Teaching Team

Instructor: Prof. Misha Barybin, 1025 Malott Hall, mbarybin@ku.edu, 4-4106

Graduate Teaching Assistants: Jason Applegate, 1012 Malott Hall, j627a928@ku.edu
Katie Cannon, 6090 Malott Hall, k cannon@ku.edu

Dr. Barybin’s Office Hours
Mondays, 1:30 – 2:30 pm in 1025 Malott (walk-in)
Tuesdays, 12:30 – 3:00 pm in 101 Nunemaker (by appointment)

Lecture
M, W, F 9:00 – 9:50 AM, Room 1003 Malott Hall

Discussion
M 5:00 – 6:00 PM, 2048 Malott Hall. The Discussions for this course are optional. These are informal periods for you to ask questions about the lecture material, reading assignments, and/or problem sets. In addition, Dr. Barybin may choose to hold problem solving sessions during this time. Please come prepared to ask questions and participate!

An additional (equivalent) Discussion Session will likely be set up to accommodate those unable to attend Monday’s Discussion. Day and time are TBD.

Reading Assignments
Reading assignments will be given in class and will include text chapters and/or electronically distributed materials.

Required Text
Chemistry, Atoms First by OpenStax. This “open-access” textbook can be accessed online and downloaded in the PDF format free of charge at https://openstax.org/details/chemistry-atoms-first. Note that this is the same textbook that was used in CHEM 190 last Fall.

Homework
Homework will be given to support lectures. On occasion, sources other than lecture notes and assigned reading may have to be consulted to work on certain problems. Your solutions to the homework problems will need to be submitted by the assigned due dates, usually at the beginning of a class period. No late homework will be accepted.

Quizzes
Six quizzes will be administered throughout the semester, each worth 10 points, for a total of 60 points. To maximize your chances of getting a good score on a quiz, it is imperative to keep up with the material covered in lectures and assigned homework.
**Writing Assignment**

In the beginning of this course, you will be asked to interview a KU faculty member and then complete a writing assignment about one of their research projects. This research project must be chemistry-related but the faculty member does not necessarily need to be affiliated with the Department of Chemistry (e.g., Chem, ChemE, Biology, MedChem, PharmChem, PharmTox, Geology programs may all be OK). Your paper will have the format of an article published in science magazines such as *The Scientist* or *Scientific American*. Detailed instructions for this assignment will be provided during the first week of class. The assignment will be due Friday, April 27th.

**Exams**

There will be four exams: three midterm tests and one final exam. The midterms will be held from 8:00 to 10:00 pm on Tuesdays, February 13th, March 13th, and April 17th in 1001 Malott. The final exam is scheduled for Wednesday, May 9th, from 7:30 to 10:00 am in 1003 Malott. No make-up exams will be offered without a truly legitimate reason. If you have a conflict with an exam date, it is your responsibility to make arrangements with Prof. Barybin prior to the exam date.

**Grading**

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<th>Component</th>
<th>Points</th>
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<tbody>
<tr>
<td>Homework</td>
<td>120 pts</td>
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<tr>
<td>Quizzes (6 × 10 pts)</td>
<td>60 pts</td>
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<tr>
<td>Midterm exams (3 × 100 pts)</td>
<td>300 pts</td>
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<tr>
<td>Writing Assignment</td>
<td>70 pts</td>
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<tr>
<td>Final Exam</td>
<td>150 pts</td>
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<tr>
<td><strong>Lecture Component Total</strong></td>
<td><strong>700 pts</strong></td>
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The Laboratory component of CHEM 190 is worth 300 pts for a final total of 1000 points possible in the class.

Traditional grading scheme (i.e., no +/-) will be used to assign final grades for CHEM 190. Your letter grade will be determined using the following scale: 80-100 = A, 70-79 = B, 60-69 = C, 50-59 = D, < 50 = F.

