Chemistry 1315 Course Outline, Summer 2014
Course Website: learn.ou.edu

Instructor Contact Information & Class Times

<table>
<thead>
<tr>
<th>Instructor</th>
<th>Office</th>
<th>Email</th>
<th>Section</th>
<th>Day</th>
<th>Time</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jeremy Motley</td>
<td>CHBA 220</td>
<td><a href="mailto:jeighmotley@ou.edu">jeighmotley@ou.edu</a></td>
<td>175</td>
<td>MTWRF</td>
<td>10:30 am – 12:30 pm</td>
<td>FH 304</td>
</tr>
<tr>
<td>Tara Gann</td>
<td>CHBA 220</td>
<td><a href="mailto:tmgann@ou.edu">tmgann@ou.edu</a></td>
<td>245</td>
<td>MTWRF</td>
<td>9:00 am – 11:10 am</td>
<td>PHSC 321</td>
</tr>
<tr>
<td>Audrey Myers</td>
<td>CHBA 220</td>
<td><a href="mailto:almyers@ou.edu">almyers@ou.edu</a></td>
<td>345</td>
<td>MTWRF</td>
<td>9:00 am – 11:10 am</td>
<td>PHSC 359</td>
</tr>
</tbody>
</table>

Instructor Office Hours

<table>
<thead>
<tr>
<th>Instructor</th>
<th>Office Hour Location</th>
<th>Day</th>
<th>Time(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jeremy Motley</td>
<td>PHSC 434</td>
<td>Monday &amp; Wednesday</td>
<td>8:45 am – 9:30 am</td>
</tr>
<tr>
<td>Tara Gann</td>
<td>CBHA 220</td>
<td>Wednesday &amp; Friday</td>
<td>8:00 am – 8:50 am</td>
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<tr>
<td>Audrey Myers</td>
<td>CBHA 220</td>
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General Course Information

Description: Chemistry 1315 is the beginning general chemistry course for students in the physical sciences, engineering, health sciences, biological sciences, and related fields.

Prerequisite: MATH 1503 or MATH 1643 or a Math ACT of ≥ 23.


Online homework & Quizzes: Sapling Learning (www.saplinglearning.com)

Class time and location: May 12, 2014 to June 27, 2014 on MTWRF from 10:30 a.m. to 12:30 p.m.

Holiday: There is no class on May 26, 2014 in observance of Memorial Day.

Preparation for Lectures & Exams

Students should consult the syllabus calendar, located on the last page of the syllabus, to prepare for each lecture. The readings identified below are keyed to the current text and learning objectives for the course. You may choose to use any general chemistry textbook provided you are comfortable using the learning objectives below and your text’s table of contents. The order of the readings does not necessarily reflect the order of topics covered in lecture. Students may find that reading the textbook chapters in the order written by the textbook author to be more natural than by order of the learning objectives listed below.

Homework problem sets (HW-#) and Quizzes have been assigned to each unit of study and are due on the dates indicated on the course calendar at the end of this syllabus. Quizzes and homework problems will be done via Sapling Learning, a computer based problem-solving program. Sapling due time is 11:45 p.m. for all quizzes and assignments. Homework problem sets are minimum assignments representative of the question types you will be expected to be able to answer on examinations and quizzes. You should also attempt appropriate additional problems in your textbook as part of your preparation.
Learning objectives & Corresponding Reading Assignments

Unit 1 - Basic Concepts, Atoms, Molecules, & Ions - Chapters 1, 2 & 3
1.1. Identify particle level representations of matter and their changes. [Readings 1.1, 1.3, 1.4, 3.2, 3.3]
1.2. Convert units (e.g., length, mass, volume, temperature) within a unit system. [Readings 1.6, 1.7]
1.3. Convert units (e.g., length, mass, volume, temperature) between unit systems. [Readings 1.6, 1.7]
1.4. Combine measurements to calculate properties (e.g. density). [Readings 1.6, 1.7]
1.5. Express measured quantities in exponential form. [Readings A-1, A-2]
1.6. Express measured quantities in the proper number of significant figures. [Readings 1.7]
1.7. Express calculated quantities in the proper number of significant figures. [Readings 1.7]
1.8. Trace the historical development of theories of matter. [Readings 2.1, 2.2, 2.3, 2.4]
1.9. State the name and symbol for the elements and their ions. [Readings 2.6]
1.10. Characterize the important subatomic particles. [Readings 2.5, 2.6]
1.11. Determine the subatomic structure of atoms, ions and isotopes. Use $\frac{2}{X}$ charge notation. [Readings 2.5, 2.6]
1.12. Characterize the various parts of the periodic table. [Readings 2.7]
1.13. Name and write formulas for simple compounds. [Readings 3.5, 3.6, 3.7]

Unit 2 - Stoichiometry - Chapters 2, 3, & 4
2.1. Determine atomic weights from isotope abundances. [Readings 2.8]
2.2. Relate formula weights and moles to weights and numbers of particles in a chemical formula. [Readings 2.9, 3.8]
2.3. Determine the % composition of compounds. [Readings 3.9]
2.4. Determine molecular formulas from experimental analysis data. [Readings 3.10]
2.5. Write and balance simple chemical equations. [Readings 3.11]
2.6. Relate numbers of moles, grams, and particles in a chemical equation, including limiting reagent/excess reagent determination.
   [Readings 4.2, 4.3]
2.7. Determine and use molar concentration units. [Readings 4.4]
2.8. Use the $M_AV_A = M_BV_B$ relationship to perform dilution determinations. [Readings 4.5]
2.9. Relate reactant and products of a chemical reaction using solution stoichiometry. [Readings 4.5]

