SSC 404

SI LEADER
Alex Maertens, maertens@usc.edu

TEXTBOOKS
Required:
1. Principles of Modern Chemistry, 8th Edition, by Oxtoby, Gillis and Butler
2. Brooks-Cole Organic-Inorganic Molecular Student Model Set (often bundled with textbook), or Prentice Hall Molecular Model Set for General and Organic Chemistry (if purchased separately from textbook), or another equivalent set.
3. “Chem 115 Laboratory Packet” by USC Advanced General Chemistry Program.
4. Student Solutions Manual for the 8th edition of the textbook, by the same authors.

WEBSITE
http://scf.usc.edu/~chem115
The website will be used extensively in this course for instructions, homework, labs and for distribution of information. An interactive bulletin board is included. Check it often as well as the messages section. Make sure you have access to the website and set up your password. We do not use Blackboard.
LECTURES

Chapters 1-3, 11, 9, 12 and 4-6 will be covered this semester. The order has been changed to coincide with Chem 105a. Reading and problem assignments will be given each Wednesday and posted on the website. The textbook will be supplemented with material relevant to current research topics in chemistry. Full attendance at all lectures is expected. You are responsible for any announcements made in lecture and all material presented whether or not it is in the textbook.

PERSONAL RESPONSE SYSTEM

We will be using a personal response system that allows students to give an immediate response to the lecturer’s questions in class. This direct feedback from you will allow the lecturer to gauge the class’ understanding of new concepts and to help set the pace of the class. You will be able to use your smart phone or laptop to respond to the questions in class. Answers will be submitted through the course database. Once you have set up your class password, you can log in to the system through the "clicker" link on the front of the webpage. If there is a problem, please contact Dr. Bruno Herreros at herreros@usc.edu

HOMEWORK

Homework is assigned each Wednesday and should be completed in a week. Homework is not collected, but it is very important that you do the assigned homework problems to keep up with the course materials. Please do them after the material is covered in class. Answers to even problems will be posted on the class website.

READING ASSIGNMENT

Because Chem 115 is an advanced course, the lectures will not necessarily revisit every section in the textbook, especially the basic ones. It is therefore critical that you read the book thoroughly. Reading assignments will be assigned weekly on Wednesday and posted on the web. You should complete the reading assignment before you come to each class. Not all the assigned reading material will be covered in class, but questions are welcome!

WEB QUIZZES

A web quiz on the materials related to that week’s assigned homework is given each week. A new quiz is posted at 9:00 a.m. every Wednesday and your answers are due the following Tuesday at 11:59 pm. These quizzes can only be taken on the web. Make sure you have web access. You can print the quiz before you answer but you can take the quiz only once. Late quizzes are NOT accepted.

CALCULATOR

Required for exams. Your calculator must have a log key. Programmable calculators are not allowed during exams, and all cell phones and portable electronic devices must be turned off. If in doubt, check before the exam.

LABORATORY

There are no labs the first week of classes. A mandatory lab introduction lecture will be given at 3:30 p.m., Thursday, August 29 in SGM 101. If you do not attend the lab lecture on 8/29, you will not be able to enter the lab. Purchase the lab packet in the USC Bookstore. Questions about labs: Dr. Parr, parr@usc.edu. Bring with you to lab (starting with check-in):

- Goggles, Visorgogs or Uvex safety glasses with side-shields (purchase at USC Bookstore)
- Lab Coat (purchase at USC Bookstore)
- Laboratory Notebook (purchase at USC Bookstore)
- Laboratory Manual (purchase at USC Bookstore)

GRADING

<table>
<thead>
<tr>
<th>Component</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>One-Hour Exams</td>
<td>3 @ 120</td>
</tr>
<tr>
<td>Laboratory</td>
<td>250</td>
</tr>
<tr>
<td>Final Exam</td>
<td>1 @ 240</td>
</tr>
<tr>
<td>Web Quizzes</td>
<td>10 @ 10</td>
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<tr>
<td>Attendance</td>
<td>20</td>
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<tr>
<td>Special Assignment</td>
<td>10</td>
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Total: 980
EXAMS

There will be three one-hour exams given during the semester. The material covered on each exam will be announced in lecture. The exams will be given on Thursday at 3:30 p.m. in SGM 101. Bring your student ID, a calculator, and a pen to all exams. The one-hour time period will be strictly enforced. No one will be allowed to enter the exam room late or to leave early. An answer key for each exam will be posted on the web the day after the exam. Scanned graded exams will be returned to you via the website (Grades/Exams). There is no strict grading curve for this course. Sample exams will be posted in Grades/Exams before each exam.

An approximate letter grade will be assigned by the end of the seventh week to give you an idea of your status in the course. The letter grade you receive at mid-term is no guarantee of your final grade.

If you find a substantial grading error, please follow the procedure outlined at the end for regrading. Regrades can be submitted no later than 2 weeks after the exam date. The whole exam will be regraded.

FINAL EXAM

A comprehensive two-hour final exam will be given on Thursday, December 12, 8:00 a.m. – 10:00 a.m. This is the only time the final exam may be taken. No early or makeup final will be given. Taking the final exam is mandatory to pass the course. You must get a passing grade in the exams and also in the lab part.

ABSENCES

All unexcused absences from an exam or laboratory will result in a zero. Individuals with excused absences will be given special consideration at the end of the semester. Absences will be excused on the basis of official university policy. To secure an excused absence, bring verification to Prof. Parr or Reisler prior to the absence, or in case of illness, immediately upon your return. All excuses will be verified.