**Special Needs:** The KU Office of Student Access Services (SAS), part of the Academic Achievement & Access Center (AAAC), coordinates accommodations and services for all eligible students. If you have a disability for which you wish you request accommodations please contact AAAC. The AAAC office is located in Strong Hall, Room 22; their phone number and email address are (785)864-4064 (V/TTY) and achieve@ku.edu, respectively. Information about their services can be found at http://access.ku.edu. In addition, I would appreciate if students with special needs notify me privately ASAP to ensure timely arrangement of special accommodations.

**Course Website:** All students enrolled in CHEM 195 have been granted access to the BLACKBOARD site for this course at http://courseware.ku.edu. Be sure you are able to access this site to view information pertaining to the course including electronic handouts, announcements, etc. You will be prompted to enter your KU Online ID and Password to access the course materials. If you have trouble accessing the website, please let Dr. Barybin know as soon as possible.
**Academic Misconduct**: I expect all of you to adhere to high standards of personal and scientific integrity and sincerely hope that we will not have reasons to deal with this issue. After all, any science is not worth much without honest reporting of findings, and the proper authorship attribution (including any materials harvested from the internet!). “The following policy … defines a uniform approach to acts of academic misconduct involving students in courses offered by the College of Liberal Arts and Sciences. Academic integrity requires the honest performance of academic responsibilities by students. Academic responsibilities include, but are not limited to, the preparation of assignments, reports and term papers, the taking of examinations, and a sincere and conscientious effort by students to abide by the policies set forth by instructors. Any subversion or compromise of academic integrity thus constitutes academic misconduct. Examples of misconduct include (among others) falsification, unauthorized assistance with or plagiarism of reports, term papers, research papers or other written documents; giving or receiving unauthorized aid on examinations; disruption of classes; the offering of gratuities or favors in return for grades,” etc. Please see the webpage https://documents.ku.edu/policies/governance/USRR.htm#art2sect6 for more info on this issue.

Any assignments turned in for credit must represent your own work. Any incidence of academic misconduct will be pursued to the fullest extent in accordance with the University policy, as described in the student handbook (see the website above). At a minimum, this includes receiving zero credit for the work in question for any party involved. Additional penalties may include a grade of “F” for the entire course, as well as suspension or even expulsion from the University. If you have questions about what constitutes academic misconduct, please see me and/or consult the student handbook.

**Diversity Statement**: Students in this course are expected to speak up and participate during class meetings. Because the class represents a diversity of individual backgrounds and experiences, every student in this class must demonstrate respect and positive professional regard for their peers.

**KU Policy on Weapons**: The University of Kansas adopted on July 1, 2017 its Policy on Weapons, as required by the Board of Regents. Individuals who choose to carry concealed handguns are solely responsible to do so in a safe and secure manner in strict conformity with state and federal laws and the KU Weapons Policy. Safety measures outlined in the KU Weapons Policy specify that a concealed handgun:

- Must be under the constant control of the carrier.
- Must be out of view, concealed either on the body of the carrier, or backpack, purse, or bag that remains under the carrier’s custody and control.
- Must be in a holster that covers the trigger area and secures any external hammer in an un-cocked position.
- Must have the safety on, and have no round in the chamber.

During CHEM 195 Lab sessions, students will be expected to leave belongings, such as backpacks and purses, away and unattended for prolonged periods. Students who choose to carry a concealed handgun or other means of self-defense should plan accordingly prior to beginning these class sessions. The university does not provide appropriate secured storage for concealed handguns or any other weapons. Individuals who violate the KU weapons policy may face disciplinary action under the appropriate university code of conduct, including dismissal from the course.

**Important Note 1.** The issue of digital plagiarism has raised concerns about ethics, student writing experiences, and academic integrity. KU subscribes to a digital plagiarism detection program, which may be used to check papers submitted in this course. You may be asked to submit your papers in a digital format (e-mail attachment) so that your paper can be checked against Web pages and databases of existing papers. Although you may never have engaged in intentional plagiarism, many students do incorporate sources without citations; this program can alert me to your academic needs. In addition, any
exams and or papers may be photocopied at the discretion of the instructor without the knowledge or consent of the students.

