INTRODUCTORY CHEMISTRY I
CHEM.1405.62430/92401
Wintermester 2015
12/21/2015 to 01/08/2015

PROFESSOR: SAMAR KOLAILAT
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OFFICE PHONE: 214-860-3634
OFFICE NUMBER: W 107 B
OFFICE HOURS: By appointment; email is the best way to reach me
MEETING DAYS AND TIME:
LEC      MTWRF INET
LAB      MTWRF INET

CREDIT HOURS: 4

DIVISION: SCIENCE, NURSING, ARTS/HUMANITIES AND PHYSICAL EDUCATION
DEAN: STEPHEN JONES, Ph. D.,
DIVISION OFFICE PHONE: 214-860-8760

COURSE DESCRIPTION
This course is for non-science majors. Fundamental concepts are
presented in lecture and laboratory including the periodic table,
atomic structure, chemical bonding, reactions, stoichiometry, states
of matter, properties of metals, nonmetals and compounds, chemical
nomenclature, acid-base theory, oxidation-reduction and solutions.
Descriptive chemistry is emphasized. (3 Lec., 3 Lab.)

COURSE PREREQUISITES
The following must be met: (1) Developmental Mathematics 0090 or
higher or the equivalent AND (2) Developmental Reading 0093 or
English as a Second Language (ESOL) 0044 or have met the Texas
Success Initiative (TSI) Reading standard.

COURSE COREQUISITE NONE
STATE REQUIREMENTS:

INTELLECTUAL COMPETENCIES

Chemistry 1405 satisfies the following Core Curriculum Intellectual Competencies defined by the Texas Higher Education Coordinating Board.

READING: Reading at the college level means the ability to analyze and interpret a variety of printed materials -- books, articles, and documents. A core curriculum should offer students the opportunity to master both general methods of analyzing printed materials and specific methods for analyzing the subject matter of individual disciplines.

WRITING: Competency in writing is the ability to produce clear, correct, and coherent prose adapted to purpose, occasion, and audience. Although correct grammar, spelling, and punctuation are each a sine qua non in any composition, they do not automatically ensure that the composition itself makes sense or that the writer has much of anything to say. Students need to be familiar with the writing process including how to discover a topic and how to develop and organize it, how to phrase it effectively for their audience. These abilities can be acquired only through practice and reflection.

SPEAKING: Competence in speaking is the ability to communicate orally in clear, coherent, and persuasive language appropriate to purpose, occasion, and audience. Developing this competency includes acquiring poise and developing control of the language through experience in making presentations to small groups, to large groups, and through the media.

LISTENING: Listening at the college level means the ability to analyze and interpret various forms of spoken communication.

CRITICAL THINKING: Critical thinking embraces methods for applying both qualitative and quantitative skills analytically and creatively to subject matter in order to evaluate arguments and to construct alternative strategies. Problem solving is one of the applications of critical thinking, used to address an identified task.

COMPUTER LITERACY: Computer literacy at the college level means the ability to use computer-based technology in communicating, solving problems, and acquiring information. Core-educated students should have an understanding of the limits, problems, and possibilities associated with the use of technology, and should have the tools necessary to evaluate and learn new technologies as they become available.

EXEMPLARY EDUCATIONAL COURSE OBJECTIVES

The objective of the study of a natural sciences component of a core curriculum is to enable the student to understand, construct and evaluate relationships in the natural sciences and to enable the student to understand the bases for building and testing theories. The exemplary educational objectives are:

- To understand and apply method and appropriate technology to the study of natural sciences.
- To recognize scientific and quantitative methods and the differences between these approaches and other methods of inquiry and to communicate findings, analyses and interpretation both orally and in writing.
- To identify and recognize the differences among competing scientific theories.
- To demonstrate knowledge of the major issues and problems facing modern science, including issues that touch upon ethics, values, and public policies.
- To demonstrate knowledge of the interdependence of science and technology and their influence on, and contribution to modern culture.
The following science courses include the above exemplary educational objectives: Biology 1406, 1407, 1409, Chemistry 1405, 1406, 1407, 1411, 1412, 2389, 2401, 2402, 2423, 2425 Geology 1401, 1403, 1404, 1445, Physics 1401, 1402, 1405, 1407, 1411, 1412, 1415, 1417, 2425, and 2426.