TEACHING ASSISTANTS, SI & TUTORS

You are strongly encouraged to see any of the TAs during their office hours.

The College also runs a free Supplemental Instruction (SI) program. Your SI leader will give you the details. The SI leader will also conduct a special review before each exam. The University Learning Center (x0-0776) also provides free one-on-one tutoring. If you prefer to hire a private tutor, please email Dr. Elizabeth Erickson (eerrickso@usc.edu) for a current list.

BULLETIN BOARD

Question about course material will be answered ONLY on the bulletin board of the class web site. The questions will be answered by one of the instructors within 24 hours. Direct emails to the instructors may be answered within a week, unless they have in the subject: Emergency. In all email communication, you must use your USC email address.

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 Section 11, Behavior Violating University Standards https://scampus.usc.edu/1100-behavior-violating-university-standards-and-appropriate-sanctions. 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.

Discrimination, sexual assault, and harassment are not tolerated by the university. You are encouraged to report any incidents to the Office of Equity and Diversity http://equity.usc.edu or to the Department of Public Safety http://capsnet.usc.edu/department/department-public-safety/online-forms/contact-us. This is important for the safety of the whole USC community. Another member of the university community – such as a friend, classmate, advisor, or faculty member – can help initiate the report, or can initiate the report on behalf of another person. The sexual assault resource center webpage http://sarc.usc.edu describes reporting options and other resources. See p. 5.

SUPPORT SYSTEMS

A number of USC’s schools provide support for students who need help with scholarly writing. Check with your advisor or program staff to find out more. Students whose primary language is not English should check with the American Language Institute http://dornsife.usc.edu/ali, which sponsors courses and workshops specifically for international graduate students. The Office of Disability Services and Programs http://sait.usc.edu/academicsupport/centerprograms/dsp/home_index.html provides certification for students with disabilities and helps arrange the relevant accommodations. If an officially declared emergency makes travel to campus infeasible, USC Emergency Information http://emergency.usc.edu will provide safety and other updates, including ways in which instruction will be continued by means of blackboard, teleconferencing, and other technology.
IMPORTANT DATES TO REMEMBER

August 26 Monday First Day of Class
August 29 Thursday Lab Orientation @ 3:30 pm in SGM 101
September 2 Monday No class (Labor Day)
September 3 – 4 Tuesday - Wednesday 1st Week of Lab
September 13 Friday Last Day to Drop without W
October 3 Thursday Exam 1
October 17,18 Thursday-Friday Fall Recess
October 24 Thursday Exam 2
November 15 Friday Last day to drop with “W”
November 21 Thursday Exam 3
November 27-29 Wednesday-Friday No Class (Thanksgiving Break)
December 6 Friday Last Day of Classes
December 12 Thursday Final Exam @ 8 a.m. – 10 a.m

POLICY ON REGRADING OF EXAMS

When an exam is submitted for regrading the entire exam will be regraded. This may result in a lower score. Once an exam has been submitted, the regrade score is the one recorded.

Reasons for submitting an exam for regrading:
1. Addition error yielding incorrect total score.
2. Lack of inclusion of scores from one or more of the problems graded.
3. Correct answer(s) marked incorrect.

How to submit an exam for regrading consideration:
1. Obtain a cover sheet for your exam by downloading it from the Chem115a homepage in Grades/Exams.
2. Complete the cover sheet, stating clearly why you are submitting you paper for regrading considerations. Be sure to sign the form where indicated, acknowledging that you have not written on or altered the exam in any way. Your exam will not be regraded unless the cover sheet is signed.
3. Give the exam with the cover sheet attached to Prof. Reisler. Do not submit it to a T.A. The deadline for submitting your exam paper for regrading consideration is 5 p.m. two weeks from the day you took the exam.

Important: Please do not jeopardize your integrity by being tempted to change an answer after your exam has been graded. We scan complete sets of exams before they are returned. If you submit an altered exam for regrading, you will receive an "F" for the entire course and you will be reported to the Office of Student Conduct for an academic integrity violation.

Goals, Requirements, and Expectations

Goals
- Teach chemistry topics and concepts you will need in future courses;
- Develop analytical, problem solving and study skills you need in college;
- Enhance scientific literacy on chemistry and how it relates to societal issues
- Expose you to laboratory experimentation, and reporting and analyzing your to prepare you for undergraduate research.
- Introduce you to current research topics related to course material
- This is NOT a prep class for MCAT, an FSH class, etc. It is a General Chemistry class!
Requirements
Chem 115 is an Advanced General Chemistry class. It requires: (i) good math skills and basic knowledge of chemistry and physics; ability to solve problems independently; independent reading from textbook and other sources; ability to work independently on special assignments; interest in current research topics.

The math skills required: work with and manipulate exponents; use logarithms in base 10 and natural logs; go back and forth between logs and exponents; ability to solve simple algebraic and quadratic equations; facility in solving word problems with multiple steps.

Expectations and Good Study Habits
- Attend all lectures
- Do not fall behind
- For each hour of lecture, spend at least 3 hours in home study
- Do homework and quiz questions independently and on time
- Understanding the concepts;
- Read the assigned text before and after lectures
- Ask questions in class and office hours
- Practice problem solving in writing until you get the correct answer
- Get help in office hours (lecturer, TAs) and attend SI sessions

Statement on Support Systems

The Office of Disability Services and Programs
See p. 3 of this syllabus. http://sait.usc.edu/academicsupport/centerprograms/dsp/home_index.html

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