

CHEM 120
COURSE OUTLINE 2015-16

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TEXT: *General Chemistry: Principles and Modern Applications*, 10th Edition,
by Petrucci, Herring, Madura, & Bissonnette, Pearson Canada, 2011.

COURSE DESCRIPTION: This is an introductory course covering the fundamental principles of chemistry and is intended for those students desiring a rigorous introductory course. Emphasis is placed on the application of chemical principles to areas of interest to students in chemistry, the physical sciences, engineering, and mathematics. Although some background in science is assumed, no specific knowledge of topics in chemistry is pre-supposed; the course is a self-contained presentation of the fundamentals. The aim of the course is to convey the importance and dynamic nature of chemistry in the modern world.

COURSE WEB SITE: <http://people.stfx.ca/dklapste/chem120/Home.htm>

DAILY COURSE INFORMATION: moodle.stfx.ca

LABORATORY & TUTORIAL: WEDNESDAY, 2:15 – 5:15 PM, or THURSDAY, 2:15 – 5:15 PM

LAB MANUALS ON SALE FIRST WEEK OF CLASSES

SAFETY GOGGLES & LAB COATS REQUIRED

**LABORATORY AND EXAM COMPONENTS OF THE COURSE
MUST BE PASSED SEPARATELY**

FIRST TERM

Chapter 1: Matter – Its Properties and Measurement.....	1 Lecture
Chapter 2: Atoms and the Atomic Theory.....	2 Lectures
Chapter 3: Chemical Compounds.....	2 Lectures
Chapter 4: Chemical Reactions.....	2 Lectures
Chapter 5: Introduction to Reactions in Aqueous Solutions.....	3 Lectures
Chapter 6: Gases.....	3 Lectures
Chapter 7: Thermochemistry.....	3 Lectures
Chapter 8: Electrons in Atoms.....	3 Lectures
Chapter 9: The Periodic Table and Some Atomic Properties.....	2 Lectures
Chapter 10: Chemical Bonding I: Basic Concepts.....	3 Lectures
Chapter 11: Chemical Bonding II: Additional Aspects.....	3 Lectures
Chapter 12: Liquids, Solids, and Intermolecular Forces.....	4 Lectures

FIRST TERM MARK CALCULATION:

OCTOBER QUIZ	 15%	FRIDAY, OCTOBER 16 th , 2015
NOVEMBER QUIZ	 15%	FRIDAY, NOVEMBER 20 th , 2015
DECEMBER EXAM	 40%	
ASSIGNMENTS	 10%	
LABORATORY	 15%	
TUTORIAL QUIZZES	 5%	

SECOND TERM

Chapter 26: Structures of Organic Compounds & 27.8 Polymers & 28.4 Proteins	4 Lectures
Chapter 13: Solutions and Their Physical Properties.....	3 Lectures
Chapter 14: Chemical Kinetics.....	3 Lectures
Chapter 15: Principles of Chemical Equilibrium.....	4 Lectures
Chapter 16: Acids and Bases.....	3 Lectures
Chapter 17: Additional Aspects of Acid-Base Equilibria.....	3 Lectures
Chapter 18: Solubility (Sections 1 to 5 only).....	2 Lectures
Chapter 19: Spontaneous Change: Entropy and Gibbs Energy.....	3 Lectures
Chapter 20: Electrochemistry.....	5 Lectures
Chapter 25: Nuclear Chemistry.....	2 Lectures

SECOND TERM MARK CALCULATION:

FEBRUARY QUIZ		15%	FRIDAY, FEBRUARY 5 th , 2016
MARCH QUIZ		15%	FRIDAY, MARCH 11 th , 2016
APRIL EXAM		40%	
ASSIGNMENTS		10%	
LABORATORY		15%	
TUTORIAL QUIZZES		5%	

FINAL COURSE MARK CALCULATION:

FIRST TERM		40%
SECOND TERM		60%

N.B.: EXAM AND LABORATORY COMPONENTS MUST BE PASSED SEPARATELY.