STUDENT LEARNING OUTCOME

STUDENT LEARNING OUTCOMES FOR DISCIPLINE OF CHEMISTRY

Student in lecture will be able to:
1) Convert units and measurements and calculate calories and joules.
2) Classify matter, compounds, and chemical reactions, superficially.
3) Use the gas laws in the remedial sense and basics of the Kinetic Molecular Theory to solve problems.
4) Evaluate nuclear radiation.
5) Demonstrate their ability to represent chemistry artistically, either through presentation, poster or art form.
6) Use octet rule and identify trends in chemical and physical properties of elements using Periodic Table.
7) Rules of nomenclature to name chemical compounds.
8) Solve problems stoichiometrically.
9) Write and balance equations.
10) Write chemical equations.

Student in lab will be able to:
1) Convert units and measurements and calculate calories and joules.
2) Demonstrate safe and proper handling of laboratory equipment and chemical laboratory.
3) Conduct basic laboratory experiments with proper laboratory techniques.
4) Learning skills necessary to make accurate and careful experimental observations.
5) Relate physical observations and measurements to theoretical principles.
6) Identify appropriate sources of information for conducting laboratory experiments involving the major principles of chemistry.

STUDENT LEARNING OUTCOMES FOR AA & AS DEGREE PROGRAM

Student will be able to:
1. Reason logically to solve social, political, economic, scientific, quantitative, or personal problems.
2. Communicate ideas (aurally, orally, and in writing) with clarity, logic, proper grammar, and appropriateness for audience and occasion.
3. Employ reading strategies to demonstrate learning, to analyze information, to formulate judgments, and to make recommendations
4. Apply research skills necessary to retrieve and evaluate information.
5. Demonstrate scientific reasoning to solve problems. (AS Degree only)
COURSE OUTLINE

CHEMISTRY 1405 COURSE CONTENT

Introduction
Chemistry in our lives.
Chemistry and chemicals, the Scientific Method, Science and technology.

Chapter 1 - Measurements
Units of measurements, scientific notation, significant figure, measuring mass and volume, conversion factors, density, and specific gravity.

Chapter 2 - Energy and Matter
Energy, energy and nutrition, temperature conversions, specific heat, states of matter, and changes of state.

Chapter 3 - Atoms and Elements
Classification of matter, elements and symbols, the periodic table, the atom, atomic number and mass number, Isotopes and atomic mass, electron energy levels and the periodic trends.

Chapter 4 - Compounds and their Bonds
The octet rule and ions, ionic compounds, naming and writing covalent compounds, electronegativity, bond polarity, shapes and polarity of molecules.

Chapter 5 - Chemical Reactions and Quantities
Chemical changes, chemical equations, types of reactions, oxidation-reduction reaction, the mole, molar mass, mole relationship in chemical reactions, mass calculations for reactions and energy in chemical reactions.

Chapter 6 - Gases

Chapter 7 - Solutions
Solutions, electrolytes and nonelectrolytes, solubility, percent concentration, molarity and dilution, solutions in chemical reactions, properties of solutions.

Chapter 8 - Acids and Bases
Acids and Bases, Bronsted -Lowry Acids and Bases, strengths of acids and bases, ionization of water. The pH scale, reactions of acids and bases, Buffers

Chapter 9
Nuclear radiation, natural radioactivity, nuclear equations, radioactivity, radiation measurement, half-life of a radioisotope, medical applications using radioactivity, nuclear fission and fusion.
LECTURE SCHEDULE
This is a tentative lecture schedule of events and is subject to change.

