SAULT COLLEGE
of Applied Arts and Technology
Sault Ste. Marie

COURSE OUTLINE

CHEMISTRY

CHM 300

revised June, 1979 by J. Korrey

CHEMISTRY

CHM 300

A one semester course for third year Forestry Technology.

1. The Language of Chemistry

The student will understand the terms used in the study of the science - Fact, Law, Theory, Hypothesis, Physical & Chemical Change, Symbol, Atom, Molecule, Mole, Isotope, Atomic Weight, Formula, Fundament Particles, Atomic Structure, Atomic Numbers.

2. The Mole Concept

The student will calculate a) Molecular Weight of Compounds
b) Equivalent Weight of Acids, Bases, Salts, Elements and Oxidizing or Reducing Agents
c) The number of Moles in a given mass of material

3. % Composition Problems

The student will determine the % of an element in a compound.
eg: Calculate the % Fe in 2 kg. of hematite which contains 60% Fe_2O_3

4. Chemical Formulas & Nomenclature of Inorganic Compounds

The student will write the chemical formula and/or name the compound of

a) binary compounds
b) ternary compounds containing oxygen
c) common acids

5. Chemical Equations

The student will balance by inspection the 5 types of reactions.

6. Wt/Wt Problems

Given a chemical statement, the student will write and balance the equation and make calculations as to amount of product produced or reagent consumed.

7. Excess-Deficient Problems

Given a chemical reaction, the student will determine the reagent in excess and the reagent deficient and make corresponding calculations of products formed.

8. Solution Problems

5 types - a) Preparation of a Molar Solution
b) Working from specifications - $M = \frac{\% \text{ purity} \times \text{Sp. Gr.} \times 1000}{\text{GMW}}$
c) Dilution problems $C_1V_1 = C_2V_2$
d) Preparation of a Normal Solution and relationship between M & N
e) Mixing Solutions of different concentrations and calculate resulting concentration.

9. Chemistry in the Forest

The student will complete a technical report and seminar in one of the following areas:

a) fertilizers
b) insecticide
c) herbicide
d) fungicide
e) etc.