SYLLABUS

General Chemistry I CHEM-1411 (5501)

Fall 2012

(M, W: 5:30, p.m. – 6:50, p.m.; A743 LEC; 7:00, p.m. – 8:20, p.m.; A721 LAB)

Instructor: Jozef BORVAK, PhD
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Office: A721 (Lab Area)  
Office Hours: M-R, by appointment  
Phone: 214-860-2382

Required Textbook  

Course Objective  
This course is for science and science-related majors. Upon successful completion of this General Chemistry I course, you will be able to ask and answer important questions concerning atomic and molecular structure of matter, states of matter, chemical reactions and equilibria, stoichiometry, thermochemistry, electronic structure, quantum numbers, electron configurations in atoms, periodic trends in the properties of atoms, ionic and covalent bonding, properties of gases and solutions, and rates of chemical reactions. You will also become proficient in chemical measurements and calculations with chemical formulas and equations. No matter what your future career plans are, your profound knowledge of general chemistry will always be a useful intellectual tool for making important decisions in both science and everyday life. It introduces the fundamental classes of organic compounds, and begins the study of aliphatic and aromatic compounds, including nomenclature, structure and isomerism, stereochemistry, types of reactions, common mechanisms and syntheses. Acids, bases, complex ions, precipitation equilibria, electrochemistry, nuclear reactions, natural and synthetic polymers are also subjects of this basic, yet fundamentally important course of chemistry. This whole text will be taught effectively in two semesters.

Course Prerequisite  
MATH 1314 or equivalent and Developmental Reading 0093 or English as a Second Language (ESOL) 0044 or have met the Texas Success Initiative (TSI) Reading standard. High school chemistry is strongly recommended.

Grading Policy  
<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Lab Average</td>
<td>20 %</td>
</tr>
<tr>
<td>Quizzes/Homework (Take-Home Quizzes; THQ)/Participation</td>
<td>15 %</td>
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<tr>
<td>Exams (3 one-hour exams)</td>
<td>45 %</td>
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<tr>
<td>Final Exam (comprehensive)</td>
<td>20 %</td>
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Three one-hour Exams and a total of eleven Quizzes/Homework will be given. These will cover the reading, lecture material, and assigned problems. The Final Exam will be comprehensive.

Grades will be assigned according to the following scale:  
90-100 % A;  80-89 % B;  70-79 % C;  60-69 % D;  Below 60% F
**Test policy**
No make-up exams will be given, and any missed exams will result in a grade of zero. However, the final exam score will replace the lowest one-hour exam score if it is to the student’s benefit.

**Examination Needs**
You must bring the following to each examination:
Scientific Calculator (You may **not** use a graphing calculator or a calculator capable of storing alpha-numeric/textual material.), No. 2 pencils with eraser, ScanTron 882-E (available at the ECC Bookstore). **Students are not allowed to have access to cell phones or digital pagers during any exam.**

**Cell Phones**
Please silence all cell phones prior to class. **Texting during class is inappropriate and will not be tolerated.**

**Academic Ethics**
All students are expected to pursue their scholastic careers with honesty and integrity, and the Department of Arts and Sciences **will not tolerate** any form of violation of the Student Code of Conduct as printed in the El Centro College Catalog and available at [http://www.dcccd.edu/cat9899/cunduct.htm](http://www.dcccd.edu/cat9899/cunduct.htm). All violations will be penalized accordingly, and will be forwarded to the proper College authorities for review. The College may, at its discretion, impose additional penalties on the student including academic probation, suspension, or expulsion. Scholastic dishonesty includes but is not limited to plagiarism, collusion, fabrication, cheating, submission for credit of any work or materials that are attributable in whole or in part to another person, any act designed to give unfair advantage to a student or the attempt to commit such acts. During tests or quizzes, students are **not** allowed to have access to cell phones or digital pagers. Further examples of academic dishonesty include: exchanging answers or information, looking at another student’s paper, bringing unauthorized notes of any form into the test or quiz, including written notes (crib sheets), digitally stored information (formulas, constants, any alpha-numerical data, etc.), notes stored in any other medium, or looking at a book or other unauthorized source of information during the quiz or test. Since dishonesty harms the individual, all students, and the integrity of the College, policies on scholastic dishonesty will be strictly enforced. Any form of disruptive behavior will **not** be tolerated.

