Chem_OX 150 Fall 2017

Structure and Properties

Instructor: Dr. Simba Nkomo

Office: Oxford Science Building 204

Phone: 770 784 8433

Email: simbarashe.nkomo@emory.edu

Office Hours

Tuesday 10:00 -11:30 am, **Thursday** 2: 00 - 3: 30 pm, and by appointment. You can stop by my office at any time and I will be able to assist, if I am not assisting another student. I am not available during my class times MWF 9:00 am - 12:00 pm, lab times T 1:30- 5:30 pm and Th 8:30-1:00 pm, and when I have meetings (Friday 1:00 - 2:30 pm)

Class Schedule

Section 09A: Monday, Wednesday, and Friday, 9:30 am -10:35 am, OSB 417

Section 10B: Monday, Wednesday, and Friday, 10:45am -11:50 am, OSB 417

Oxford College and Liberal Arts. Oxford College is dedicated to a liberal arts education, and science, including chemistry, is an integral part of the liberal arts.

Learning goals

The primary goals of this class are

- Utilize critical thought and reasoning to understand chemical behavior at the microscopic and macroscopic levels.
- Develop solutions to problems which you have not encountered before.
- Apply physical chemistry principles to address current challenges in our everyday lives.

Course Materials

- Textbook: The ebook is available through McGraw-Hill Connect. Purchase the access code from the bookstore. (Burdge/Overby: Chemistry Atoms First 3rd edition and Carey: Organic Chemistry 10th edition)
- Optional: Solutions manual (also available on reserve in the library)
- Non-programmable scientific calculator and should be brought to every class.
- ALEKS Registration Code will be made available.
- "Molecular Visions" Model Kit you might want to buy one and share it among others

Content goals. You will be expected to master these areas of chemistry:

- The scientific method
- The structure of the atom, including the history
- Precision and accuracy
- Energy
- Conversion between different measuring systems
- Significant figures
- Subatomic particles and structure of the atom
- Isotopes
- The periodic table
- Moles and molar mass
- Quantum theory and electromagnetic radiation
- Electron configurations
- Lewis dot symbols
- substances, including naming
- Crystals
- Covalent substances, including naming
- Electronegativity and bond polarity
- Lewis structures
- Resonance
- Formal charges
- Bond energy
- Molecular shapes and polarity
- Hybridization of orbitals
- Molecular orbitals
- Newman projections and conformations
- Line structures
- Stereochemistry
- Intermolecular forces
- Stoichiometry

Some sections will be covered using ALEKS. The content area and sequence will be updated as we go.

Exam Schedule.

Exam Material Covered Projected Date

Exam	Tentative Date
I	Sept 15
II	Oct 6
III	Nov 3
IV	Dec 1

Final Exam: Section 9A: Tuesday, December 12, 2017 Time: 2:00 PM – 5:00 PM

Section 10B: Wednesday, December 13, 2017 Time: 9:00 AM – 12:00 PM

Exams (1-IV) may be moved forwards or backwards as necessary; this will be announced in class and on the class Canvas site.

Let me know ahead of time if there is any conflict. The Final Exam will be taken as scheduled. Account for the schedule of exams as you make your travel plans.

No make-up examinations will be given. Any excuse for missing an exam or conflicts such as religious holidays or school-related trips should be presented before the scheduled exam by email. If possible, you will take the exam at an earlier date. For other acceptable excuses such as illness or family emergency, the final exam will replace the missed exam. If the excuse is not considered acceptable, the exam grade will be a zero. Note that missing an exam also counts as an absence in the course. The grade on the final exam can only replace one missed exam; additional missed exams will receive a grade of zero.

Grading

Exams (4)	64%
Quizzes	4%
Final Exam	22%
Graded worksheets	4%
ALEKS	6%
LearnSmart (bonus)	1%
TOTAL	101(with bonus)

There final exam is cumulative and it will be worth 200 points. Divide by 2 to put the final exam on a 100-point scale. If your final exam grade (on a 100-point scale) is higher than your lowest exam grade, that exam grade will be replaced by your grade on the final exam.

Your final exam will NOT replace your lowest grade, if

(1) you missed an exam for a reason that was not acceptable.
(2) you violated the honor code

Any attendance penalty will be applied to the class average.

Grading scale.

Grades are normally assigned as follows:

93.0 and up A	77.0 – 79.9 C+
90.0 – 92.9 A-	73.0 – 76.9 C
87.0 – 89.9 B+	70.0 – 72.9 C-
83.0 – 86.9 B	67.0 – 69.9 D+
80.0 – 82.9 B-	60.0 – 66.9 D
60.0 and below F	

Note: You must score above 50% on the final exam of the course. You will receive an F grade if you score less than 50% on the final regardless of your final average.