Unit 3 - Thermochemistry - Chapters 1, 6, 9, 11, & 12
3.1. Utilize and convert different forms of energy. [Readings 1.5, 6.1, 6.2, 6.3, 6.4]
3.2. Determine the heat produced by a chemical or physical process from experimental data (calorimetry).
   [Readings 6.4, 6.5, 6.7, 6.8]
3.3. Determine the heat produced during changes in state from experimental data. [Readings 11.6, 11.7]
3.4. Describe how heat is transferred in physical and chemical processes. [Readings 6.6, 12.3]
3.5. Calculate $\Delta H$ for a given amount of reactant or product using stoichiometry with thermochemical equations. [Readings 6.6]
3.6. Apply Hess’ Laws to determine $\Delta H$ for reactions. [Readings 6.8]
3.7. Apply standard $\Delta H_f$ to determine $\Delta H_{rxn}$ of reactions. [Readings 6.9]
3.8. Use bond energies to predict $\Delta H_{rxn}$. [Readings 9.10]

Unit 4 - Atomic Structure & Periodicity - Chapters 7 & 8
4.1. Relate color, $\lambda$, $\nu$, speed, and energy of light being released or absorbed by atoms. [Readings 7.1, 7.2]
4.2. Interpret the line spectrum of an atom in terms of quantum mechanics. [Readings 7.3, 7.4, 7.5]
4.3. Describe the location and nature of electrons in an atom or ion in terms of: (a) quantum numbers, (b) energy level diagrams, (c) electron configuration, and (d) orbital shape. [Readings 7.5, 7.6, 8.3]
4.4. Relate the periodic table to electron configurations. [Readings 8.2, 8.3, 8.4]
4.5. Predict trends; similarities, and differences of physical and chemical properties of elements using the periodic table and electron configuration. (E.g. ionization energy, radius, formulas, reactivity). [Readings 8.5, 8.6, 8.7, 8.8]
EXAM 2 - Wednesday, June 4

Unit 5 - Molecular Structure & Bonding - Chapters 9 & 10
5.1. Predict the relative polarity and ionic/covalent character of bonds and molecules. [Readings 9.1, 9.2, 9.6]
5.2. Identify simple bonding types. [Readings 9.2]
5.3. Draw Lewis structures of ions and molecules. [Readings 9.3, 9.4, 9.5, 9.7, 9.9, and Laboratory H]
5.4. Identify resonance structures and determine formal charges for molecules. [Readings 9.8]
5.5. Determine the geometric arrangement of atoms in a molecule (VSEPR Theory). [Readings 10.2, 10.3, 10.4, and Laboratory H]
5.6. Characterize the polarity of molecules. [Readings 10.5]
5.7. Characterize chemical bonding through valence bond theory (types of orbitals, including hybrids, involved in bonding and resulting bond types such as sigma and pi bonds) and molecular orbital theory. [Readings 10.6, 10.7, 10.8]

Unit 6 - Properties of Gases - Chapter 5
6.1. Describe measuring gas pressures using barometers and manometers. Relate pressure units. [Readings 5.1, 5.2]
6.2. Apply the ideal gas law to relate and calculate values for pressure, volume, temperature, and amount of a gas. [Readings 5.3, 5.4, 5.5]
6.3. Apply Dalton’s Law of partial pressure to calculate the pressure of combined gases and to calculate the partial pressures of gases in mixtures. [Readings 5.6]
6.4. Characterize chemical reactions involving gas stoichiometry. [Readings 5.7]
6.5. Describe gases in terms of KMT. [Readings 5.8]
6.6. Relate MW and speeds of molecules using Graham’s law. [Readings 5.8, 5.9]
6.7. Distinguish between ideal and real gases. [Readings 5.10]

EXAM 3 - Wednesday, June 18

Unit 7 - Properties of Liquids, Solids, & Solutions - Chapters 4, 11,
7.1. Use KMT to explain the general properties of liquids and solids and to explain phase changes. [Readings 11.1, 11.2]
7.2. Classify intermolecular bonds and predict relative properties of chemical substances. [Readings 11.3]
7.3. Describe the structure and properties of liquids. [Readings 11.2, 11.3, 11.4, 11.5, 11.6, 11.7, 11.9]
7.4. Describe the structure and properties of solids. [Readings 11.10, 11.11, 11.12]
7.5. Interpret phase diagrams. [Readings 11.8]
7.6. Identify the composition of a solution. [Readings 4.5, 4.6, 12.3, 12.4]
7.7. Characterize the dissolving process. Characterize hydrolysis. [Readings 12.3, 12.4]
7.8. Characterize colligative properties. [Readings 12.6, 12.7]
7.9. Characterize aqueous reactions and predict products of precipitation reactions. [Readings 4.6, 4.7]
7.10. Characterize solutions as strong electrolytes, weak electrolytes, and nonelectrolytes. [Readings 4.4, 4.5, 12.7]

Unit 8 - Organic Chemistry – Chapters 3 & 20
8.1. Describe the bonds associated with organic molecules. [Readings 3.12, 20.1, 20.2]
8.2. Use IUPAC system to name simple organic compounds. [Readings 20.3, 20.4, 20.5]
8.3. Identify types of organic molecules according to functional group. [Readings 20.7, 20.8, 20.9, 20.10, 20.11, 20.12, 20.13]
8.4. Characterize the simple reactions of organic molecules. [Readings 20.6]
8.5. Identify isomers of simple organic compounds. [Readings 20.3]
8.6. Characterize the formation of polymers. [Readings 20.14]

EXAM 4 - Friday, June 27
Evaluation (grading) in the course:

A total of 775 points are possible for CHEM 1315.

