

Chemistry 150 Dr. Parker Fall 2018

*If I have seen farther, it is by
standing on the shoulders of giants.*

— Sir Isaac Newton

1. New Chemistry Curriculum. Emory University, including Oxford College, is implementing a new chemistry curriculum. Chemistry 150 is the first course in this curriculum, designed for science majors, prehealth students, and prenursing students (but also appropriate for other students who want an introduction to chemistry). Unlike a traditional first semester general chemistry class, concepts and explanations are emphasized, with less emphasis on working problems. However, problem-solving skills are still necessary, for laboratory and for standardized tests such as the MCAT and GRE; the new curriculum uses an electronic learning system, ALEKS, for that (see the ALEKS syllabus addendum for more information).

2. Oxford College and Liberal Arts. A liberal arts education is generally considered one which is aimed at imparting knowledge and developing intellectual capacities. Oxford College is dedicated to a liberal arts education, and science, including chemistry, is an integral part of the liberal arts.

3. Learning Goals. You should demonstrate you can:

- Utilize critical thought and reasoning to understand chemical structure and behavior at the microscopic and macroscopic levels.
- Develop solutions to problems which you have not encountered before.

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

- The scientific method
- The structure of the atom, including how this was developed by scientists
- 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
- Ionic 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*
- Coordination compounds (time permitting)

(All from Burdge/Overby except * material which will be from Carey)

The chapters we will cover in the two ebooks, the sections, and the sequence will be announced as we go.

5. Office Hours. My office is Oxford Science Building ZrO. The best times to find me are Monday, Tuesday, and Thursday afternoons, but I am usually available from 9-5 every day, except around lunch time (11:30-1:00) and during my other classes and labs.

6. Materials. You will need for class:

- Textbook: ebooks available through McGraw-Hill Connect; purchase code in bookstore or purchase access online:
Burdge/Overby: Chemistry Atoms First 3rd edition
Carey: Organic Chemistry 10th edition.
- ALEKS subscription (purchased online; the class registration code will be made available; see the ALEKS syllabus addendum for more information.)
- Scientific calculator. Calculators which can download and/or store information, which can automatically solve equations or perform conversions, or which can be programmed, are not allowed on exams.
- Optional: Molecular Model Kit – you might want to buy one and share it among others (also needed for Chemistry 202 and 203)

You will need for lab:

- Carbon-copy lab notebook. Only the version sold in the bookstore is acceptable (must have white carbon sheets, not yellow).
- Safety glasses (can be purchased from the Chemistry Department or elsewhere).
- Ball point pen

You must have all 3 materials for lab before your first experiment.

7. 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. Water bottles may not be at your station; they must be left outside the room or in the shelves at the front.
- Not working on material for another class.
- Not using a cell phone or laptop computer in class except to access the ebooks. If you use either for any other activity, or if your cell phone goes off, you will leave the class and be counted absent. If this happens a second time, you may not return to class.

Not respecting the learning environment in class can affect your grade and future recommendations.

8. Canvas. You are expected to read our class's Canvas site regularly. You are also expected to read your email daily – Outlook email is the official way faculty communicate with students.

9. Attendance.

- Students are expected to attend all class meetings. However, emergencies can arise which may result in absence from class. It would be a good idea to notify me if an absence is due to illness or other emergency. You are responsible for all material covered if absent.
- You are allowed 3 absences in class. If you exceed the 3 absence limit for any reason, by any combination of absences or tardies, you will:
 - (a) Lose 1 point for the next absence (number 4);
 - (b) Lose 2 points for the next absence (number 5);
 - (b) Lose 3 points for each additional absence (numbers 6 and up).

These points will be deducted from the final average. Note that there are no “excused” absences.

- Besides missing class, these also count as an absence:

1. Being late to class TWICE. (This means coming in after I've finished checking the class roster.) If you come in late, it is your responsibility to see me immediately after class to ensure that you are marked as being tardy and not absent. No adjustments will be made at a later time.
2. Coming to class more than 15 minutes late.
3. Leaving class early.
4. Going in and out of class.
5. Being inattentive in class or working on other assignments in class.

10. Problems. There will be assignments on ALEKS that you will need to complete by the date given. These will give you additional practice and tutoring on information covered by the exams. I do not check these problems or grade them, but as you will note under “16. Grading”, failure to complete the ALEKS assignment by the deadline means you lose points on your exam grade. See the ALEKS syllabus addendum for more info.

In the ebooks, there are problems to help you in understanding the material. These problems are for your benefit only; they will not be taken up or graded. You should work problems as you encounter the material. You should also attempt each problem before seeking help from the book, your notes, or the answer. See the “Survivor’s Guide” for more information.

11. Exams. There will be 4 exams, given in class. Each exam will last 50 minutes. Make sure your calculator is one which is allowed, that it is working, and that you know how to use it. Calculators will not be loaned or shared. You must take the exam during your regular class time. If you come in late, you will not be given extra time to finish the exam.

From time to time, if something about science or chemistry has been in the news (and I posted it to our Canvas site under “In the news”, there might be a 1-point bonus on an exam about it.

12. Exam Schedule.

Exam	Projected Date
I	Friday, Sept. 21
II	Friday, Oct. 12
III	Monday, Nov.5
IV	Friday, Dec. 7

Exams may be moved forwards or backwards as necessary; this will be announced in class and on the class Canvas site. Moving an exam is done to align exams and material covered and is at the instructor’s discretion.