**Important Note 2.** Course materials prepared by the instructor, together with the content of all lectures and review sessions are the property of the instructor. Video and audio recording of lectures and review sessions without the consent of the instructor is prohibited. Upon request, the instructor may grant permission to audio tape lectures, on the condition that these audio tapes are only used as a study aid by the individual making the recording. Unless explicit permission is obtained from the instructor, recordings of lectures and review sessions, as well as electronic copies of the instructor's lecture notes, may not be modified and must not be transferred or transmitted to any other person, whether or not that individual is enrolled in the course.

**CHEM 195 LABORATORY INFORMATION**

**NOTE:** The lab sessions for this course will commence on January 25th or January 26th, depending on your lab section enrollment.

**Laboratory Coordinator:** Dr. Roderick Black  
Office: 2021 Malott Hall  
E-mail: rsblack@ku.edu  
Phone: (785) 864-3481

The laboratory portion of CHEM 195 is coordinated by Dr. Roderick Black. Please contact him with questions regarding this part of the course including grading, organization, and requirements. Your graduate teaching assistants (GTAs) will also be available to answer questions pertaining to the Lab part of CHEM 195. A separate CHEM 195 Lab syllabus will be provided at the beginning of the first lab period.

**Lab Sections and Graduate Teaching Assistants:**

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<tr>
<th>Section 1</th>
<th>Section 2</th>
<th>Section 3</th>
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<tr>
<td>Thurs 11:30 am - 3:20 pm</td>
<td>Thurs 3:30 - 7:20 pm</td>
<td>Fri 10:00 am - 1:50 pm</td>
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<tr>
<td>GTA: Katie Cannon</td>
<td>GTA: Katie Cannon</td>
<td>GTA: Jason Applegate</td>
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Each GTA will hold two office hours per week. These will be posted on the course website.

**Laboratory Safety.** Chemistry Department-approved full-coverage goggles must be worn at all times. If a student is found not wearing goggles at any time while laboratory work is being conducted anywhere in the room, this student will receive a warning or a grade penalty, and may be asked to leave the room. Laboratory students must wear **long pants.** It is not acceptable to wear shorts of any kind, Capri pants or intermediate-length pants of any kind, or skirts. Shoes must cover the entire foot. Open-toed shoes, open-heeled shoes, sandals, or shoes containing holes are not acceptable. If a student's attire fails to meet these guidelines because of religious or cultural requirements, the student must contact the instructor in advance of the lab period.

**Laboratory Notebook.** You will be required to keep a laboratory notebook for this course. An acceptable notebook should be bound, have carbon copies, and have consecutively numbered pages. You should bring this notebook with you to the lab on the first day.
Hints for Success

1. *Come to every class, listen well, and take careful notes.* Focus and concentrate during the class periods and work to develop good note-taking and listening skills. If you miss a class, check to see if there were any special handouts, announcements or demonstrations, and ask a fellow student to let you review his/her notes. Check the Blackboard website for the course. It is essential to have a complete set of class notes to succeed.

2. *Keep up with reading, problem, and lab assignments.* Each lecture, chapter, and problem assignment are likely to build on an earlier material.

3. *Ask for help early.*

4. *Participate in discussions.* Study with other students, try to explain concepts to each other.

**LECTURE TOPICS** (the order may be subject to minor adjustments)

- Spontaneous Processes and T/D Equilibrium (Ch. 12)
- Chemical Equilibrium (Ch. 13)
- Acid-Base Equilibria (Ch. 14)
- Solubility and Precipitation Equilibria (Ch. 15)
- Electrochemistry (Ch. 16)
- Chemical Kinetics (Ch. 17)
- Coordination Chemistry of Transition Metals (Ch. 18,19)
- Nuclear Chemistry (Ch. 20) and Medical Diagnostic Imaging