**Attendance/Participation**
*El Centro policy requires regular attendance.* Therefore, students are required to attend not only the lecture classes but also the laboratory sessions. Accumulating three unexcused absences will lower your final score by one letter grade. If you miss more than three sessions (lecture and/or lab), your final grade for the class will be an “F”. Participation in laboratory sessions is an important part of this course, since you will actually observe the physical and chemical properties of matter as well as the chemical laws applied through experiments. In the laboratory, you will be required to wear safety goggles, obey all safety regulations, clean up your equipment, and work area before getting your lab report validated. You are expected to participate in class discussions, problem solving exercises, and to complete and turn in all assignments, THQs and lab reports on time. Check your college e-mail regularly for new announcements, changes and
other important information. Being unaware of the available information will not be accepted as an excuse for failing to comply with it.

**Withdrawing policy**
If a student is unable to complete a course in which she/he is enrolled, it is the student’s responsibility to withdraw from the course by the appropriate date (November 15th for the Fall 2012). If the student does not withdraw, she/he will receive a performance grade of “F”. If the student is unable to appear in person, she/he may withdraw by writing to the Registrar prior to the deadline date.

**Americans with Disabilities Act**
El Centro College is committed to the spirit and letter of the federal equal opportunity legislation. The Americans with Disabilities Act (ADA) provides those with disabilities with the same opportunities as all citizens. If you require an accommodation based on disability, I would be happy to meet with you in the privacy of my office, during the first week of the semester, to make sure you are appropriately accommodated. You should also contact the Disability Services Office, Room A110, phone number (2140-860-2411).

**Financial Aid Statement**
Students who are receiving any form of financial aid should check with the Financial Aid Office prior to withdrawing from classes. Withdrawal may affect your eligibility to receive further aid and could cause you to be in a position of repayment for the current semester. Students who fail to attend or participate after the ‘drop date’, are also subject to this same policy.

**Religious Holiday Statement**
A student who is absent from classes for the observance of a religious holiday, shall be allowed to take an examination or complete an assignment scheduled for that day within a reasonable time after the absence, if - not later than fifteen days after the first day of the semester - the student notified the instructor of each class scheduled on the date the student will be absent for a religious holiday. A “religious holiday” means a holiday observed by a religion whose places of worship are exempt from property taxation under Section 11.20 of the Tax Code. The notice shall be in writing and shall be delivered by the student personally to the instructor with receipt acknowledged and dated by the instructor, or, by certified mail, return receipt requested, addressed to the instructor. A student who is excused under this section may not be penalized for the absence, but the instructor may appropriately respond if the student fails to satisfactorily complete the missed assignment or examination.

**Children on Campus**
El Centro College strives to protect an environment most conductive to teaching and learning for all the enrolled students. Minor children may not be brought to classrooms, labs, testing areas, or study areas of the college. This practice would be disruptive to the learning process. Children who are taking part in organized scheduled activities, or who are enrolled in specific classes, are welcomed. For reasons of security and child welfare, the college will not permit unattended children to be left anywhere on the premises. Students/parents who have problems with childcare should contact the Advisement/Counseling Center or the Adult Resource Center to receive referrals to childcare services in the area.
**Hazardous Materials**

Lab exercises are usually connected with relevant lecture chapters. CHEM 1411 will utilize the traditional and small-scale chemistry approach to chemistry instruction, if possible, which is considerably less hazardous than a standard traditional chemistry laboratory. We will still use chemicals, but much less of them. During our experiments, we may also use substances deemed to be “hazardous” by the state of Texas or by some Federal Authorities. Before using any hazardous substances, students will be given appropriate information and warning by the instructor regarding the proper handling of such substances. Safety precautions will be given and proper behavior in case of an accident will be carefully explained. Protective attire and goggles will be strictly required during all laboratory operations. It is the students’ responsibility to use the appropriate protective gear and to handle substances as instructed. Performing unauthorized experiments, or a failure to follow all Safety Rules will result in dismissal from the laboratory session or the chemistry class, or both.

