AMBROSE
UNIVERSITY COLLEGE

CHE 103
General Chemistry II

Number of credits: 3

Prerequisite:
CHE 101-L and lab

Semester:	**Winter, 2015**
Days:	**W/F 1:00 p.m.**
Room:	**A2210**
Lab day:	**Monday, 12:30 p.m.**
Lab Room:	**A2151**

Instructor:	**Dr Ross Gilmore**
Email:	**rgilmore@ambrose.edu**
Phone:	**403-410-4000 ext 5914**
Office:	**A2160**
Office hours:	**M, W. F, 10:00 a.m.**

Course Description:

This course examines; kinetics, theory of acids and bases, equilibrium theory, principles of electrochemistry and laws of thermodynamics.

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Further Course Information:

We begin with kinetics of chemical reactions. This field explains both the tendency of reactions to proceed and the molecular mechanics involved. From here we delve into equilibrium theory and its role in reaction progress, how it can be exploited to favour product formation, and where it becomes relevant in solution chemistry. This is followed with thermodynamics. Closely related to kinetics, this field explores the thermal and energetic aspects of reactions, how they relate to reaction progress, and how the knowledge can be used to enhance reaction outcomes. Lastly, we look at reduction and oxidation chemistry wherein electron transfer from one atomic species to another can govern the outcome of chemical reactions and may often act as the driving force for transition from reactants to products

Expected Learning Outcomes:

It is the aim of the course that students acquire the following skills:

1. A general foundation in;
    a. Kinetics of chemical reactions
    b. Equilibrium as a factor in chemical processes
    c. Thermodynamics as a driving force in reactions
    d. Electrochemistry as an integral aspect of many chemical events

Important Dates:

First day of classes:	January 7, 2015
Registration revision period:	January 18, 2015
Last day to request revised examination:	March 2, 2015
Last day to withdraw from course:	March 20, 2015
Last day to apply for time extension for coursework:	March 30, 2015
Last day of classes:	April 10, 2015

Final Exam:	**April 13, 2015**
Time:	**1:00 PM - 4:00PM**
Room:	**A2133**

2. A greater understanding of chemistry within the contexts of, natural processes and industry.
3. Further familiarity with both the language of chemistry and the intellectual tools of the science.
4. An appreciation for the breadth and depth of the science with a particular emphasis on biological processes

Outline:

Date	Topic	Lab on Monday at 1:00 of the week listed	Moodle Quiz Availability (due midnight of Sunday, every second week, except spring break, no extensions)
Jan 7th	1st Instructor Lecture ; Kinetics. *Virtual lecture format, in-class*	none	
Jan 9th	Kinetics, in class, in person		
January 14th	Kinetics	Group A: lab 1	
January 16th	Kinetics		Quiz #1
January 21st	Kinetics	Group B: lab 1	
January 23rd	Kinetics		
January 28th	Equilibria	Group A: lab 2	
Friday January 30th	Equilibria		Quiz #2
Feb 4th	Equilibria	Group B: lab 2	
Feb 6th to 25th	Equilibria and Acid/Base chem		
February 11th	Acid/base chem cont'd	Group A; lab 3	
February 13th	Acid base chem cont'd		Quiz #3
Feb 16th to 20th	Spring Break		

Feb 25th	Thermodynamics	Group B: lab 3	
Feb 27th	Thermo cont'd		
Mar 4th	Thermo cont'd	Group A: lab 4	
Mar 6th	Thermodynamics and Gibbs Free Energy		
Mar 11th	Energetics	Group B: lab 4	
Mar 13th	Reduction and oxidation chemistry, REDOX		Quiz #4
Mar 18th	REDOX cont'd	Group A: lab 5	
Mar 20th	REDOX		
March 25th	Electrochemistry	Group B: lab 5	
Mar 27th	Electrochemistry		Quiz #5
Apr 1st	Electrochemistry	Group A: dry lab	
Apr 3rd	Gibbs free energy and REDOX		
Apr 8th	Integration of topics covered to date	Group B: dry lab	
Apr 10th	Further integration of topics		

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Requirements:

Students are required to attend both lectures and labs. A student that misses more than three lectures in a term may be assigned a zero grade for the course. Absence at even one laboratory session will result in course failure. Students must pass the lab component to pass the course, in addition to achieving a passing grade in the lecture section.

Each lab session includes an associated report or assignment. There will be two mid-terms in the lecture section and one final exam.

The lecture section will, also, include clicker quizzes and students must purchase an i-clicker device from the bookstore for use in class, unless they already possess one. All i-clickers must be registered online using an individual students unique Ambrose ID as the identifier, in addition to their names.

Submission of Assignments:

All lab reports and lab assignments are to be submitted via Turnitin on Moodle unless otherwise indicated by the instructor.

Log into Moodle, find the course, enter the course site, scroll down to the assignment, click on the assignment, and follow instructions.

Attendance:

Mandatory for both lectures and labs. No exceptions other than those recognized by the University and outlined in the University Calendar.

