CHEMISTRY 1405 – CHEMISTRY FOR THE NON-SCIENCE MAJOR SYLLABUS

COURSE
CHEM 1405. Chemistry for the Non-science Major. (3-3-0)
A one semester survey of modern concepts of the structure and properties of the material universe for students who do not need a more rigorous foundation in chemistry for degree completion. As the chemistry is introduced, related ecological, geopolitical and socioeconomic concerns are discussed. Introductory topics in chemistry are covered from a largely conceptual point of view. Atomic theory, the gas laws, covalent/ionic bonding, hydrogen bonding, organic chemistry, nuclear chemistry, oxidation/reduction reactions, dimensional analysis, isotopes, and water properties are all introduced in this course. Prerequisite: Reading 0308. Corequisite: C

The laboratory section of this course. A lab kit if required for this course. F, Sp, Su (4005015103).

INSTRUCTOR
Ronda Howe
Office: Engineering Science Building #303
Phone: 903-983-8252
Mailing Address: 1100 Broadway, Kilgore, TX 75662
Office Hours: See schedule as posted on my office door and in the specific web course.

COURSE RATIONALE
This course meets the requirement for a four-hour lab-science credit for non-science majors. It is designed to give non-science majors a general understanding of the basic concepts of introductory chemistry. It introduces the traditional topics covered in an introductory chemistry course focusing on concepts more than mathematics. It is also intended to increase awareness of scientific principles in everyday life.

EDUCATIONAL MATERIALS
2. Kit with Lab Supplies purchased from the college bookstore.
3. Computer with Microsoft Office Software.
4. Basic Scientific Calculator
5. Long scantron forms for exams.

EVALUATION
A. There will be two or three ten question online quizzes at the finish of each unit/chapter and associated unit materials. (15% of grade)
B. Lab work and analysis. Reports are submitted online. (25% of overall grade)
C. Class participation/forum questions for each unit/chapter. (10% of overall grade)
D. Mid-Term Exam (Paper exam over first four units given in the testing center. This exam contains 50-75 multiple choice questions. You will need a long Scantron form and your calculator.) (25% of grade)
E. Final Exam (Paper comprehensive exam given in the testing center. This exam contains 100 - 120 multiple choice questions. You will need a long Scantron form.) (25% of grade)

CLASSROOM POLICIES
1. Take responsibility for your education.
2. Attend every class and be on time. The instructor may drop a student for excessive absences.
3. Students are expected to behave as adults being mindful and respectful of fellow classmates. Private conversations, texting, walking around, etc. while class is going on is distracting to those who are trying to learn the material.
4. Safety in the laboratory portion of this course is of utmost importance.
5. Integrity and honesty are expected with no tolerance for cheating. A grade of zero will result or the student may be dropped from the course. No cell phones will be allowed during exams. They must be put away.
6. It is the student’s responsibility to withdraw from the course if this becomes necessary. The specific drop date may be found on the calendar at the college website: Kilgore.edu

DISCLAIMER
The instructor reserves the right to make modifications in this syllabus. These changes may include additional assignments, changes in grading policy, changes in grading scale, etc. If any changes are made, students will be clearly notified. The instructor also reserves the right to remove or drop a student for classroom disruption or unsafe lab practices.

STUDENT LEARNING OUTCOMES AND COURSE OUTLINE
Student Learning Outcomes:
1. Discuss water’s many unique properties and related this to polarity and molecular shape.  
   Assessment: quizzes, and final examination
2. Classify matter, compounds, and chemical reactions.  
   Assessment: quizzes, midterm and final examination
3. Determine the basic nuclear and electronic structure of atoms.  
   Assessment: quizzes, midterm and final examination
4. Identify trends in chemical and physical properties of the elements using the Periodic Table.  
   Assessment: forum questions, quizzes, midterm and final examination
5. Describe the bonding in and the shape of simple molecules and ions.  
   Assessment: quizzes, midterm and final examination
6. Recognize and balance various nuclear reactions.  
   Assessment: quizzes, midterm and final examination
7. Compare acids and bases by properties, pH and chemical formulas.  
   Assessment: quizzes, midterm and final examination
8. Write and balance equations.  
   Assessment: quizzes, midterm and final examination
9. Use the rules of nomenclature to name and write formulas of some common chemical compounds.  
   Assessment: quizzes, midterm and final examination
10. Define some types and characteristics of chemical reactions.
11. Use the gas laws and basics of the Kinetic Molecular Theory to solve and make predictions on simple gas problems.

