

CLARENDON COLLEGE
Division of Science and Health
Chemistry Department
Spring 2012

Course Name: CHEM 1112 General Chemistry I Laboratory

Credit Hours: 1

Semester: Spring 2012

Classroom Location: Shamrock High School Science Lab

Instructor: Russell Killingsworth, DVM

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Office Hours: 7:45 – 8:20 am Monday – Friday, after 3:45 by appointment

Course Description:

Provide the student with practical laboratory experiences while reinforcing concepts presented in 1312.

Corequisite: Concurrent enrollment in CHEM 1312.

Statement of Purpose

The course is intended to prepare the student for future studies in chemistry and other related scientific areas. This course meets the core requirements of a laboratory science for the Associate in Arts or Associate in Science degree.

Required Instructional Materials:

Supplies: A lab manual and a notebook are required for the laboratory and are available at the bookstore. The lab manual is designed to allow each student to preview labs before performing the required experiments. The student will also need a lab apron and safety goggles which are to be worn during each and every lab. These items are also available at the bookstore. A scientific calculator is required for **each** student. Sharing of calculators during exams is prohibited. This calculator is to be brought to each lab session.

Notebook: A laboratory notebook is required which contains a formal write-up for each of eight laboratory exercises. The notebook will be turned in and graded for the write-up from the previous week at start of each week's laboratory exercise. Any late notebooks will have a 10 point deduction each week the write-up is late.

A title page giving the student's name, the class and section, and the semester of the lab will be placed on the first lined page of the notebook. A table of contents will be placed on the next page. For each laboratory write-up, the right-hand side of each set of pages will contain the information found on page 3 of this handout. The left-hand side

of each set of pages will be reserved for graphs, data tables, and calculations. Each page of the lab notebook should be numbered at the bottom center.

Laboratory

Equipment: Students will be supplied with all chemicals and equipment necessary for the fulfillment of all exercises during the course of the semester. Students will be assigned lockers complete with glassware. Each student will check into the laboratory at the start of the semester and check out at the end of the semester. Any broken or missing glassware will be the financial responsibility of the student.

Methods of Instruction

Lecture and demonstration

Course Objectives

Exemplary Objectives: The learner shall:

- * understand and apply method and appropriate technology to the study of natural sciences.
- * 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.
- * identify and recognize the differences among competing scientific theories.
- * demonstrate knowledge of the major issues and problems facing modern science, including issues that touch upon ethics, values, and public policies.
- * demonstrate knowledge of the interdependence of science and technology and their influence on, and contribution to, modern culture.

Student Learning Outcomes: The learner shall:

- * formulate processes for the calculation of chemically related mathematical problems.
- * Relate knowledge of chemical vocabulary covered during the course.
- * distinguish arrangement of the components of the atom.
- * construct electron arrangements of various elements.
- * predict the coefficients necessary to balance and predict the product(s) of a chemical equation.
- * formulate stoichiometric calculations involving molar relationships of substances.

Grading Policies:

Comment: List a breakdown of how your course will be graded. All academic courses are required to have a final exam or its equivalent. Faculty should generally follow the grading scale as stated in the college catalog.

The final semester grades will be figured as set in the current catalog:

90 to 100 = A 80 to 89 = B 70 to 79 = C 60 to 69 = D Below 59 = F

One mid-term exam, and one final exam will be required with each comprising 25% of the final lab grade. Late tests **will not** be allowed. Assigned homework problems will count for 25% of the grade. The final 25% of the grade will consist of the average of the eight write-ups. Each lab write-up grade is based 50% on the performance of the lab experiment and 50% on the write-up in the notebook.

Classroom Policies:

Classroom Conduct

Failure to comply with lawful direction of a classroom instructor is a disruption for all students enrolled in the class. Cheating violations include, but are not limited to: (1) obtaining an examination, classroom activity, or laboratory exercise by stealing or collusion; (2) discovering the content of an examination,

classroom activity, laboratory exercise, or homework assignment before it is given; (3) using an unauthorized source of information during an examination, classroom activity, laboratory exercise, or homework assignment; (4) entering an office or building to obtain unfair advantage; (5) taking an examination for another person; (6) completing a classroom activity, laboratory exercise, homework assignment, or research paper for another person; (7) altering grade records; (8) using any unauthorized form of electronic communication device during an examination, classroom activity, or laboratory exercise; (9) Plagiarism. Plagiarism is the using, stating, offering, or reporting as one's own, an idea, expression, or production of another person without proper credit.

Disciplinary actions for cheating in a course are at the discretion of the individual instructor. The instructor of that course will file a report with the Dean of Students when a student is caught cheating in the course, whether it be a workforce or academic course. The report shall include the course, instructor, student's name, and the type of cheating involved.

Students who are reported as cheating to the Dean of Students more than once shall be disciplined by the Dean. The Dean will notify all involved parties within fourteen days of any action taken.

American with Disabilities Act Statement:

Clarendon College provides reasonable accommodations for persons with temporary or permanent disabilities. Should you require special accommodations, notify the Office of Student Services (806-874-3571 or 800-687-9737). We will work with you to make whatever accommodations we need to make.

Dropping a Course:

If you decide that you are unable to complete this course or that it will be impossible to complete the course with a passing grade, you may drop the course and receive a "W" on your transcript instead. Withdrawal from a course is a formal procedure that you must initiate. If you do not go through the formal withdrawal procedure, you will receive a grade of "F" on your transcript.

A student is permitted to drop a course if he/she obtains an official drop slip from the office and has the instructor sign the slip before the 12th class week.

Remember, a student is only allowed to drop the same class twice before he/she will be charged triple the tuition amount for taking the class a third time or more. Furthermore, beginning with the Fall 2007 semester, students in Texas may only drop a total of 6 courses throughout their entire undergraduate career. After the 6, he/she will no longer be able to withdraw from any classes.

Withdrawal from College:

When a student finds it necessary to withdraw from school before the end of the semester, he or she should obtain a withdrawal form from the Office of Student Services. Students may also withdraw from the college by sending a written request for such action to the Registrar's Office. The request must include the student's signature, the student's current address, social security number and course information details. Students who withdraw after the census date for the semester and on or before the end of the 12th week of a long semester, or on or before the last day to drop a class of a term as designated in the college calendar will be assigned a grade of "W."

Tentative Course Schedule/Outline:

- (a) Laboratory check-in and safety
- (b) Boyle's and Charles' Law
- (c) Comparing the Masses of Equal Volumes of Gases
- (d) Molar Volume of a Gas
- (e) Solubility and Rate of Solution
- (f) Mid-term quiz
- (g) Reacting Ionic Species in Aqueous Solution
- (h) Hydronium Ion Concentration, pH

- (i) Titration of an Acid and a Base
- (j) Percentage of Acetic Acid in Vinegar
- (k) Check-out of the laboratory
- (l) Final Quiz