

## Weekly Lecture Schedule

CHEM 14A  
FALL 2005

Instructor: Dr. Laurence Lavelle

WEEK 1

### Review of Chemical & Physical Principles

Read: Fundamentals E, F, G, H, L1-2, M

Read: Appendix 1B, 1C, 1D

Do Problems: E 11, 13, 15, 19; F 1, 5, 7, 9, 11; G 5, 7, 11, 15, 17; H 3, 7, 11, 13;  
L 3, 5, 7; M 3, 7, 9, 11

After going through the readings & problems and attending the lectures & discussion groups, you should be able to:

- Convert units (e.g., Kelvin, Celsius and Fahrenheit).
- Define accuracy and precision.
- Use the correct number of significant figures.
- Use various means of representing molecules and write formulas from molecular structures.
- Write symbols for the elements, given their names, and vice versa.
- Define a mole.
- Convert between mass and moles.
- Calculate the empirical formula of a compound from its mass percentage composition.
- Determine the molecular formula of a compound from its empirical formula and its molar mass.
- Calculate the molarity of a solute in solution, volume of solution, and mass of solute, given the other two quantities.
- Balance chemical equations.
- Understand and apply the concept of limiting reactant.