13. Essays. There will be four out-of-class essays; each one is due when you come to take an exam. Essays must be:

- word-processed
- double-spaced
- in 12-point type
- in black ink
- printed – electronic submission is not acceptable
- one side of the paper.
- stapled if more than one page.

Essays that do not follow the above standards will not be accepted. The topic will be posted 4-7 days in advance on the class Canvas site. The essay must be turned in when you come to take the exam. If it is turned in later, you can receive up to half credit for it. Part of your grade on the essay will be based on your writing – grammar, spelling, and punctuation. You should run a spell checker and proof-read. Your essay should consist of your own words – do not quote or paraphrase the textbook or any other source.

14. Final Exam. There will be a final exam, worth 200 points, covering the semester's material. To put it on a 100-point scale, the score on this exam will be divided by 2 for the final exam grade. This will be given during the regularly scheduled final exam period. (See the final exam schedule on the Oxford web page.) Final exams are not returned.

15. Honor Code. It is assumed that all Oxford College students will adhere to the highest standards of academic honesty and will uphold the Honor Code.

On exams, you may not use any material not distributed with the exam itself except for a calculator and pencils/pens (and the calculator must be an allowed one). Any other material you bring into the room must be left at the front of the room, including a cell phone or other electronic device. Having a cell phone on you or at your desk during an exam is an Honor Code violation. During an examination, you may not give or receive assistance. On out-of-class essays, you may use only the textbook and your notes. You may not use any information from the Internet, including paraphrasing or direct quotes. You may not give or receive assistance from anyone regarding the content of the essay. You may have someone not in my classes proof-read your essay for its writing and you may consult a writing tutor.

Since absences and tardies can affect your grade, giving false information regarding absences or tardies is a violation of the Honor Code. See the Honor Code Pledge handout for more information.

16. Grading. Material on each exam will add to 90 points. The remaining 10 points are:

(1) There will be an out-of-class essay due when you take each exam; it will be worth 5 points on the exam (see the section on Essays above for more information).

(2) There will be ALEKS assignments, each with a deadline; completing these on time is worth up to 5 points:

- a) If all the ALEKS assignments due by the exam date have been completed (at 100%), you will receive 5 points on that exam.
- b) If all ALEKS assignments due by the exam date have some progress but not all are 100%, you will receive 2 points.
- c) If any ALEKS assignment due by the exam date is 0%, you will receive no points.

For example, if there are three assignments due between the dates of Exam I and Exam II, and you have 80% on one of them, 90% on another, and 100% on the third, you will receive 2 points on Exam II. If you have 0% on one, 80% on another, and 100% on the third, you will receive 0 points.

NOTE: ALEKS will not let you go back and work on an assignment after its due date for credit. Check your ALEKS calendar regularly to see due dates! Also be sure to check your ALEKS Gradebook regularly – this is the best way to see if you’ve completed the assignments.

The material on the final exam will be worth 190 points. There will be a final ALEKS assessment to test your mastery of the material at the end of the semester. Scoring at least 80% on this is worth 10 points on the final exam (out of 200).

The grade on each exam will be added to 1.5 times the grade on the final exam and this total will be divided by 5.5 to give your course average. If your final exam grade is higher than your lowest exam grade, that exam grade will be replaced by your grade on the final exam. Any attendance penalty will be applied to this average.

Example:

Exam grades 88, 83, 76, 88, final exam 88 (176 points out of 200)

Final exam grade of 88 replaces grade of 76 on exam III

Exam grades I, II, III, IV, and 1.5 times final exam grade = $479/5.5 =$

Course average 87.1 (assuming no attendance penalty)

Missing an exam will result in a grade of zero. If you miss an exam and present me with an acceptable excuse, the grade on the final exam will replace that exam grade of zero as described above. You must notify me by the day and starting time of the exam that you will not be present and you must give me the reason for the absence. If the excuse is not

considered acceptable, or you do not notify me as described above, the exam grade of zero will remain and no exam grade will be replaced by the grade on the final exam. In general, illness or an emergency situation are the only acceptable excuses for missing an exam. If you are going to miss an exam for a religious holiday or for a school-related activity, you must make arrangements to take the exam early.

NOTE 1: If you are found guilty of an Honor Code violation by the Honor Council, the usual penalty is an F in the course. If you are assigned an F on the exam instead, that grade will be a zero and no exam grade will be replaced by the grade on the final exam.

NOTE 2: You must make at least a grade of 50 on the final exam to pass the course. If you make below 50 on the final exam, you will receive an F in the course regardless of your average.

17. 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-	63.0 – 66.9	D
		62.9 and below	F

Grades are assigned based on your performance in the course (exams and 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. However, if you have an attendance penalty or lost points for failure to complete ALEKS assignments, no consideration will be given – you will receive the letter grade corresponding to your numerical average.

18. Accommodations.

If you have a documented disability and have anticipated barriers related to the format or requirements of this course, or presume having a disability (e.g. mental health, attention, learning, vision, hearing, physical or systemic), and are in need of accommodations for this semester, please schedule a meeting to discuss this with me. You will also need to contact the Office of Access, Disability Services, and Resources (ADSR) to complete the registration process and the steps for requesting accommodations. I cannot provide any accommodation without a document from ADSR.

Students who have accommodations in place should meet with me during the first week of the semester to discuss your specific needs for the course. If you receive an accommodation after the

beginning of the semester, you should meet with me as soon as possible, but at least a week before the next scheduled exam. No retroactive accommodations are possible.

All discussions with ADSR and faculty concerning the nature of your disability remain confidential.