Letter grades will be assigned based on the cut-offs listed in the table to the right.

The 700 points possible in CHEM 1315 are distributed as shown (detailed description of each follows table):

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<th>Assessment</th>
<th>Point distribution</th>
<th>Total point contribution to final grade</th>
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<tr>
<td>Examinations</td>
<td>Eight units @ 50 pts each ~51%</td>
<td>400 pts</td>
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<tr>
<td>Laboratory Reports</td>
<td>Fourteen @ 15 points each ~27%</td>
<td>210 pts</td>
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<tr>
<td>Recitation Scores</td>
<td>Eleven recitation scores recorded, best eight used toward final grade @ 10 pts each ~10%</td>
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<tr>
<td>Online Homework</td>
<td>8 Assignments, one per unit, 5 pts each ~5%</td>
<td>40 pts</td>
</tr>
<tr>
<td>Online Quizzes</td>
<td>8 quizzes, one per unit, @ 5 pts each ~5%</td>
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<td>(Saplinglearning.com)</td>
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<tr>
<td>Safety Video Quiz</td>
<td>Ten questions @ 0.5 pts each &lt;1%</td>
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Total points possible = 775

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<td>B</td>
</tr>
<tr>
<td>65%</td>
<td>503</td>
<td>C</td>
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<tr>
<td>50%</td>
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<td>D</td>
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<tr>
<td>Below 50%</td>
<td>&lt;387</td>
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Examinations:

Exam organization: The course content in CHEM1315 is divided into eight units. Each unit on an examination will consist of ten multiple-choice questions, each question worth 5 points. The chapters of the text covered on each exam are listed by the reading assignments within each learning objective. One or more questions per examination may cover laboratory concepts, one or more questions may be based upon the homework problem sets, and one or more questions may reflect online quiz content.

Make up/Retake of Exams: Students who miss an exam or those who are dissatisfied with their performance have an opportunity to make up an exam or to improve their score by retaking individual units, respectively, on a succeeding exam. Exams 2, 3, and 4 contain questions from the last two units covered on the previous exam. For example, Exam 2 covers new units 3 & 4 and repeats units 1 & 2. At any exam, you may answer the questions for any unit offered that you desire. You do not have to take all of the units offered if you are satisfied with your previous unit attempt. The higher of the two attempts, not the second attempt, is used in the final grade calculation. Please note: Units 7 & 8 are only offered once (exam 4). Your final grade for examinations will be calculated by taking the highest score you received on the first six units plus the scores earned for units 7 & 8.

Important exam information: ID is required: You must bring your OU I.D. or some other form of photo identification to all exams. Scantrons and adequate paper to work problems will be provided at each exam within the exam packet. You may not bring your own scratch paper to the test.
**No electronic devices:** Electronic communication devices including but not limited to cellular phones, pagers, FM receivers, headphones, music devices of any sort, etc. are banned from examination rooms. Individuals for whom circumstances make the possession of such devices necessary must inform their laboratory instructor prior to an examination to make arrangements. Students found with an unauthorized communication device at an examination will be charged with academic misconduct, whether or not the device was in use at the time it was discovered.

**Approved calculators only:** Calculators with programmable functions and/or alphanumeric storage/recall capability (this includes graphing calculators) are not allowed for quizzes and examinations. A partial approved list of calculators can be found on the website for the course [https://learn.ou.edu](https://learn.ou.edu). You will be expected to use an approved calculator on all quizzes and examinations. The lab/recitation teaching assistant must approve your calculator by the end of the second week of class. Students using calculators on exams that have not been approved may be charged with academic misconduct.

**Exam location:** Make sure you know where your assigned testing site is before the exam. Exam room assignments will be sent by email and will be posted to the course website. Students who arrive more than ten minutes late to an exam, or arrive after another student has left, will not be allowed to take the examination.
Laboratory:

Required materials:
- Approved safety goggles: Must be purchased by the first day of lab
- Model kit (highly recommended): may purchase any model kit or even share a kit with individuals not in your lab/recitation section.
- A set of standard size note cards of your choosing

Lab check-in/check-out: Students will be assigned a locker on the first day of laboratory. Each student will account for his/her supplies at check-in and will vouch for the condition of the equipment, requesting replacements for dirty, damaged, or unusable items. Students must check out of their laboratory locker at the end of the term. Failure to check out on the assigned day at the assigned laboratory time will result in being assessed a $75 check-out fee. Students who withdraw from the class must attend the next regular laboratory session in order to check out of their locker or they will be assessed a $75 check out fee. Students who withdraw may not arrange a special time with their TA in order to check out.

Grading: Laboratory grades will be based on laboratory reports worth 15 pts each. See the attached calendar (last page of syllabus) for a schedule of laboratory activities corresponding to your laboratory manual. Laboratory instructors may use clickers to assess part of the laboratory report grade as a pre-lab quiz. Make-ups for laboratories will require an appropriate and verifiable excuse. See your laboratory instructor for appropriate make-up procedures.