Course Outline (Calendar):

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<thead>
<tr>
<th>Chapter 1: Measurements</th>
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<tr>
<td>(HOMEWORK CH 1 IS DUE)</td>
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<td>QUIZ 1</td>
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LAB: Safety Orientation, Safety Quiz, EXCEL GRAPHING

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<tr>
<th>Chapter 2: Energy and Matter</th>
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<tr>
<td>(HOMEWORK CH 2 IS DUE)</td>
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<td>QUIZ 2</td>
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<table>
<thead>
<tr>
<th>EXAM I</th>
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<tr>
<td>CHAPTER 1,2</td>
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<tr>
<th>Chapter 3: Atoms and Elements</th>
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<td>(HOMEWORK CH 3 IS DUE)</td>
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<td>QUIZ 3</td>
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<tr>
<th>Chapter 4: Compounds and Their Bonds</th>
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<td>(HOMEWORK CH 4 IS DUE)</td>
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<td>QUIZ 4</td>
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<table>
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<tr>
<th>EXAM II</th>
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<tbody>
<tr>
<td>CHAPTER 3, 4</td>
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<tr>
<th>Chapter 5: Chemical Quantities and Reactions</th>
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<tr>
<td>(HOMEWORK CH 5 IS DUE)</td>
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<td>QUIZ 5</td>
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<th>Chapter 6: Gases</th>
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<tr>
<td>(HOMEWORK CH 6 IS DUE)</td>
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<td>QUIZ 6</td>
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<th>EXAM III</th>
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<td>CHAPTER 5,6</td>
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<th>Chapter 7: Solutions</th>
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<td>(HOMEWORK CH 7 IS DUE)</td>
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<td>QUIZ 7</td>
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<th>Chapter 8: Acids and Bases</th>
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<tr>
<td>(HOMEWORK CH 8 IS DUE)</td>
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<td>QUIZ 8</td>
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ASSESSMENT

Exams and Assignments:
The final grade for the course is based on the grade scale shown above. There are no exceptions to this grade scale.

The total points are based on the following:

<table>
<thead>
<tr>
<th>Points</th>
<th>Description</th>
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<tbody>
<tr>
<td>50.0</td>
<td>EXAMS</td>
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<tr>
<td>24.0</td>
<td>LAB ASSIGNMENTS</td>
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<td>6.0</td>
<td>LAB FINAL</td>
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<td>5.0</td>
<td>HOMEWORK</td>
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<td>5.0</td>
<td>COMPREHENSIVE FINAL EXAM</td>
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<td>10.0</td>
<td>PROJECT</td>
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TOTAL POINTS: 100 pts

FINAL EXAM
The final exam will be a standardized test compiled. This tool will assess your overall chemistry knowledge of this course.

LAB
All students must score 70% on lab safety exam. If score is less than 70%, student must retake safety exam. No student will be allowed to work in the lab unless 70% mastery is achieved. Labs for Excel graphing will be specially assessed to test your graphing ability.

LAB FINAL EXAM
Questions will be specifically assessed to determine your laboratory knowledge, one of which will be on Excel graphing exercise.

Individual Project
student may choose one of the activities to turned in as a project the end of course.

Grades will be assessed on basis of creativity, originality, neatness and accuracy with an assessment form administered by the Chemistry department.

Homework
Homework is given at the discretion of the instructor, and will be calculated into overall grade.
GRADING SCALE

A  100 TO 88.5
B  <88.5 TO 78.5
C  <78.5 TO 63.9
D  <63.9 TO 55.5
F  <55.5 TO 0

INSTITUTIONAL POLICIES

Repeating This Course:

Effective for Fall Semester 2005, the Dallas County Community Colleges will charge additional tuition to students registering the third or subsequent time for a course. This class may/may not be repeated for the third or subsequent time without paying the additional tuition. Third attempts include courses taken at any of the Dallas County Community Colleges since the Fall 2002 semester. More information is available at: https://www1.dcccd.edu/cat0506/ss/oep/third_attempt.cfm

STOP BEFORE YOU DROP

For students who enrolled in college level courses for the first time in the fall of 2007, Texas Education Code 51.907 limits the number of courses a student may drop. You may drop no more than 6 courses during your entire undergraduate career unless the drop qualifies as an exception. Your campus counseling/advising center will give you more information on the allowable exceptions. Remember that once you have accumulated 6 non-exempt drops, you cannot drop any other courses with a “W”. Therefore, please exercise caution when dropping courses in any Texas public institution of higher learning, including all seven of the Dallas County Community Colleges. For more information, you may access: https://www1.dcccd.edu/coursedrops

Financial Aid:

If you are receiving financial aid grants or loans, you must begin attendance in all classes. Do not drop or stop attending any class without consulting the Financial Aid Office. Changes in your enrollment level and failing grades may require that you repay financial aid funds. For further information, please contact Financial Aid at 214-860-8688, 8834, or 8826.