Assessment: quizzes, midterm and final examination

12. Identify some basic principles of organic chemistry and recognize some common organic compounds.

Assessment: quizzes, midterm and final examination

13. Convert units of measure and demonstrate dimensional analysis skills for simple conversions.

Assessment: quizzes, midterm and final examination

Throughout the semester the following Core Curriculum Objectives will be addressed:

1. Critical Thinking Skills – which may include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information.

2. Communication Skills – which may include effective development, interpretation and expression of ideas through written and visual communication.

3. Empirical and Quantitative Skills – which may include the manipulation and analysis of numerical data or observable facts/data resulting in informed conclusions.

4. Teamwork – which includes the ability to consider different points of view and to work effectively with others to support a shared purpose or goal.

DROP POLICY

It is your responsibility to drop a course or withdraw from the college; failure to do so will result in receiving a performance grade, usually a grade of “F”. The last day to drop with a grade of “W” is when approximately 75% of the course is over. The drop date will be on the college website on the calendar for the current semester.

The instructor reserves the right to drop students who are not participating in this course. If you are not logging in regularly and completing assignments, you may be dropped from the course. It is your responsibility to log in regularly (several times a week). If you are falling behind and not completing assignments, it may be better to go ahead and drop the course.

COURSE FORMAT

THE SPECIFIC DATES FOR QUIZZES, FORUM QUESTIONS, LAB REPORTS, MIDTERM EXAM, AND FINAL EXAM ARE CLEARLY LISTED THROUGHOUT THE COURSE. THESE WILL BE FOLLOWED AND THE STUDENT IS EXPECTED TO KEEP UP WITH THE DUE DATES FOR ALL ASSIGNMENTS.

This course is divided into eight units, each including two to three quizzes and a forum questions. These assignments will be completed on-line. A mid-term exam is given approximately half way through the course covering the first four units. It is a “paper” exam given in the Kilgore testing center. A comprehensive final exam is given in the testing center during the last week of the course. If you are out of the Kilgore area you may schedule to take these two exams at a local testing center. It is your responsibility to arrange this and there may be a fee involved for using another testing center.
Each unit has a PowerPoint presentation, audio lecture, practice quiz, introduction with links to demonstrations and tutorials, chapter overview with suggested homework problems, and review puzzles. The student should log in at least 3 times weekly in order to keep up with the assignments and information presented. Approximately 1 to 2 weeks is spent on each unit with assignments due at the end of this time period for each of the 8 units.

The lab portion of this course consists of at home experiments done using the kit purchased from the college bookstore. There are at least five lab reports that are to be submitted online. These are fairly long and combine several topics for each lab so plenty of time needs to be allowed to complete these reports. These are spaced throughout the course with approximately two to three weeks devoted to each lab assignment and experiment. These are designed with safety in mind first and proper safety equipment is included in the kits. Students should use goggles when performing experiments. Some of the forum questions incorporate lab topics and experiment demonstrations are posted in the specific units. Additional lab reports may be added if time permits.

It is essential that you complete the labs yourselves. I am counting on the integrity of students to do these labs. If these are not completed, it will be greatly reflected in your exam grades. Quite a few exam questions will be taken from the lab reports. You should review all of your lab reports when preparing for the written Mid Term and Final Exam.

Many videos are posted throughout the course with various demonstrations and labs. This is a way of seeing the experiments in an online format. Remember, these are for demonstration purposes only and should never be attempted at home.

STUDENTS WITH DISABILITIES

Kilgore College is committed to making reasonable accommodations to assist individuals with disabilities in reaching their academic potential. If you choose to request accommodations for a documented disability which may impact your performance, attendance, or grades in this course, you must first register with the Office of Disability Services. Please note that classroom accommodations cannot be provided prior to your instructor’s receipt of an accommodation letter from the Office of Disability Services. For more information about accommodations, please contact the Disability Services office on the second floor of the Devall Student Center: (903) 983-8206