Attendance in lab: Attendance will be recorded within the first ten minutes of the laboratory period. Students who are not present at the time attendance is recorded will be considered absent and will not be allowed to make up the laboratory without a valid excuse (doctor’s note, University sponsored event, military duty, etc.). Attendance will be posted on D2L through the lab/recitation D2L page. Once posted, students will have one week to contact the TA regarding inaccuracies. After the one week period, no changes will be made. Students turning in lab reports for a laboratory period when they were absent will be charged with academic misconduct. Students must attend the laboratory check-out period at the end of the term or they will be assessed a $75 check-out fee. Any absences from the laboratory check-out due to valid reasons must be accompanied by written documentation or the $75 check-out fee will be assessed.

Lab safety and attire: Laboratory safety is of the utmost importance. Any student that is not dressed appropriately or judged to be acting in an unsafe manner by the teaching assistant, lecturer, or ILS staff will be asked to correct the behavior immediately. If the student continues to be unsafe, they will be removed from the laboratory. They will not be permitted to make up this lab, and a grade of zero will be given for the report. Appropriate dress includes: 1) shirts that cover the entire torso and at least ¼ sleeve, 2) pants/shorts/skirts that are at least knee length, 3) closed-toe, closed-heel, non-cloth, non-mesh shoes (this means no Tom’s or ballet flats or sandals), 4) approved goggles that close completely around the eye. Goggles that meet university standards will NOT be provided, however, they can be purchased from The Society for Chemical and Biochemical Research on the first day of class for $10. Lab safety will be covered in a required viewing video and by the ILS Manager on the first day of lab.

Absences from lab: If ill or if a student must be absent for a variety of valid, documentable reasons, a student must email their laboratory instructor prior to the start of the laboratory period regarding their absence or else a laboratory make-up will not be allowed. Only one laboratory per term may be made up due to illness without an accompanying doctor’s note. If a student has more than one absence over the term due to illness, a doctor’s note must be presented for each subsequent absence. If a student must miss lab for other valid reasons (including but not limited to immigration status meetings, child custody hearings, government proceedings, etc.), written documentation is required from the source (not from a parent, spouse, or non-official source). Documentation of such absences must be submitted within one week of the missed laboratory period.
**Recitation:**

**Required materials:**
- Model kit: may purchase any model kit or share a kit with individuals *not* in your lab/recitation section.

**Grading:** Eleven recitation grades will be recorded with the best eight out of the eleven applied to the final grade calculation. Recitation grades will be based on group activities and computer laboratory activities performed in recitation. Recitation instructors may also use clickers in recitation activities. Recitation meets every week; however, see the attached calendar (last page of syllabus) for a schedule of when recitation/discussion activities will be recorded for a grade.

**Absences/Make-ups:** There are no make-ups for recitation as students can miss three recitation grades with no effect on their grade. Absences due to illness or any other reason will all be treated in the same manner; however, it is strongly recommended that you let your recitation instructor know if you are ill prior to the start of recitation so that he/she may let you know of any important information that was disseminated during recitation.

**Online quizzes and Homework (Sapling Learning):**

**Required materials:**
- Access through Sapling Learning (www.saplinglearning.com)

**Quiz Grading:** Online quiz scores will be assessed for each of the eight units covered. These quizzes are designed to help students prepare for the examinations and will be available through Sapling Learning [www.saplinglearning.com]. Quizzes are worth five points per unit and cover the content of the course learning objectives. Each online quiz question may be attempted *once and only once*. Online quiz scores will not count unless submitted by the deadlines (date and time) indicated on Sapling’s website. **Sapling due time is 11:45 p.m. for all quizzes.** Since your computer and/or the net are not guaranteed to work at the last minute, we STRONGLY recommend that you not wait until the last minute to complete online quizzes. The Sapling Learning server time may differ from your clock, so submit your quiz well in advance of the due date/time (this is especially true as they are due the night before exams).

**Homework:** Sapling Learning [www.saplinglearning.com] will be used for online homework in the course. A maximum of 5 points per chapter will be available. Each question will be worth 0.5 points and there will be 10 questions per assignment and you may attempt each question as many times as needed. You are permitted and encouraged to work in groups, with tutors, teaching assistants, or the instructor on these assignments. **Sapling due time is 11:45 p.m. for all homework.** Due dates for the online homework extra credit problem sets are variable – check the syllabus calendar (back page of syllabus). It is strongly advised that students work on problems as the topics are covered, avoiding the tendency to wait until the night before the assignment is due (this is especially true as they are due the night before exams).

**Make-ups:** There are no make-ups for online quizzes or homework since they are posted well in advance of the due date/time for each unit.
General notes on grading & grade discrepancies:

**D2L:** Grades may be viewed on the D2L website for the course (learn.ou.edu). Please note that grades will not appear immediately on D2L as they will be intermittently updated during the term. Students will be notified via email by the General Chemistry Coordinator when grades are ready to be reviewed on D2L.

**Discrepancies:** Save all graded lab reports and any other documents returned to you for comparison with our records. **In the event of a discrepancy, you will need to provide us with the original, graded lab or recitation assignment.** Discrepancies in lab report grades or recitation assignments should be reconciled with your laboratory/recitation instructor. Discrepancies with exam grades should be resolved by bringing your student ID and your exam paper (blue/pink/tan/gold exam) to request a hand-grade of the scantron from the Undergraduate Program Assistant, Ms. Kristie Tevault (1000 SLSRC, 8 a.m. – 5 p.m.). Discrepancies in Sapling Learning quiz grades should be reported to the Gen. Chem. Coordinator.