Grades are assigned based on your performance in the course (exams, attendance) and are not open for discussion after being assigned.

Grades are not automatically rounded. If you are near a border of 2 grades, consideration is given to such items as attendance, improvement over the semester, and class participation.

Grading errors:
If there are any errors or you have questions, submit a request **in writing** for a re-grade in writing no later than 3 days after the exam was returned. Please note that, if you request a regrade, I will check the whole assignment or exam paper. You may lose or gain points in the process.

Quiz and Exam keys will be posted on Canvas after the exam is returned in class.

Academic Honor

It is the student's responsibility to understand the rules and procedures of the Oxford College Academic Honor Code. Exams and quizzes require independent effort. You are encouraged to seek help from other students, instructor or any other sources for your practice problem sets. You must acknowledge any assistance, collaboration or sources used. Do not copy answers from the solution's manual. It is important for you to understand the process and rationale leading to the answer.

Review

A review session will be held before the exam. The reviews will not take up the whole class period. You are encouraged to bring questions.

Attendance and Make-up

Students are expected to attend all regular scheduled meetings. It is in your best interest to come to lectures. I encourage you to notify me in the event of an emergency, which may result in an absence.

You are allowed 3 absences without any point loss. If your cumulative absences exceed 3, points will be deducted as follows:

1. 1 point for 4 absences
2. 2 points for 5 absences
3. 3 points for 6 and beyond absences

The points will be deducted from your final class average.

You will lose one point for coming to class LATE twice. Coming into class after I have finished checking the roaster counts as LATE. If you come to class 15 minutes late or leave the class early, that counts as an ABSENCE.

No make-up exams will be given.

Snow days do not count as absent.

Quizzes

Quizzes will be administered nearly every week during Monday's lecture. These will be 10 points each and will take about 10 minutes to complete. The nature of questions will vary from conceptual to application-type questions. You are expected to work independently. Always bring your scientific calculator to class. **You will drop your two lowest quizzes**. No make-up quiz will be given. Quizzes will not be rescheduled to another day in the event of weather related college closure or holiday falling on a Friday. No quizzes with be administered on the week of a class exam.

ALEKS

There will be assignments on ALEKS that you will need to complete by the date given. ALEKS problems will be graded and contribute to your final grade. ALEKS will give you additional practice and tutoring on content you need to master as you also prepare for your class exams. Please read the ALEKS registration document on Canvas.

LearnSmart

LearnSmart will give you practice on each section of topics and will help you in understanding the material as you study. LearnSmart problems are for your benefit. Completion of these exercises will earn you **1% bonus** on your final grade. You should work problems as you encounter the material.

Ungraded Problem Sets

Practice problems sets will be posted at the end of the chapter. The problem sets are designed to build your skills and simultaneously provide me with the opportunity to assess areas that need re-emphasis to ensure that you understand the essential material. You are allowed and encouraged to come and check your answer with me. You are expected to read the literature in the required textbook, and complete all assigned assessment exercises prior to attending class in order to actively and meaningfully participate during each lecture.

Graded Worksheet problems

Worksheet problem are assigned to give formative assessments of your progress. The worksheet assignments include, but not limited to, in–class problems, follow-up problems, and research-type problems. These are given on an ongoing basis. You will be notified in class the worksheets that will be graded. For most of the worksheet assignments, you will work in groups and each member will be assigned the group score. You will also be asked to assign percentage contributions for each member of the group. You will be assigned half the group score, if your contribution is less than 50% of the highest group member contribution. Worksheet assignment grades contribute to your final average. Late worksheets will be graded but 2 points deducted for each day past the deadline.

Electronic devices

Use of cell phones, ipads, laptops etc will not be allowed during class activities. If there are special circumstances where you need to use your electronic device in class, please make arrangements with me beforehand. If there are sections of the course that would require us to use an of these electronics, I will advise you ahead of the specific lecture.

Additional information and handouts

Additional helpful handouts and resources will be posted on **Canvas**.

Proper Behavior in Class.

Class is a learning environment; expected behavior includes:

- Coming to class on time and being attentive in class.
- Not going in and out of class (unless you're sick) – please get a drink or use the restroom before or after class.
- Not eating or drinking in class.
- Not working on material for another class.
- Not using a cell phone in class. You will be penalized for using a cell phone during class activities.
- Not using a laptop computer to class unless you need a computer to assist you in class and you have made arrangements with me.
- Bringing your handouts and calculator to each class.
- Not respecting the learning environment in class can affect your grade and future recommendations.