GENERAL CHEMISTRY II  
CHEM.1412.63203  
SPRING 2017  
03/20/2017 THRU TO 05/11/2017

PROFESSOR: Jesse Fox  
EMAIL: jfox@dcccd.edu  
OFFICE PHONE: 214-860-8653/214-860-3653  
OFFICE NUMBER: H 125  
OFFICE HOURS: TR 3:00 PM-5:00 PM  
MEETING DAYS AND TIME:  
LEC TR 11:00 AM-1:50 PM  
LAB TR 8:00AM-10:50 AM  
ROOM NUMBER:  
LEC H 130  
LAB H 132  
CREDIT HOURS: 4

DIVISION: SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS  
DEAN: STEPHEN JONES, Ph. D.,  
DIVISION OFFICE PHONE: 972-860-5612  
DIVISION OFFICE NUMBER: W 157

COURSE DESCRIPTION: This course is for science and science-related majors. Fundamental concepts of chemistry are presented including measurement and the metric system, the history of chemistry, the mole concept, chemical reactions and stoichiometry, energy and chemical reactions, states and properties of matter, the periodic table, chemical bonding, atomic and molecular structure, gas laws, and concentrations of solutions. (3 Lec., 3 Lab.)

COURSE PRE-REQUISITES: 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.


INQUIRIES IN CHEMISTRY, 3RD EDITION, ABRAHAM, ISBN
REQUIRED MATERIALS:          GOGGLES, COMPOSITION BOOK FOR NOTES AND LATEX GLOVES

STATE REQUIREMENTS:

COURSE OBJECTIVES
The objective of the study of a life and physical sciences component of the core curriculum is the focus on describing, explaining, and predicting natural phenomena using scientific method. Courses involve the understanding of interactions among natural phenomena and the implications of scientific principles on the physical world and on human experiences.

Required Core Objectives for Chemistry are as follows:

● Critical Thinking
● Communication
● Empirical and Quantitative Skills
● Teamwork

For 2014-2015, Chemistry will evaluate and assess the following Core Objectives:

● Communication (Oral and Written)

The following science courses include the above core objectives: Biology 1406, 1407, 1408, 1409, 1411, 2401, 2402, 2406, 2416, 2420, 2421; Chemistry 1405, 1406, 1407, 1411, 1412, 2423, 2425 Geology 1401, 1402, 1403, 1404, 1405, 1445, 1447; Physics 1401, 1402, 1403, 1404, 1405, 1415, 1417, 2425, and 2426.

STUDENT LEARNING OUTCOME

STUDENT LEARNING OUTCOMES FOR DISCIPLINE OF CHEMISTRY

Students in lecture will be able to:

1. State the characteristics of liquids and solids, including phase diagrams and spectrometry.
2. Articulate the importance of intermolecular interactions and predict trends in physical properties.
3. Identify the characteristics of acids, bases, and salts, and solve problems based on their quantitative relationships.
4. Identify and balance oxidation-reduction equations, and solve redox titration problems.
5. Determine the rate of a reaction and its dependence on concentration, time, and temperature.
6. Apply the principles of equilibrium to aqueous systems using LeChatelier’s Principle to predict the effects of concentration, pressure, and temperature changes on equilibrium mixtures.
7. Analyze and perform calculations with the thermodynamic functions, enthalpy, entropy, and free energy.
8. Discuss the construction and operation of galvanic and electrolytic electrochemical cells, and determine standard and non-standard cell potentials.
10. Describe basic principles of organic chemistry and descriptive inorganic chemistry.
11. Demonstrate their ability to represent chemistry artistically, either through presentation, poster or art form.