**Extra Credit:** In addition to the course points assigned above, extra credit points are available for ONLY in-class lecture activities. Each day two problems relating to the previous days lecture will be posted at the start of class. On a note card, answer one question on each side. Include your name on one side of the note card. It must be turned in at the end of lecture. They are worth a total of 7 points per week (1% point) on an all or nothing basis. In other words, you must successfully solve all 10 questions to get that week’s point. This, however, has the ability to boost your grade by 7 points over the course of the semester. No make ups will be permitted for this activity.
In order to keep track of your overall grade, use the charts below to record your grades as they are earned during the term:

### Exams (50 pts. possible per unit)

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<tr>
<th></th>
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<th>Unit 2</th>
<th>Unit 3</th>
<th>Unit 4</th>
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### Laboratory Grades (Lab Reports are worth 15 pts each)

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<th>D-1</th>
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<th>D-S</th>
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### Recitation Grades (Each worth 10 pts, best eight of the eleven scores count toward final grade)

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### Sapling Online Quiz Grades (Each Quiz is worth 15 pts)

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<tr>
<th>Quiz</th>
<th>Quiz 1</th>
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<tbody>
<tr>
<td>Scores</td>
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</table>

### Sapling Online Homework Grades (Each homework is worth 5 pts)

<table>
<thead>
<tr>
<th>Homework</th>
<th>Unit 1</th>
<th>Unit 2</th>
<th>Unit 3</th>
<th>Unit 4</th>
<th>Unit 5</th>
<th>Unit 6</th>
<th>Unit 7</th>
<th>Unit 8</th>
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</thead>
<tbody>
<tr>
<td>Score</td>
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</table>

### In class Extra Credit Earned (1 percentage point a week each week is all or nothing, add to your final percentage grade)

<table>
<thead>
<tr>
<th>Period</th>
<th>Week 1</th>
<th>Week 2</th>
<th>Week 3</th>
<th>Week 4</th>
<th>Week 5</th>
<th>Week 6</th>
<th>Week 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Score</td>
<td></td>
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<td></td>
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</tbody>
</table>
Policies & Notes

The University of Oklahoma is committed to providing reasonable accommodation for all students with disabilities. Students with disabilities who require accommodations in this course are requested to speak with the professor as early in the semester as possible. Students with disabilities must be registered with the Disability Resource Center prior to receiving accommodations in this course. The Disability Resource Center is located in Goddard Health Center, Suite 166, phone 405/325-3852 or TDD only 405/325-4173.

Each student should acquaint her or his self with the University's codes, policies, and procedures involving academic misconduct, grievances, sexual and ethnic harassment, and discrimination based on physical handicap.

The instructor reserves the right to change any items contained in this syllabus. This includes, but is not limited to: course content, scheduled dates, and fraction(s) of final grade assigned to individual components of the course.

Email communication: In order to aid communication, the University has established email as an acceptable means of official communication. All University students are assigned an official University email account and your instructor and/or the General Chemistry Coordinator will be communicating with you through this account periodically. Email sent to this account is expected to be read by you in a timely fashion. For convenience, you can arrange to have your email forwarded to another email account (go to https://webapps.ou.edu/pass/); however, the University warns that you do so at your own risk. Failure to receive or read the communications sent to you via your official email account in a timely manner does not absolve you from knowing the information sent to you. Any correspondence with your instructor should include your name, section number, and the phrase “CHEM 1315” in the subject line.

Academic misconduct: Students engaging in academic misconduct (including cheating, plagiarism, and any other action that may improperly affect evaluation) will be subject to sanctions in accordance with the Norman Campus Academic Misconduct Code. Cheating of any kind will not be tolerated. Cheating is defined as an act performed so as to give a relative or unfair advantage to any person on an exam or assignment. Cheating of any kind will be dealt with by official University channels and will be punishable by penalties including receiving a grade of “F” for the course and/or expulsion from the University. Any papers, writings, or materials that are deemed suspicious by the instructor or the exam proctors will be confiscated and/or documented for misconduct procedures as considered appropriate (e.g. photographs of writing on surfaces). You should understand that your instructors take these matters seriously. Students who are caught in any form of academic misconduct should expect extremely severe penalties.

Class conduct: Students are expected to be attentive during course and lab/discussion lectures and to remain seated until the end of the period. Disruptive behavior in lecture, laboratory, or recitation will not be tolerated.

Laboratory and recitation will begin the first day of class. You should bring paper, pen and pencil, lab or recitation manuals, and a calculator to laboratory and recitation meetings. Students who do not check into laboratory during the first scheduled laboratory class may lose their space and be dropped from lab. All students enrolled in the lecture portion of the course must also be enrolled in a Chem 1315 laboratory/recitation section. Appropriate attire is required in the laboratory at all times (safety goggles, appropriate clothing and shoes, etc.), and will be explained by your lab instructor.

Placement exams: The CLEP office conducts the exams to test out and obtain credit for CHEM 1315 and CHEM 1415. Contact the Department of Chemistry and Biochemistry Advisor, Mr. Lance Goins, for additional information (email ldg123@ou.edu or phone 325-4121).

Last day to withdraw: Cancellation deadline, May 11; 100% reduction of charges on complete withdrawals, May 12-15; No reduction of charges on complete withdrawals after, May 15; Automatic grade of W on complete withdrawal for undergraduate students, May 12 – June 5; Grade of W or F on complete withdrawal for undergraduate students (assigned by instructor), June 6 – 27.
Need Additional Help?

