IONA

Department of Chemistry, Fall 2006

GENERAL CHEMISTRY (CHM 109)

Instructor: Sunghee Lee, Ph.D
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Class Meeting Times: M, W, F 10:00 AM
Class Location: Cornelia 110
Office Hours: M, W, F 9:00 AM
Or any other time by mutual agreement
Credit: 5 Credits

COURSE DESCRIPTION:

The fundamental principles of chemistry in the lecture and laboratory: the mole concept, stoichiometry, solutions, gas laws, thermodynamics, periodic law, electronic structure of the atom, molecular structure, chemical bonding, molecular forces, colligative properties, kinetics, acid and base theories. Equilibria involving acid, bases and salts, electrochemistry, nuclear and coordination chemistry and chemical principles applied to the study of the descriptive chemistry of elements. The laboratory work involves experimental application and practice of principles learned in class. Three lectures, one recitation hour and three hours of laboratory a week for two semesters. Special fee required. 5 Credits each semester.

CHM 109 – Scheduled every Fall semester
CHM 110 – Scheduled every Spring semester

COURSE OBJECTIVES:

The object of this course is to convey to students in any of the major fields of science, a sound and clear concept of the fundamentals of chemistry at the introductory level. For the non-chemistry major, this objective is attained in such a manner as to fully equip the student with the basic knowledge of chemistry in so far as it forms the necessary background for other fields of science. At the same time the student of chemistry would be fully prepared to take up more advanced topics in this field. Because of the general approach to the subject matter which must be maintained, stress will be laid on fundamental laws and theories with emphasis on those phases of the subject matter which involve deductive reasoning and application.

In conjunction with class instruction, the laboratory course work is designed to acquaint the beginning science student with the techniques and discipline that are necessary for the performance of scientific work.

PROCEDURES:

A. Class meetings: Regular lectures are held as scheduled, three hours per week. The student will be assigned readings and problems concerning the lecture material; as the subject matter is presented, the student will be encouraged to ask questions so that a more thorough appreciation of this material may be achieved. Problem sessions are given periodically upon completion of general topics in the lecture as needed.

Three one hour exams	35% of Final Grade
Two hour final	35% of Final Grade
Lecture constitutes	70% of Final grade

B. Recitation: One hour per week. An examination of the lecture material from the perspective of a problems approach. Chapter problems will be assigned to the students who will be required to present solutions. Periodic quizzes will be administered to assure and monitor student progress. The modality of learning will include and emphasize cooperative participation of students working together in groups on solutions of assigned problems; that is there will be a significant focus on peer learning under faculty supervision and guidance.

Periodic Quizzes	5% of Final Grade

C. Laboratory: Regular meetings are held as scheduled for three consecutive hours per week. The student will perform the assigned laboratory experiments in an acceptable fashion under the supervision of the instructor. In general, a brief laboratory lecture describing the theory and technique of the particular laboratory problem will precede the experiment. Finally, the student will be required to have become familiarized with the experiment, through home assignments, prior to the start of the laboratory work.

Laboratory work	25% of Final Grade

POLICY ON ATTENDANCE:

Attendance at assigned lecture, recitation and laboratory sessions are mandatory. Unexcused absences will negatively impact grade for that session. In general missed meetings cannot be made up.

REQUIRED TEXT:

Chemistry: Raymond Chang, 9th Edition, McGraw Hill, Inc. 2006
Laboratory Manual: Modular Laboratory Experiments for General Chemistry;
Published by Thomson Learning (Chemical Education Resources)

GRADING CRITERIA:

Recitation quizzes	**5%**
Three 1 Hour Exams average	**35%**
One 2 Hour Final Exam	**35%**
Laboratory work	**25%**
Total =	**100%**

POLICY ON PLAGIARISM AND ACADEMIC DISHONESTY:

Evidence of academic dishonesty in any quiz/exam or laboratory reports will result in a score of zero on the paper in question with no opportunity for a make-up and may result in other disciplinary action. A score of zero earned in this manner will not be replaced or omitted from the student's course average, regardless of any other provisions in the grading policy.