



Course Information Sheet

Chemistry 101 – General Chemistry 1

Note: *This course is designed to be equivalent to General Chemistry 1 courses at other tertiary institutions in Alberta. (The course content matches closest to that of Chemistry 201 at the University of Calgary and Chemistry 2201 at Mount Royal College.)*

Since it is the first time that Chemistry 101 has been presented at Ambrose University College, it is still very much a course under development. This means that although the course content and concepts are relatively fixed, the time allocation to different topics and the actual composition of wet and dry labs in particular will be under review as the course proceeds.

Course Description

Chemistry 101 is an introductory, credit chemistry course that can be part of a Bachelor of Science or related degree program. It builds on the basics of chemistry studied in High School courses with a study of atomic structure, quantum theory, the Periodic Table, chemical bonding and reaction kinetics.

Prerequisites:

All students are expected to have Alberta Education Chemistry 30 (or an equivalent course) with a passing grade of 70% or higher. A pass in Pure Math 30 or similar proficiency in Math is required to deal with the mathematical aspects of the course.

Lectures: MF 2.30 – 3.45 pm

Room: TBA

Wet Labs: M 4.30 – 6.45 pm

Venue: Rundle College Chemistry Lab

Dry labs: M 4.00 – 6.15 pm

Room: TBA

Note: *The starting time at Rundle College will be dependent on the time taken to transport students from town and also on when the Rundle College students have vacated their premises.*

Instructor: Mr. Rod Montague

Office: TBA

Office hours: By appointment

Contact: Phone:

E-mail: rmontague@ambrose.edu

(Since only part of my work is at Ambrose University College, e-mail is the better option for contacting me)

Required text: Chang, *Chemistry* (9th edition with solutions guide)

Other requirements:

A full-length lab coat and safety goggles are required for all wet labs. A scientific calculator is also required for all lab and classroom sessions as well as for quizzes, midterms and the final exam.

Course Objectives

Students taking this course should appreciate that:

- Chemistry is an experimental science and that all theories put forward are open to revision or rejection on the basis of experimental evidence.
- Chemistry involves problem solving so analytical thinking skills are a key element for students to develop and demonstrate.
- Scientific literacy – being able to interpret and analyze scientific information and data for relevance and reliability – needs to be developed, especially given the information-laden age in which we live.
- Computer literacy is essential for sourcing information and for working on ‘dry’ lab simulations
- Communication skills are necessary for taking part in class discussions, for making presentations to peers and in writing formal lab reports. Much of the course assessment will be dependent on how successfully students can communicate ideas in either the written or spoken form.

Provisional Mark Allocation

Item	Content	Date	Allocation
Review test	Ch 1-4	Monday 24 th September	5%
Midterm exam 1	Ch 7,8	Monday 29 th October	15%
Midterm exam 2	Ch 9,10	Monday 26 th November	15%
Final exam	Whole course	Date TBA	30%
Assignments			10%
Lab work			25%

The review test is designed to show that students have sufficient prerequisite knowledge and skill in chemistry for this course. There will only be a limited overview and review of the material in Chapters 1-4 of the text book and students are expected to check the content of these chapters to ensure that they are familiar with it and able to complete problems set in the text book on the material.

Students will be informed of due dates for all course assignments. Work that is submitted after the due date will be subject to a late submission penalty of up to 10% per working day, unless there are mitigating circumstances (illness, family bereavement etc.) Students involved in sports programs should not use practices, games or tournaments as an excuse for late submission of work. Late assignments will not be accepted once the work has been marked and returned to the class – late assignments produced after this time will receive a zero mark, even if they are reviewed by the instructor.

Grading Scheme

A	90-100%	C	63-65%
A-	85-89%	C-	60-62%
B+	80-84%	D+	54-59%
B	74-79%	D	50-53%
B-	70-73%	F	Below 50%
C+	67-69%		

Attendance Policy

Students are expected to attend all lecture and lab classes. Students who miss a lecture should ensure they obtain the relevant notes and review the content and concepts covered in that lecture. Since there is only one lab time given each week, students who miss a lab session will not have the opportunity to catch up on the missed work at a later date and will receive a zero for that particular lab assignment. Any absence from a lab session due to illness must be supported by a doctor's note.