Besides normal class attendance in the lecture and laboratory, students have several opportunities available to enhance their level of learning in the course.

**Study Groups:** Self-organized and independent meetings of small groups of students on a regular basis (weekly or semi-weekly, for example) to discuss homework and previous exam problems serves as another possible way to help many students discover misunderstandings and improve their performance on examinations.

**Course Website:** A course website is available for CHEM1315 at learn.ou.edu. The CHEM1315 instructor(s) may make lecture notes available on the course website (download and print with Adobe® Reader). Check with your lecture instructor about this. If you are printing out the lecture notes at a computer lab, please be certain to print to the correct printer. In the past, course notes have ended up being printed out all over campus.

**Office Hours:** Laboratory and lecture instructors have office hours to help students. Students may either attend office hours or make an appointment to see an instructor at other times. You may attend any CHEM 1315 instructor’s office hours.

**Tutoring list:** The Undergraduate Program Assistant in the Department of Chemistry & Biochemistry office, Ms. Kristie Tevault (ktevault@ou.edu or 325-4811), and Departmental Advisor, Mr. Goins (ldg123@ou.edu or 325-4121), maintain a list of tutors for private hire who may be interested in tutoring individual students or groups of students in chemistry courses. This is done only for the convenience of students and the Department of Chemistry and Biochemistry does not recommend the relative merits of the individuals who have requested to tutor students. Students interested in the tutor list are encouraged to consult with previous students for references and recommendations.

**Previous Exams:** Copies of recent exams are available online at the course website at https://learn.ou.edu. Students should try to answer the questions on past examinations under testing conditions – i.e., without access to any book, notes, another student, or instructor. Students should be aware that past exams were not necessarily written by the current instructors and may be based on a different textbook from the one being used this semester. However, for the most part the topics will be comparable to the current syllabus. Please note that old exams are posted without corrections.

**Homework:** Homework problem sets are available through Sapling Learning (saplinglearning.com). You will have multiple attempts at each question. Points will be available to students who correctly complete homework problem sets.

Additional practice problems (not for credit) can also be found at the end of the chapters in your textbook. The answers to many of these problems in the text are in the back of the textbook. Worked out answers for these problems are available in the solutions manual on reserve in the Main Library (ask for the CHEM 1315 Solution Manual). These solutions should only be examined after working/attempting the problem.

**Computer lab resources:** The University has computer laboratories at six locations: 232 PHSC, Dale Hall Tower, Walker Tower, Couch Tower, Bizzell Memorial Library, and the Oklahoma Memorial Union. These facilities are open for student use seven days a week at hours posted in each lab. Both IBM and Macintosh computers are available.
Instructor reserves the right to change this syllabus and schedule at any time and for any reason.
## CHEM 1315-175 Schedule Summer 2014

<table>
<thead>
<tr>
<th>Time / period</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Week 1</strong> Lecture May 12-16</td>
<td>Syllabus Discussion and Unit 1</td>
<td>Unit 1</td>
<td>Unit 1</td>
<td>Unit 1 and 2</td>
<td>Unit 2 Homework 1 due</td>
</tr>
<tr>
<td><strong>Week 1 Lab</strong></td>
<td>Check-in Lab B-3</td>
<td>Lab C1</td>
<td>Lab C2</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Week 2</strong> Lecture May 19-23</td>
<td>Unit 2</td>
<td>Unit 2 Homework 2 Due Quiz 1 Due</td>
<td>EXAM</td>
<td>Unit 3</td>
<td>Unit 3</td>
</tr>
<tr>
<td><strong>Week 2 Lab</strong></td>
<td>C-S</td>
<td>Lab D1</td>
<td>No Lab</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Week 3</strong> Lecture May 26-30</td>
<td>Memorial Day</td>
<td>Unit 3</td>
<td>Unit 3 Homework 3 Due</td>
<td>Unit 4</td>
<td>Unit 4</td>
</tr>
<tr>
<td><strong>Week 3 Lab</strong></td>
<td>No lab or lecture</td>
<td>Lab D2</td>
<td>D-S</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Week 4</strong> Lecture June 2-6</td>
<td>Unit 4</td>
<td>Unit 4 Homework 4 Due Quiz 2 Due</td>
<td>EXAM</td>
<td>Unit 5</td>
<td>Unit 5</td>
</tr>
<tr>
<td><strong>Week 4 Lab</strong></td>
<td>H1</td>
<td>H1 - 2</td>
<td>No Lab</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Week 5</strong> Lecture June 9-13</td>
<td>Unit 5</td>
<td>Unit 5 Homework 5 Due</td>
<td>Unit 5/6</td>
<td>Unit 6</td>
<td>Unit 6</td>
</tr>
<tr>
<td><strong>Week 5 Lab</strong></td>
<td>E1a, b</td>
<td>E1c &amp; E-S</td>
<td>F-1</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Week 6</strong> Lecture June 16-20</td>
<td>Unit 6</td>
<td>Unit 6 Homework 6 Due Quiz 3 Due</td>
<td>EXAM</td>
<td>Unit 7</td>
<td>Unit 7</td>
</tr>
<tr>
<td><strong>Week 6 Lab</strong></td>
<td>Check-Out</td>
<td>Make-Up Lab</td>
<td>No Lab</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Week 7</strong> Lecture June 23-27</td>
<td>Unit 7 Homework 7 due</td>
<td>Unit 8</td>
<td>Unit 8 Quiz 4 due Homework 8 due</td>
<td>Unit 8 Final Exam (in class)</td>
<td></td>
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</tbody>
</table>
The following outline is a guideline for Chemistry 1315 sections 176 and 177. The teaching assistant may have some more specific instructions and requirements.

