Recitation sections:  
**W** 12:30 – 2:18 PM in EL 2002  
**F** 12:30 – 2:18 PM in MP 1035 (Note room change)

Texts:  

**Course objectives:** Welcome to Chemistry and Society. Chem 100 is a Physical Science course in the Natural Science category of the GEC, which has these goals and objectives:

**Goals/Rationale:** This course is designed to introduce students to how chemical concepts can be used to help interpret the physical world. It is also intended to introduce significant social, political, economic, and ethical issues facing science and society today. The main objective is to better prepare students to be scientifically literate people who are able to make informed and reasonable decisions about technology-based issues.

**Learning Objectives:**
1. Students learn the basic facts, principles, theories, and methods of chemistry on a ‘need-to-know’ basis.  
2. Students learn chemistry presented within social, political, or topical context.  
3. Students are taught key discoveries and events in the more recent history of science and their impact on contemporary society.  
4. Students learn to think scientifically by evaluating data and theories of others and their own.  
5. Students are directed to do research, have discussions, and write essays in small group settings based upon the method of Problem-Based Learning. This inquiry-based investigation includes such diverse subjects as Climate Change, Air Quality in Ohio, Energy, Nutrition, and Chemical Forensics.

**Overall course structure:** Two lectures per week will introduce the topics. There will be one midquarter exam, a final, and homework assignments (problems from the textbook). The recitation will be run in an inquiry-based manner with small groups of students discussing problems which are posed by the section leader and then presenting their conclusions to the rest of the recitation class. Therefore, **attendance in recitations is mandatory.** The last part of each recitation session will be spent going over homework and any questions on the lecture material.

**Relationship with other courses in Chemistry:** This course provides non-science majors an alternative route toward satisfying the GEC physical science requirement by taking a single Chemistry course without a lab, or as the first course in a Chemistry sequence in which the second course may be Chemistry 101. If a student enters OSU without high school chemistry and would like to take Chemistry 121, Chemistry 100 can serve as an alternative to Chemistry 101 for satisfying the chemistry prerequisite.

**Office Hours:** Monday and Wednesday at 10:00 – 11:18 or by appointment.

**Additional Assistance:** All students with documented disabilities, who need accommodations, should see the instructor privately to schedule an appointment as early as possible. If your disability requires materials in alternative formats, please contact the Office for Disability Services at 292-3307, Room 150 Pomerene Hall.
<table>
<thead>
<tr>
<th>Week of and Title</th>
<th>Text Chaps/Major Topics</th>
<th>Additional Information</th>
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| Sept 17th and 24th | **1. “What are You Breathing Right Now?” Air Pollution in Ohio**  
Chapters 1 and 6  
- Composition of air  
- Measurement  
- Elements and Periodic Table  
- Substances and Mixtures  
- Molecular and Compounds  
- Acids/Bases | **CPR Assignment**  
Establish logon account and access in the next few weeks |
| Oct 1st and 8th   | **2. “Baby, It’s Cold Outside.” What is Global Warming and Is It Real?”**  
Chapter 3  
- Greenhouse Effect  
- Conservation of Mass  
- Mole concept  
- Chemical Rxns  
- Molecular Shapes | |
Chapter 4  
- Energy  
- Fossil Fuels  
- Carbon Cycle  
- Combustion rxns  
- Energy/Enthalpy calculations | **Midquarter**  
Will be held in class, Tuesday October 24th  
Will cover chapters 1, 6, 3, and half of 4.  
**CPR Assignment “Exploring an Element: A Short Research Paper”**  
- Essay portion starts 10/24 and is due 11/7 |
| Oct 29th and Nov 5th | **4. “I Owe My Life to Water.” The Fascinating Chemical and Physical Properties of Water**  
Chapter 5  
- Unusual Properties of Water  
- Aqueous solutions  
- Electronegativity and Polarity | **CPR Assignment “Exploring an Element: A Short Research Paper”**  
- Reviews portion starts 11/7 and is due 11/21  
**Holiday**  
Friday Nov. 10th is a University holiday. No classes will be held. |
| Nov 12th and Nov 19th | **5. “Rate Your Plate” Everyday Nutrition**  
Chapter 11  
- Macronutrients: Proteins, Carbohydrates, and Fats  
- Vitamins  
- Polarity of molecules: Why chemists drink red wine with red meat and sometimes use soap | **Thanksgiving**  
Thursday Nov 23rd and Friday Nov. 24th are University holidays. No classes will be held. |
| Nov 26th          | **6. “Chemistry is Murder” The World of Chemistry that Makes CSI Possible**  
Class notes only  
- Chemical structure and behavior of some of the more potent poisons  
- Chemical structure of blood  
- Equipment and methodology in forensic chemistry for identifying chemicals  
- We solve the murderer of the head of the chemistry dept. using Forensic Chemistry | |
**Course Grading:**

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Points</th>
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<tbody>
<tr>
<td>Midquarter Exam</td>
<td>200 pts</td>
</tr>
<tr>
<td>Recitation Assignments</td>
<td>350 pts</td>
</tr>
<tr>
<td>Homework Assignments</td>
<td>150 pts</td>
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<tr>
<td>CPR</td>
<td>100 pts</td>
</tr>
<tr>
<td>Final Exam</td>
<td>200 pts</td>
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<tr>
<td><strong>Total</strong></td>
<td>1000 pts</td>
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**Carmen:** Carmen is the Course Management system currently in use at OSU. You access Carmen via https://carmen.osu.edu/ and use your OSU username information (i.e. *lastname#*). You will find your grades, class notes, assignments, practice exams, and many other important pieces of information.

**CPR (Calibrated Peer Review) Assignment:** This is a short essay assignment and peer review. More information is given on a separate handout. We will talk much more about this in class as the assignment approaches.

**Homework Assignments** will be due every two weeks at the beginning of recitation. They are given Carmen as well as handed out the first day.

**Exams (One Midquarter and a Final)** will contain both qualitative and quantitative questions.

**Mandatory Recitations:** There will be five assignments during the quarter worth a total of 300 points. There will also be one oral report/person worth 10 points and two peer reviews worth a total of 40 points. More information about the setup of the recitation is given on a separate sheet handed out the first day as well as in Carmen.

**Class Notes:** Most of the Power Point slides I will be using will be available in handout form on Carmen. You may print these and add your own notes from my lectures with additional board notes. Therefore, you are strongly encouraged to attend class. You are responsible for all information given in class whether you are there or not.

**Important Notes:**
- Working together on homework is encouraged; however, copying of assignments is not. It is called cheating. In addition, any information you glean from the Internet must be referenced. Not doing so is called plagiarism. Suspicion of copying or plagiarism will result in referral of the case to the Committee on Academic Misconduct (COAM), and may result in a zero on the assignment or a lowered grade for the course. It will be pretty easy for me to tell so don’t take the chance; it is not worth it. I don’t expect you to become an expert.
- We will be working in groups in recitation. Therefore, presence, promptness, and preparedness in recitation are mandatory. Deficiencies in these areas will result in penalty points.
- You will need some sort of calculator (your phone calculator would not be a first choice).
- The textbook has a very nice helpful website (www.chemincontext.eppg.com) and its “Online Learning Center” (OLC) which offers you practice quizzes, Web links referenced in the text and “Consider This” exercises, and other source materials.