Orange County Community College
Department of Science and Engineering
34110 General and Biological Chemistry
Fall 2006

Fundamental concepts of inorganic, organic, and biological chemistry essential for a thorough understanding of principles and techniques in clinical dental hygiene and nutritional counseling.

Instructor: Dr. Timothy MacMahon
Office: HO-6A
Phone: 341-4575
Office hours: Office hours are posted on my door. In addition, I am around Monday through Friday on campus and will be happy to see any student outside of these office hours.

TEXT: General, Organic, and Biochemistry, eighth Edition
By: Hein, Best, Pattison, Arena
ISBN Number: 0-471-45196-7

Materials: Scientific calculator, Notebook, Willingness to learn

Relationship to Programs:
Chemistry 34110 is a chemistry course which is designed to give an introductory examination of inorganic, organic and biological chemistry for people interested in health related careers.

Course Objectives:
The student who successfully completes this course will:
-Solve Stoichiometric calculations.
-Solve pH, pOH and buffer problems
-Name simple inorganic and organic molecules.
-Develop thinking skills that will help in the rest of your college life and life in general.
-Be aware of and confident about your skills as a student and as an effective thinker.

Attendance/Withdrawal Policy:
Attendance is mandatory. Without proper attendance a student will not do well in this course. To be successful in chemistry one must pay attention in lecture and conscientiously do the homework. It is the student's responsibility to ensure that she/he is doing well in the course. Note, Friday November 3rd is the last day to drop a course. If you are in need of special accommodations owing to a disability, please see the instructor.

Quizzes will be given during the first 10 minutes of class and cannot be made up unless special arrangements have been made with the instructor prior to the exam being given in class. Quizzes may be taken early. The lowest quiz grade achieved during the semester will be dropped from the total before the average is computed. Quizzes will be based almost exclusively on homework. Tests will also be based on the homework with the possibility of some multiple-choice questions.

Lecture Schedule

Date	Topic	Chapter/section
8/28/05 Week # 1	Introduction, dimensional analysis unit conversion, Significant Figures	2.2-2.10
9/6 (Wed, Fri) Week # 2	**No Class on Labor Day, Monday** Temperature, Density	2.11-2.12
9/11 Week # 3	Atoms and elements, Protons, Neutrons, Electrons, Isotopes and atomic masses	5.6-5.11
9/18 Week # 4	Shape and parts of the Periodic Table, Electronic structure and X-Rays, Energy of X-Rays vs. chemical bonds	3.6-3.10, 10.2, 10.6
9/25 Week # 5	Nuclear Physics/ Nuclear Chemistry, Radioactivity, α,β,γ, and Half Life	18.1-18.7, 18.14
10/2 Week # 6	Reactions and Stoichiometry, Balancing Reactions, The Mole	8.1-8.3, 8.5-8.6 9.2-9.5
10/10(Tues, Wed, Fri) Week # 7	**No Class Monday but on Tuesday** **Test 1** Acids, Bases and Buffers, pH, pOH, Calculations	15.1-15.10, 15.12
10/16 Week # 8	Introduction to Organic Chemistry and its Nomenclature	19.2-19.9, 20.1-20.4, 20.7, 20.9-20.10
10/23 Week # 9	Heteroatoms, Alcohols, Phenols, Ethers	22.1-22.3, 22.7, 22.10, 22.13, 23.1-23.2,
10/30 Week # 10	Carbohydrates, Sugars	27.1-27.12
11/6 Week # 11	Lipids **Test 2**	28.1-28.6
11/13 Week # 12	Amino Acids and Protiens	29.1-29.9
11/20 Week # 13 Class only meets on Monday	No Class Wed, Thurs, Fri- Thanksgiving Vacation Dental Materials, Toothpaste: composition and chemistry	Handout
11/27 Week # 14	Alginate, Impression materials **Test 3**	Handout
12/4 Week #15	Mercury amalgams and filling material, Ceramic materials, Glass materials	Handout
12/11-12/15 **Final Exams**	**Final Exams**	**Final Exams**

GRADING:	Test 1,2,3	12.5% EACH
	Quizzes	50 %
	Cumulative Final Exam	12.5%