Students in lab will be able to:

1. Use basic apparatus and apply experimental methodologies used in the chemistry laboratory.
2. Demonstrate safe and proper handling of laboratory equipment and chemicals.
3. Conduct basic laboratory experiments with proper laboratory techniques.
4. Make careful and accurate experimental observations.
5. Relate physical observations and measurements to theoretical principles.
6. Interpret laboratory results and experimental data, and reach logical conclusions.
7. Record experimental work completely and accurately in laboratory notebooks and communicate experimental results clearly in written reports.
8. Design fundamental experiments involving principles of chemistry and chemical instrumentation.
9. Identify appropriate sources of information for conducting laboratory experiments involving 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

Instructor Attendance Policy:
Students are expected to attend all classes. Students have the responsibility to attend class and to consult with the instructor when an absence occurs. If for some reason you must leave class early, you should inform the instructor prior to the start of class of your reason for leaving early.

Students must begin attendance in all classes of enrollment. No exceptions. Financial Aid will not be granted to students who have been certified as not attending, by the certification date. For this lecture course, your physical participation in class, on or before the certification date will allow you to receive credit for FA purposes. For certification dates, check with the division or FAO for further information. Students, who are not certified as beginning class, are responsible for any payments due as a result of non-certification, to include the dropping of courses.

CHEMISTRY 1412 COURSE CONTENT

Chapter 7
KINETICS
Chapter 8
CHEMICAL EQUILIBRIUM
Chapter 9
ACID-BASE EQUILIBRIA
Chapter 10
ELECTROCHEMISTRY
Chapter 11
CHEMISTRY OF COORDINATION CHEMISTRY
Chapter 12
ORGANIC CHEMISTRY

HOMEWORK AND EXAM DATES WILL BE GIVEN IN CLASS. THERE WILL BE NO MAKE UP WORK WITHOUT SUFFICIENT PROOF OF ABSENCE.

Note: Starting Fall 2006, the final Exams for this course as well as other chemistry courses will be standardized exam from the American Chemical Society

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>Component</th>
</tr>
</thead>
<tbody>
<tr>
<td>50.0</td>
<td>EXAMS**</td>
</tr>
<tr>
<td>24.0</td>
<td>LAB REPORTS</td>
</tr>
<tr>
<td>1.0</td>
<td>SAFETY QUIZ</td>
</tr>
<tr>
<td>5.0</td>
<td>LAB FINAL</td>
</tr>
<tr>
<td>5.0</td>
<td>DISCUSSIONS</td>
</tr>
<tr>
<td>5.0</td>
<td>COMPREHENSIVE FINAL EXAM</td>
</tr>
<tr>
<td>10.0</td>
<td>PROJECTS</td>
</tr>
<tr>
<td>1.00</td>
<td>HOMEWORK* (EXTRA CREDIT)</td>
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</tbody>
</table>

**FINAL EXAM**
The final exam will be a standardized test compiled by the American Chemical Society. This tool will assess your overall chemistry knowledge of this course. A mastery of 60% or above is acceptable and the paradigm.

**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. A mastery of 60% or above is acceptable and the paradigm.

**LAB FINAL EXAM**
Questions will be specifically assessed to determine your laboratory knowledge, one of which will be on Excel graphing exercise. A mastery of 60% or above is acceptable and the paradigm.

**Individual and Group Project**
Every student is assigned a project to be turned in or conveyed before the end of course. Students will also be assigned to cooperative learning groups and special project assigned to be turned in as a group project.

Grades will be assessed on basis of creativity, originality, neatness and accuracy with an assessment form administered by the Chemistry department. A mastery of 60% or above is acceptable and the paradigm.