The Texas Success Initiative (TSI):

The Texas Success Initiative (TSI) is a statewide program designed to ensure that students enrolled in Texas public colleges and universities have the basic academic skills needed to be successful in college-level course work. The TSI requires assessment, remediation (if necessary), and advising of students who attend a public college or university in the state of Texas. The program assesses a student's basic academic skills in reading, writing, and math. Passing the assessment is a prerequisite for enrollment in many college level classes. Students who do not meet assessment standards may complete prerequisite requirements by taking developmental courses in the deficient area and passing them with a grade of C or higher. Additional information is available at https://www1.dcccd.edu/cat0506/admiss/tsi_requirements.cfm

Academic Honesty:

Academic honesty is expected, and integrity is valued in the Dallas County Community Colleges. Scholastic dishonesty is a violation of the Code of Student Conduct. Scholastic dishonesty includes, but is not limited to, cheating on a test, plagiarism, and collusion. As a college student, you are considered a responsible adult. Your enrollment indicates acceptance of the DCCCD Code of Student Conduct published in the DCCCD Online Catalog. More information is available at https://www1.dcccd.edu/cat0406/ss/code.cfm
ADA Statement:

If you are a student with a disability and/or special needs who requires accommodations, please contact the college Disability Services Office. For information regarding the rights and responsibilities of students with disabilities, contact DSO at 972-260-8691 (Voice) or 972-860-3651 (TDD).

Religious Holidays:

Absences for observance of a religious holy day are excused. A student whose absence is excused to observe a religious holy day is allowed to take a make-up examination or complete an assignment within a reasonable time after the absence.

Inclement weather:

In the event of severe weather conditions, please listen to local radio or television stations for information concerning official closing of Mountain View College facilities. You can also call the information line at 214.860.8680, or check for updates on this web site. Decisions for evening classes will be made by 4:00 pm.

http://www.mountainviewcollege.edu/1weather.aspx

Final Course Grade:

Final grades are available only on eConnect and touchtone telephone at 972-613-1818. You will need your student ID number and use your birth date as your password.

http://econnect.dcccd.edu/econnect/st/stmenu.html

Disclaimer Reserving Right to Change Syllabus:

The instructor reserves the right to amend this syllabus as necessary.

Withdrawal Policy (with drop date):

If you are unable to complete this course, it is your responsibility to withdraw formally. The withdrawal request must be received in the Registrar’s Office. Failure to do so will result in your receiving a performance grade, usually an "F." If you drop a class or withdraw from the college before the official drop/withdrawal deadline, you will receive a "W" (Withdraw) in each class dropped.

For a complete listing of MVC and DCCCD policies, refer to http://www.tasb.org/policy/pol/private/057501/. The highlighted policies below provide partial listing off the duties, rights and responsibilities of students enrolled in MVC courses.
I will read the syllabus and ask questions on subjects that need further clarification. I understand that this syllabus is a contractual agreement, and accept this syllabus as a contract subject to change, and, if changes are made, my professor will give me prior notice in the form of oral or written communication in class. I will also refer to this syllabus when I have questions about grades and extracurricular projects. I understand that it is my responsibility to drop this course, after consulting my professor. I will consciously make an effort to turn off my cell phone before every lecture. I also understand that lab safety is my responsibility and will come prepared for lab with proper equipment. I understand that if I am not properly prepared for lab, that I will be asked to leave and receive a zero for that lab. I also understand that any violation of the rules that are written and/or orally communicated for lecture and/or laboratory could result in disciplinary action.

__________________________________________________________
Signature and Date