<table>
<thead>
<tr>
<th>Section</th>
<th>TA</th>
<th>Lab</th>
<th>Recitation</th>
<th>Office</th>
<th>Office Hours</th>
<th>Email</th>
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</thead>
<tbody>
<tr>
<td>176</td>
<td>Key Tse</td>
<td>CHBA 325</td>
<td>BURT 208</td>
<td>PHSC 434</td>
<td>By Appointment Only</td>
<td><a href="mailto:keymtse@ou.edu">keymtse@ou.edu</a></td>
</tr>
<tr>
<td>177</td>
<td>Kellye Cupp</td>
<td>CHBA 326</td>
<td>PHSC 120</td>
<td>PHSC 434</td>
<td>By Appointment Only</td>
<td><a href="mailto:Kellye.A.Cupp-1@ou.edu">Kellye.A.Cupp-1@ou.edu</a></td>
</tr>
</tbody>
</table>

**Required Materials:**
4. *Approved* safety goggles

**Check-in and Breakage Policy**

The first laboratory period is designated as check-in. At this time you will be issued a stocked equipment drawer. Check all the equipment in your drawer with the list provided by your TA. All missing, broken, or damaged items should be replaced by the stockroom at this time. When you visit the stockroom please take the time to make a list of needed items to avoid numerous trips. Any equipment that cannot be replaced will be listed as a “check-in shortage” on your record card. During the semester, any equipment that you break or damage will be recorded on the record card. You will be held financially responsible for all equipment issued to you. If this equipment is lost or damaged, the cost of replacement or repair will be billed to you through the Bursar’s office as a “breakage fee.” Please note that this “breakage fee” is not the same as the “service charge” paid with other registration fees. The “service charge” is intended to partially cover the cost of chemicals and other expendable items used in the laboratory.

Your equipment draw will be unlocked for you by the TA just prior to laboratory, and will be locked at the end of the day by the TA. You will be ultimately responsible for equipment if it is stolen from you.

Check-out of lab should occur when you withdraw from the course or during the final laboratory period. Failure to check-out will result in a penalty fee of $75.00 for cleaning and inspecting your equipment in addition to any charges for broken, missing or damaged equipment. This fee will be billed to you through the Bursar’s office.

**Attendance, Late Labs, Make-ups**

Lab periods are three hours long. Please utilize your time wisely; plan you experiments, collect data, and write lab reports. If you elect to leave lab early, your lab report will be due at that time. Otherwise, all lab reports will be due at the end of the scheduled laboratory period, unless your laboratory instructor indicates another due date.

Unless prior arrangements have been made with your TA, or unless a documented health or personal emergency occurs, laboratory reports will **NOT** be accepted late.

If you miss a lab period for a legitimate reason, see and email your TA and instructor at least 30 minutes prior to class. If this is not possible, please email/contact them as quickly as possible.

If you miss a lab period for a legitimate reason, it is your responsibility to obtain a make-up slip from your TA at the next lab meeting. You will be permitted to make up **ONE AND ONLY ONE** laboratory report via a computer lab exercise. This will take place June 17, 2014 during your normal laboratory time in a place to be designated at a later time. It will be due before you leave the room, and there is **NO OTHER OPPORTUNITY** to make up any other missed lab report. This is true no matter what reason.
Codes and Policies

Each student should acquaint themselves with the University’s codes, policies and procedures involving academic misconduct, grievances, sexual and ethnic harassment, and discrimination based on physical handicap.

Cheating in any form will **NOT** be tolerated. This includes copying old lab reports, copying other students’ lab reports, and falsifying data. You and your partner are encouraged to discuss your answers and calculations with other students in the lab, or with your lab instructor. However, the report should be written in your own words and based on your own work. You are responsible for all portions of the report written/done by your lab partner(s). If they plagiarize and/or cheat, you are as guilty as they are.

If you are caught cheating, your lab report will be given a grade of zero that **MAY NOT** be made up. You may also be failed in the course and suspended or expelled from the University.

Laboratory Grades

Your lab grade will depend on the laboratory report you submit. Your laboratory instructor will grade these reports using specific criteria including, but not limited to:

1. Was the report submitted in a timely manner?
2. Did both students full attend the laboratory session?
3. Does the work presented reflect the allotted time?
4. Is all the work of the lab exercise attempted?
5. Does the data reasonably reflect good laboratory technique?
6. Do the explanations and conclusions represent a good quantitative understanding of the laboratory exercise?
7. Are the conclusions logically related to the data collected by the students?
8. Was there visible contribution by both students in both collection and interpretation?

These criteria may be applied to either the report as a whole or to individual portions of the report as determined by your TA. All lab reports will be assigned between 0 and 15 points.

Laboratory Reports

In the laboratory you will work in pairs, except on certain exercises. The partnership is expected to complete and turn in **ONE** laboratory report for which the partners will receive the same grade. Both partners are expected to contribute to the report. The following regulations will apply to this policy.