Academic Policy Statements

Add/Drop Policy

The last day to enter courses without permission and to withdraw from courses and receive tuition refund is Friday, September 14th for the Fall 2007 semester. Students intending to withdraw from a course must complete the relevant Registration Revision form. The last day to withdraw from courses or change to audit without academic penalty for the Fall 2007 semester is Friday, November 16th.

Plagiarism and Academic Dishonesty – Group and individual work

Lab work may occasionally be done in groups and work on problems in dry lab sessions can be an opportunity for constructive collaboration. However, unless the final product is a group presentation or project, reports, written answers to problems etc are expected to be completed individually. To quote from the Faculty Handbook of the College (p.79):

Ambrose maintains a zero tolerance policy on plagiarism and academic dishonesty. Plagiarism and academic dishonesty can result in a failing grade for an assignment, for the course, or immediate dismissal from the University College or seminary. Even unintentional plagiarism is to be avoided at all costs. *Students are expected to be familiar with the policy statements in the current academic calendar and the student handbook that deal with plagiarism, academic dishonesty (cheating), and the penalties and procedures for dealing with these matters.* All cases of academic dishonesty are reported to the respective Dean. (My italics)

Course Extensions or Alternative Exam Requests

The following is a college policy statement from the Faculty Handbook (p.79)

Students may not turn in coursework after the date of the scheduled final exam unless they have received permission for a “Course Extension”. Alternative times for final exams cannot be scheduled without prior approval. Requests for course extensions or an alternative examination time must be submitted to the Registrar’s Office two weeks prior to the examination week. (Last day to request revised time for a final examination is Wednesday 5th December for the Fall 2007 semester.) Course extensions are only granted for serious issues that arise “due to circumstances beyond the student’s control”.

Tentative lecture outline

Week starting Mon.	Lecture topic	Text book chapters
3 September	Introduction to course Review of selected topics	1-4
10 September	Review (continued)	
17 September	Complete review Quantum theory and electronic structure	7
24 September	Quantum theory and electronic structure	
1 October	Quantum theory and electronic structure Begin Periodic relationships among the elements	8
8 October	Periodic relationships among the elements	
15 October	Complete Periodic relationships among the elements Chemical bonding 1: Basic concepts	9
22 October	Chemical bonding 1: Basic concepts	
29 October	Chemical bonding 1: Basic concepts Begin Chemical Bonding 2: Molecular geometry and hybridization of atomic orbitals	10
5 November	Chemical Bonding 2: Molecular geometry and hybridization of atomic orbitals	
12 November	Chemical Bonding 2: Molecular geometry and hybridization of atomic orbitals	
19 November	Intermolecular forces in liquids and solids	11:1 – 3 only
26 November	Chemical kinetics	13
3 December	Chemical kinetics	
10 December	Chemical kinetics/final review	

Laboratory class schedule

Monday	Lab type	Content – where already set
3 September	No lab – first week of classes	
10 September	Dry	WHMIS Introduction to lab course
17 September	Wet	Redox titrations
24 September	Dry	Review test
1 October	Wet	Analysis experiments
8 October	No lab - Thanksgiving	
15 October	Dry	Research scenarios
22 October	Wet	Atomic spectra
29 October	Dry	Midterm test 1
5 November	Wet	Periodic properties
12 November	No lab - Remembrance	
19 November	Wet	Boiling point and conductivity
26 November	Dry	Midterm test 2
3 December	Wet	Kinetics
10 December	Dry	Review

The content of the dry labs will be dependent on access on online lab simulations etc.

It is possible that the lab for Nov 5th will be changed to a dry lab – this will be decided later in the semester.