**Quizzes**
Quizzes are given at the discretion of the instructor, and could be calculated into overall grade.

**GRADING SCALE**

<table>
<thead>
<tr>
<th>Grade</th>
<th>Score Range</th>
</tr>
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<tbody>
<tr>
<td>A</td>
<td>100 TO 89.5</td>
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<tr>
<td>B</td>
<td>&lt;89.5 TO 79.5</td>
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<tr>
<td>C</td>
<td>&lt;79.5 TO 64.9</td>
</tr>
<tr>
<td>D</td>
<td>&lt;64.9 TO 59.5</td>
</tr>
<tr>
<td>F</td>
<td>&lt;59.5 TO 0</td>
</tr>
</tbody>
</table>

**COLLEGE SPONSORED EVENT:** TBA
**ELECTRONIC DEVICES:** CELL PHONES MUST BE SILENCED DURING LECTURE CLASS.

The withdraw date for this class is **APRIL 29, 2017**
**Census date is MARCH 25, 2017.**
Academic Dishonesty:
Students that caught plagiarizing an assignment will be subject to an “F” in the course and possible expulsion from the college.

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 Catalog. More information is available at https://www1.dcccd.edu/catalog/ss/code.cfm.

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. MAYisions 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 by APRIL 29, 2017. 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.

**COURSE SCHEDULE**
This is a tentative lecture schedule of events and is subject to change.
Please refer to ecampus.dcccd.edu for all course information.

**Course Outline (Calendar):**

<table>
<thead>
<tr>
<th>DATE</th>
<th>INTRODUCTION</th>
<th>DISCUSSION OF SYLLABUS</th>
<th>GROUP ASSIGNMENT</th>
<th>LAB: SAFETY ORIENTATION (IF NEEDED) &amp; SAFETY QUIZ &amp; CHECK IN (SAFETY QUIZ ONLINE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>T MAR 21</td>
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<tr>
<td>R MAR 23</td>
<td>Chapter 7</td>
<td>KINETICS</td>
<td></td>
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</tr>
<tr>
<td>T MAR 28</td>
<td>Chapter 7</td>
<td>KINETICS (CONT.)</td>
<td>Chapter 8</td>
<td>CHEMICAL EQUILIBRIUM</td>
</tr>
<tr>
<td>R MAR 30</td>
<td>Chapter 8</td>
<td>CHEMICAL EQUILIBRIUM (CONT.)</td>
<td>REVIEW FOR EXAM I</td>
<td></td>
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<tr>
<td>T APR 4</td>
<td>EXAM I (CHAPTER 7 &amp; 8)</td>
<td>LAB: INQUIRY K</td>
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<tr>
<td>R APR 6</td>
<td>Chapter 9</td>
<td>ACID-BASE EQUILIBRIA</td>
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<tr>
<td>T APR 11</td>
<td>Chapter 9</td>
<td>ACID-BASE EQUILIBRIA (CONT.)</td>
<td>Chapter 10</td>
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<td>Date</td>
<td>Module</td>
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<td>R APR 13</td>
<td>Chapter 10 ELECTROCHEMISTRY REVIEW FOR EXAM II</td>
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<td>T APR 18</td>
<td>EXAM II LAB: INQUIRY J</td>
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<tr>
<td>R APR 20</td>
<td>Chapter 11 CHEMISTRY OF COORDINATION CHEMISTRY</td>
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<tr>
<td>T APR 25</td>
<td>Chapter 11 CHEMISTRY OF COORDINATION CHEMISTRY</td>
<td>Chapter 12 ORGANIC CHEMISTRY</td>
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<tr>
<td>R APR 27</td>
<td>EXAM III (TAKE HOME DUE) (LAST DAY TO DROP)</td>
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<tr>
<td>T MAY 2</td>
<td>PROJECT PRESENTATIONS LAB: COORDINATION CHEMISTRY LAB</td>
<td></td>
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<tr>
<td>R MAY 4</td>
<td>PROJECT PRESENTATIONS (IF NEEDED) LAB: PREPARATION OF HAND LOTION</td>
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<tr>
<td>T MAY 9</td>
<td>FINAL EXAM REVIEW LAB: LAB FINAL EXAM (ONLINE)</td>
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<tr>
<td>R MAY 11</td>
<td>FINAL EXAM</td>
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For a complete listing of MVC and DCCCD policies, refer to [http://www.tasb.org/policy/pol/private/057501/](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.