1. If one partner is absent or late, the lab instructor will assign the attending student to another partner or require the student to work alone. The lab instructor will reassign partnerships at their discretion and are not required to give the students a reason for these changes. Partnerships can be dissolved or changed by request of **ALL PARTIES INVOLVED ONLY**. A student may choose to work alone, but they will still have to share the equipment checked out to the partnership.
2. Both partners must be present for the whole period to be eligible to receive credit for a laboratory report. The partner who misses a laboratory is solely responsible for making up the period and will NOT be allowed to use their partner’s data.
3. No more than two students may constitute a partnership except by permission of the instructor.
4. Students are required to finish and submit laboratory reports at the end of the laboratory period.
5. Students who are unable to submit laboratory reports at the end of the laboratory period should be prepared to submit a copy of their collected data to the instructor in charge before leaving. Unless otherwise indicated, reports are due at the end of the laboratory.
6. Partners should submit reports and make conclusions based on their data collected by them, not that of other groups, and in their own words. Any evidence of falsifying data, or copying conclusions from other students (present or past) will be used in academic dishonesty proceedings against the students involved.
7. Both partners are expected to contribute to the collection and interpretation of data and to the construction of the laboratory report. Students who do not do their part may be assigned a new partner or be asked to work along.
8. Laboratory reports for the “S” labs will be completed independently. The data will be collected together, but each student is responsible for writing their own report for these experiments. Your lab instructor will have more instructions on the construction of these written reports (which will not be due at the end of the period) when they come up.
Reasonable Accommodation Policy

Any student in this course who has a disability that may prevent them from fully demonstrating their abilities should contact their laboratory instructor personally as soon as possible so they can discuss accommodations necessary to ensure full participation and facilitate their educational opportunities.

Safety

Your lab instructor will point out all the safety features of your lab during check-in. These include exits, fire extinguishers, safety showers, and eye wash stations. Other safety rules will be explained at that time. The ILS Manager will also be come by on the first day of lab to reiterate the safety rules and other instructions. There is also a safety video and quiz that must be completed before the second laboratory period.

The State of Oklahoma requires you to wear safety goggles in the laboratory at all times. Suitable goggles will be sold during the first week of school in your lab (other outlets also sell goggles, but they must been state approved and verified with ILS before they may be worn in laboratory). Your TA will expect you to wear your goggles OVER YOUR EYES at all times. Repeated disregard for this safety rule is grounds for your dismissal from lab.

Part of safety is good laboratory techniques and housekeeping habits. Your lab instructor will teach your laboratory techniques described in the appendices of your laboratory manual. You are responsible for seeing that your laboratory station is kept clean and neat. Store books, backpacks, and personal items in the cubicles provided in the lab. Make sure gas jets and water taps are off when not in use, and that waste is disposed of properly. Make sure that insoluble materials, paper and broken glass are kept out of the sinks.
Instructional Laboratory Safety Rules and Procedures

In case of an accident, notify the laboratory instructor **IMMEDIATELY**. If you receive a chemical burn, immediately flush the burned area with cold water and ask another student to notify the laboratory instructor **IMMEDIATELY**. Safety showers are available in all labs.

1) Approved safety goggles are to be worn by EVERYONE in the laboratory whenever ANYONE is working. THIS IS A STATE LAW.
2) All personal belongings (books, bags, purses, coats) should be stored in the cubby holes.
3) Shoes are to be worn at all times. Sandals, Tom’s, ballet flats, mules, crocs, anything that leaves any part of your foot or ankle exposed are not allowed.
4) Smoking is forbidden in the laboratory.
5) Eating or drinking in the laboratory is forbidden.
6) Always obtain the instructor’s permission before carrying out ANY experiment which is not in the lab manual.
7) Students may not work in laboratories unattended.
8) Never pour water into concentrated acids. ALWAYS pour acid slowly into water while constantly stirring.
9) Never taste a chemical unless specifically instructed to do so.
10) If you are instructed to smell a chemical, gently waft the vapors toward your face. NEVER smell a chemical by putting your nose over the container.
11) Never take chemical bottles to your desk. Instead obtain the material from the bottle in a clean container.
12) NEVER RETURN UNSED CHEMICALS TO THE BOTTLES. Always return chemical bottles to their proper place so others can use them.
13) Always clean off your desk top thoroughly at the end of the period. Make certain that all gas outlets and water faucets are turned off before you leave the laboratory.
14) Spilled chemicals, broken glassware, etc. should be cleaned up carefully and without delay.
15) The floor should be kept free of obstructions or slipping hazards (e.g., spilled ice, pencils, etc.).
16) Insoluble materials (paper, glass, compounds, etc.) falling into a sink or drain should be removed immediately.
17) Under all circumstances, appropriate chemical disposal should be followed. Ask the instructor for specific information.
18) NEVER fill a pipet by mouth suction.
19) Before removing a chemical from a bottle, READ THE LABEL.
20) Acts of carelessness or mischief are forbidden. Chemicals and equipment may be handled only in prescribed ways and for prescribed purposes. Such “playful” activities as pushing and shoving, wrestling, chasing, and threatening people with any chemical or piece of equipment are not tolerated and such acts will lead to you being removed from the laboratory with a zero grade (that cannot be made up) for the day.
21) Gloves, rubber aprons, and other protective clothing should be worn when appropriate.

Normal penalty for violation of these rules is prompt dismissal from the class with no privilege of making-up work.

From a University Telephone dial:

Ambulance – 911
Campus Police (Emergency) – 911
Fire Department – 8-321-3131
Poison Control Center (OKC) – 8-271-5454
Norman Regional Hospital – 8-321-1700