Syllabus for General Chemistry 1

Instructor: Dr. Jeffrey A. Gray  x2337        Meyer 259
www2.onu.edu/~j-gray/ j-gray@onu.edu
office hours: T, R 1 & 2 PM        R 10 AM

Meetings:  
1711.07, 1711.08 lectures M W F 10-10:50 AM  recitation R 3-3:50 PM  MT 248
lab T 3:00-5:45 PM  MY 200, 204
1811.01, 1711.14 lectures M W F 11-11:50 AM  recitation R 12-12:50 PM  MT 248
lab T 12:00-2:45 PM  MY 200, 204

Objectives: Students will learn macroscopic concepts of elements, compounds, and reactions.
Students will become fluent in chemical nomenclature and terminology.
Students will develop problem-solving skills and apply logic in calculations.
Students will understand theories of atomic and molecular structure.

iClicker2 ISBN: 9781429280471
TI-30XA scientific calculator ISBN: 2818440028779
Molecular Visions Model Kit, Darling ISBN: 9780964883710
Student lab notebook, spiral ISBN: 9781930882744
(all above available at ONU Bookstore)

2018-19 General Chemistry Lab Manual (purchase at ONU Chemistry Department)

Lecture Jespersen Chapter
Outline:
0. A very brief history of chemistry
1. Scientific measurements
2. Elements, compounds, and the periodic table
3. The mole and stoichiometry
4. Molecular view of reactions in aqueous solutions
5. Oxidation-reduction reactions
10. Properties of gases
6. Energy and chemical change
7. The quantum mechanical atom
8. The basics of chemical bonding
9. Theories of bonding and structure
22. Organic compounds, polymers, and biochemicals

Grading:

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Points</th>
<th>Letter</th>
<th>Total Points</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 of 8 Quizzes</td>
<td>150</td>
<td>A</td>
<td>885 to 1000</td>
<td>above 88.5 %</td>
</tr>
<tr>
<td>Exam I (Sept. 20)</td>
<td>120</td>
<td>B</td>
<td>785 to 884</td>
<td>78.5 to 88.4 %</td>
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<tr>
<td>Exam II (Oct. 25)</td>
<td>150</td>
<td>C</td>
<td>645 to 784</td>
<td>64.5 to 78.4 %</td>
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<tr>
<td>Exam III (Nov. 29)</td>
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<td>D</td>
<td>495 to 644</td>
<td>49.5 to 64.4 %</td>
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<tr>
<td>Laboratory</td>
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<td>F</td>
<td>0 to 494</td>
<td>below 49.4 %</td>
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<td>Homework</td>
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<td>Class Participation</td>
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<td>Final Exam (Dec. 13)</td>
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<td>total</td>
<td>1000</td>
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Assignments:

Prepare for each class and lab by reading ahead. Plan to read and do chemistry homework daily.
Prepare for quizzes and exams by completing all assigned homework problems. Online homework assignments count as 8% toward your overall grade. You are expected to seek help from your instructor when you have difficulty. Expect to learn and apply concepts rather than simply memorizing.
Testing:

All quizzes and exams will be on Thursdays. Quizzes during the recitation time period have a 30-minute time limit. Exams are during the evening time period (see dates above). A student may be excused from a scheduled exam time due to serious illness, emergency, or conflict with an authorized ONU function if the instructor is notified in advance; the exam must then be completed within the next three days. Per departmental policy, exams are never administered early. All exams are in room HP 151. All exams are cumulative. Unless otherwise announced, class will not meet on the remaining Thursday evening periods.

Attendance:

Attend lectures and labs regularly and be on time; frequent absences will bring down a borderline performance. *No make-up quizzes will be administered for any reason*, so a missed quiz will be one of those dropped. However, if a student misses two or more regular quizzes, (s)he may earn replacement credit for one quiz score by completing a common, comprehensive replacement test during the last week of classes.

A lab may only be made up during the same week; you must arrange this with another lab instructor. A missed lab will earn a score of 0, and **more than two unexcused absences from the lab will result in a failing grade for the course.** In case of serious illness, emergency, or conflict with an authorized University function, please contact your instructor as soon as the conflict is known.

Use of phones and computers:

Phones, computers, tablets, etc. must be put away and may not be used at any time during class, quizzes, or exams. Photos of chalkboard notes and powerpoint presentations are likewise not permitted. Students who violate this policy will be immediately excused from the classroom.

Academic dishonesty:

The University expects its students to conduct themselves in a dignified and honorable manner as mature members of the academic community and assumes that individually and collectively they will discourage acts of academic dishonesty. The University also expects cooperation among administrators, faculty, staff, and students in preventing acts of academic dishonesty, in detecting such acts, reporting them, and identifying those who commit them, and in providing appropriate punishment for offenders. The University Code of Academic Student Conduct is found in App. C of the Student Handbook: [http://www.onu.edu/student_life/student_conduct/student_handbook](http://www.onu.edu/student_life/student_conduct/student_handbook)

Special accommodations:

Students requiring particular accommodations because of physical and/or learning disabilities should contact their Dean’s office prior to or during the first week of classes. For additional information, see: [http://www.onu.edu/student_life/disability_services](http://www.onu.edu/student_life/disability_services)

Catalog Information:

Department of Chemistry and Biochemistry
CHEM 1711, 1811 - General Chemistry 1
Macroscopic concepts of the elements, compounds and reactions. Stoichiometry, thermochemistry and properties of ideal gases as applied to reactive systems. Emphasis on acid-base, redox, and descriptive chemistry. Atomic theory and its application to bonding. Laboratory supports principles presented in lecture, including spectroscopy. There is an additional fee for this course. Credit may be received for either CHEM 1711 or CHEM 1811, but not for both. High school chemistry required. Offered fall semester.
5.000 Credit hours
4.000 Lecture hours
3.000 Lab hours
Course Attributes: AS - Math \ Natural Sciences, Scientific and Quant Literacy