**NO Freelance Experiments are allowed!**

Material Safety Data Sheets (MSDS) are available in the Chemistry Laboratory. They describe in detail many of the chemical properties of each hazardous material and suggest what actions to take to avoid unhealthy exposures. The MSDS are located in Lab A721.

Please feel free to discuss with your instructor any questions you may have related to any substances used in this course.

**Bomb Threats**

In the event of a bomb threat to a specific facility, College Police will evaluate the threat. If required, exams may be moved to an alternate location, but *exams will not be postponed.*

**Time Commitment and Strategies for Succeeding in Chemistry 1411**

1. Attend *every* lecture. A very strong correlation exists between attendance and success in Chemistry 1411. Because the topics covered in this course build on each other, missing even one class can mean the difference between success and failure in the course.
2. Prior to class, read the chapter which will be covered in lecture.
3. Review your lecture notes after each class. Correct obvious errors and note topics which require further study or clarification.
4. Work *all* of the suggested homework problems. Do *not* look in the solutions manual until you have given your *best* effort to solve the problem on your own.
5. Spend the necessary amount of time studying chemistry. The rule of thumb for succeeding in Chemistry is three hours of study for every hour of lecture. This means that at a *minimum* you should plan to study Chemistry *nine hours* each week.
6. Don’t procrastinate. These concepts take time to sink in, and you may have to practice these exercises over a period of many days in order to master the necessary skills.
7. Form a *study group*. This is your first avenue for getting help. Be able to communicate with each other on short notice, not just before class.
8. The *Science Learning Center at ECC* provides efficient help and a variety of materials to assist Chemistry students’ learning needs.
**Tentative Lecture & Exam Schedule**: The following represents a tentative schedule of lecture and examination material for this semester. *The exact dates of the three major exams will be announced in class.*

<table>
<thead>
<tr>
<th>Week of</th>
<th>Lecture Material</th>
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| 08/27   | Ch. 1, Matter & Measurements  
                                | Ch. 2, Atoms, Molecules & Ions |
| 09/03   | Finish Ch. 2      |
| 09/10   | Ch. 3, Mass Relations in Chemistry; Stoichiometry  
                                | Ch. 4, Reactions in Aqueous Solutions |
| 09/17   | Finish Ch. 4  
                                | Review for Exam 1  
                                | **Exam 1 over Chs. 1, 2, 3, and 4**  
                                | Ch. 5, Gases |
| 09/24   | Finish Ch. 5  
                                | Ch. 6, Electronic Structure & the Periodic Table |
| 10/01   | Continue Ch. 6  
                                | Finish Chapter 6. |
| 10/08   | Ch. 7, Covalent Bonding |
| 10/15   | Finish Ch. 7  
                                | Ch. 8, Thermochemistry |
| 10/22   | Finish Ch. 8  
                                | Review for Exam 2  
                                | **Exam 2 over Chs. 5, 6, 7, and 8**  
                                | Ch. 9, Liquids & Solids |
| 10/29   | Finish Ch. 9  
                                | Ch. 10, Solutions |
| 11/05   | Continue Ch. 10 |
| 11/12   | Ch. 11, Rate of reaction; *(Nov. 15th is the last day to withdraw from the class.)*  
                                | Continue Ch. 11 |
| 11/19   | Finish Ch. 11  
                                | Review for Exam 3 |
| 11/26   | **Exam 3 over Chs. 9, 10, and 11**  
                                | Review for the Comprehensive Final Exam |
| 12/03   | Continue Review for the Comprehensive Final Exam |
| **12/10** | **Comprehensive Final Exam** *(The exact date will be announced in class.)* |

*The college and instructor of this course reserves the right to make any and all changes deemed necessary with prior notification of the class.*