

University of Detroit Mercy -- Department of Chemistry and Biochemistry
General Chemistry, CHM107

Instructor: Dr. Benvenuto, C220a, 313-993-1184, benvenma@udmercy.edu

Text: Chemistry, Matter and Its Changes, 3rd Edition, Brady / Russell / Holum

Objectives: The course is designed to give students an overview of the field of chemistry, and make students capable problem solvers.

Grading: There will be a mid-term exam (150 points), a final exam (250 points), and the possibility of a daily quiz. Daily quizzes will usually be 4 questions long (40 points). Whether a daily quiz is given will be determined at random at the beginning of each class, by the roll of a set of dice. For each quiz, test, or final exam, a single 3x5 note card with any information the student deems pertinent is allowed. Other than that, quizzes, tests, and exams are closed book and closed notes.

Cheating: Students are expected to conform to the UDM academic standard. Cheating results in a 0 for an assignment. A repeat offense constitutes an F for the course.

Office Hours: Monday and Wednesday noon - 2pm, or by appointment.

Tentative Lecture Schedule:

8 January 2002	Introduction, 1.1 - 1.2
10 January 2002	1.3 - 1.6 – Matter & Energy, Measurement, Accuracy & Precision
15 January 2002	1.6 - 2.1 – elements, compounds, and mixtures
17 January 2002	2.2 - 2.3 – Atomic theory
22 January 2002	2.4 - 3.1 – formation of compounds, reactions of elements
24 January 2002	3.2 - 3.4 – Mole Concept, Percent composition, empirical formulae
29 January 2002	3.5 - 3.8 – balancing equations, limiting reactants
31 January 2002	3.8 - 3.14 - stoichiometry
5 February 2002	3.14 - 4.2 – electrolytes and non-electrolytes
7 February 2002	4.2 - 4.3 – formation of precipitates
12 February 2002	4.3 – acids and bases
14 February 2002	4.3 – acids and bases
19 February 2002	5.1 - 5.2 – oxidation and reduction
21 February 2002	Mid-Term Examination
26 February 2002	5.2 - 5.5 – redox, metathesis
28 February 2002	5.6 - 5.10 – stoichiometry of redox reactions
5 March 2002	Spring Break
7 March 2002	Spring Break
12 March 2002	6.1 - 6.2 – kinetics, kinetic theory
14 March 2002	6.3 - 6.8 – changes of energy in chemical reactions
19 March 2002	6.8 - 6.9 – standard heats of formation, Hess's Law
21 March 2002	7.1 - 7.3 – electromagnetic radiation
26 March 2002	out of class assignment
28 March 2002	7.4 - 7.5 – quantum numbers, Pauli exclusion principle
2 April 2002	7.5 - 7.7 – electron configurations, orbital shapes
4 April 2002	8.1 - 8.3 – electron transfer, formation of ionic compounds
9 April 2002	any needed make-up
11 April 2002	8.3 - 8.4 – formation of covalent compounds, electronegativity
16 April 2002	8.4 - 8.6 – formal charge, Lewis structures
18 April 2002	8.6 – Lewis structures
23 April 2002	11:00 am - 12:50 pm Final Exam

Study Tips: Study the material we have covered, and will be covering for a specific day, prior to each class. There is a lot of information in this course, and it needs daily study. Work end-of-chapter problems (where do you think Dr. B gets ideas for quizzes and tests?). Quizzes can be not only on material that was recently covered, but on material that may be in the class period the day of the quiz.