CHEM 190

FUNDAMENTALS OF CHEMISTRY I – HONORS

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

Dr. Barybin’s Office Hours

Mondays, 1:30 – 2:30 pm in 1025 Malott (walk-in)
Tuesdays, noon – 3:00 pm at Nunemaker Center (by appointment)

Lecture

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

Discussion

M 6:00 – 7:00 PM, 1003 Malott Hall (tentative day, time & place)
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, the instructor may choose to hold problem solving sessions during this time. Please come prepared to ask questions and participate!

Reading Assignments

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

Required Text


It is not necessary to purchase the hard-cover textbook. The required bundle already includes e-book and loose-leaf version of Oxtoby's "Principles of Modern Chemistry", along with OWL v2 access and Blackboard-linked LabSkills (24-month access). These materials will cover both semesters of Honors General Chemistry (CHEM 190 and CHEM 195).

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 all but one homework sets will need to be submitted electronically through the OWL website. Detailed instructions and training will be provided during the first class session on Monday, August 22nd.

No late homework will be accepted.
Quizzes: Five short (ca. 10 min) quizzes will be administered throughout the semester, each worth 10 points, for a total of 50 points. These quizzes may or may not be announced. 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.

Special Project: Groups of 3 students each will be required to complete a special assignment that will involve putting together an engaging and informative 5-minute-long video report on a Nobel Prize in Chemistry awarded over the past few decades. Details will be discussed in class in the beginning of the semester. All students will have an opportunity to take advantage of cool technical resources available at the KU Center for Online and Distance Learning located in Budig Hall. Dr. Drew Vartia will coordinate reserving time and equipment for your work at CODL.

Exams: There will be three exams: two midterm tests and one final exam. The midterms will be held from 8:00 to 10:00 pm on Tuesdays, September 27th and November 1st in 1001 Malott. The final exam is scheduled for Friday, December 16th, from 8:00 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: Homework (8 × 10 pts + 1×30 pts) 110 pts  
Quizzes (5 × 10 pts) 50 pts  
BB Questionnaire 15 pts  
Midterm exams (2 × 150 pts each) 300 pts  
Special Project 50 pts  
Final Exam 175 pts  
Lecture Component Total 700 pts

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.

The Laboratory component of CHEM 190 is worth 300 pts for a final total of 1000 points possible in the class.

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 190 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 handouts, problem sets, practice exams, answer keys, 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 or one of the Graduate Teaching Assistants know as soon as possible.

Course E-mail: The course e-mail address is chem_190@ku.edu. To ensure timely response, please send all course-related correspondence to this e-mail address. This is where to write if you have questions about the course or its content: reading, lectures, chemistry questions, assignments, schedules, absences, illness, personal problems, etc. Please use Instructor’s and GTA’s e-mail addresses only for making appointments.

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, including chemistry, 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.

It is generally acceptable and, in fact, strongly encouraged to consult one another on homework problems and to study together for exams. However, any assignments turned in for credit (e.g., exams, homework, laboratory reports, and the term paper) must represent your own work and I request that you do not blatantly copy answers! 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.

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 or on disk) 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.

Pursuant to the University of Kansas “Policy on Commercial Note-Taking Ventures”, commercial note-taking is not permitted in CHEM 190. Lecture notes and course materials may be taken for personal use, for the purpose of mastering the course material, and may not be sold to any person or entity in any form. Any student engaged in or contributing to the commercial exchange of notes or course materials will be subject to discipline, including academic misconduct charges, in accordance with University policy. Please note: note-taking provided by a student volunteer for a student with a disability, as a reasonable accommodation under the ADA, is not the same as commercial note-taking and is not covered under this policy.

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, homework, and lab assignments. Each lecture, chapter, and homework 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 things to each other.

CHEM 190 TOPICS

- The Atom in Modern Chemistry
- Introduction to Quantum Mechanics
- Quantum Mechanics and Atomic Structure
- Chemical Bonding: The Classical Description
- Quantum Mechanics and Molecular Structure
- Bonding in Transition Metal and Coordination Compounds (if time permits)
- The Gaseous State
- Solids, Liquids, and Phase Transitions
- Thermodynamic Processes and Thermochemistry
- Spontaneous Processes and Thermodynamic Equilibrium
CHEM 190 LABORATORY INFORMATION

NOTE: The lab sessions for this course will commence on August 25th or 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 190 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 (GTA) will also be available to answer questions pertaining to the lab part of CHEM 190. A separate CHEM 190 LAB syllabus will be provided at the beginning of the first lab period.

Lab Sections and Graduate Teaching Assistants:

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<th>Section 1</th>
<th>Section 2</th>
<th>Section 3</th>
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<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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GTA: Jason Applegate       Jason Applegate        Mason Hart

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 GTA 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 (or carbonless) copies, and have consecutively numbered pages. You should bring this notebook to the lab on the first day.

A moment in the life of the Mendeleev family …

"Может быть однажды мы понимем, почему Дмитрий всегда так сортирует свои кубики"

Translation: "One day, maybe we'll understand why Dimitri always arranges his blocks the same way'.

http://www.myscc.in/comments/mendeleev_cartoon.jpg