Evaluation:

Moodle Quizzes, 5 @ 2% ea	10%
i-Clicker quizzes, variable in #	10%
Midterm Exam #1	10%
Midterm Exam II	14%
Wet Laboratory Reports (2 formal at 5% ea, and 3 informal @ 2% ea)	16%
Final Exam	40%

Grade Summary:

The available letters for course grades are as follows:

Letter Grade	Description
A+	
A	Excellent
A-	
B+	
B	Good
B-	
C+	
C	Satisfactory
C-	
D+	
D	Minimal Pass
F	Failure

*Note: A passing level of performance in the laboratory is a requirement for completion of the course. Your grade in the lab is at the discretion of your lab instructor.
To pass the lecture component of the course a student must attain a minimum of 50%. To move on to courses for which this course is a pre-requisite, a C-grade (64%) is required.

Because of the nature of the Alpha 4.00 system, there can be no uniform College-wide conversion scale. The relationship between raw scores (e.g. percentages) and the resultant letter grade will depend on the nature of the course and the instructor's assessment of the level of each class, compared to similar classes taught previously.
Please note that final grades will be available on student registration system. Printed grade sheets are no longer mailed out.

Guideline

Percentage (%)	Grade	Grade Point
94-100	A+	variable
86-93	A	4.0
80-85	A-	3.7
78-79	B+	3.3
74-77	B	3.0
70-73	B-	2.7
68-69	C+	2.5
64-67	C	2.0
60-63	C-	1.7
56-59	D+	1.5
50-55	D	1.0
0-49	F	0

Textbooks, etc:

I. *Laboratory Manual: Selected Laboratory Experiments II*. This manual is of Ambrose University issue and will be used as a guide and resource through the laboratory component of the course. Availability will be discussed during the first lecture. Generally, it is available via Moodle.

II. Chemistry, 4th Ed. Gilbert, Kirss, Foster, Davies. Norton Publishers. This is the same textbook as the one used in General Chemistry I in the prior term.

III. Lab coat, lab notebook, lab glasses or goggles.

Policies:

All students have received an Ambrose e-mail account upon registration. It is the student's responsibility to check this account regularly as the Ambrose email system will be the professor's instrument for notifying students of important matters (Cancelled class sessions, extensions, requested appointments, etc.) between class sessions. If students do not wish to use their Ambrose accounts, it is highly recommended that they forward all messages from the Ambrose account to the other account.

During the **Registration Revision Period** students may to enter a course without permission, change the designation of any class from credit to audit and /or voluntary withdraw from a course without financial or academic penalty. These courses will not appear on the student's transcript. Courses should be added or dropped on the student portal by the deadline date, please consult the List of Important Dates. After that date, the original status remains and the student is responsible for related fees.

Students intending to withdraw from a course after the Registration Revision Period must apply to the Office of the Registrar by submitting a Request to Withdraw from a Course by the **Withdrawal Deadline**, please consult the List of Important Dates. Withdrawal from courses after the Registration Revision period will not be eligible for tuition refund. A grade of "W" will appear on the student's transcript.

Students wishing to withdraw from a course, but who fail to do so by the applicable date, will receive the grade earned in accordance with the course syllabus. A student obliged to withdraw from a course after the Withdrawal Deadline because of health or other reasons may apply to the Registrar for special consideration.

Students, who find a conflict in their exam schedule must submit a **Revised Examination** Request form to the Registrar's Office by the deadline date, please consult the List of Important Dates. Requests will be considered for the following reasons only: 1) the scheduled final examination slot conflicts with another exam; 2) three final exams within three consecutive exam time blocks; 3) the scheduled final exam slot conflicts with an exam at another institution; 4) extenuating circumstances. Travel is not considered a valid excuse for re-scheduling or missing a final exam.

Electronic Etiquette

Students are expected to treat their instructor, guest speakers, and fellow students with respect. It is disruptive to the learning goals of a course or seminar and disrespectful to fellow students and the instructor to engage in electronically-enabled activities unrelated to the class during a class session. Please turn off all cell phones and other electronic devices during class. Laptops should be used for class-related purposes only. Please do not use iPods, MP3 players, or headphones. Do not text, read, or send personal emails, go on Facebook or other social networks, search the internet, or play computer games during class. The professor has the right to disallow the student to use a laptop in future lectures and/or to ask a student to withdraw from the session if s/he does not comply with this policy. Repeat offenders will be directed to the Dean. If you are expecting communication due to an emergency, please speak with the professor before the class begins.

Academic Policies

It is the responsibility of all students to become familiar with and adhere to academic policies as stated in the Academic Calendar. Personal information, that is information about an individual that may be used to identify that individual, may be collected as a requirement as part of taking this class. Any information collected will only be used and disclosed for the purpose for which the collection was intended. For further information contact the Privacy Compliance Officer at privacy@ambrose.edu.

Extensions

Although extensions to coursework in the semester are at the discretion of the instructor, students may not turn in coursework for evaluation after the last day of the scheduled final examination period unless they have received permission for a "**Course Extension**" from the Registrar's Office. Requests for course extensions or alternative examination time must be submitted to the Registrar's Office by the deadline date, please consult the List of Important Dates. Course extensions are only granted for serious issues that arise "due to circumstances beyond the student's control".

Appeal of Grade

An appeal for change of grade on any course work must be made to the course instructor within one week of receiving notification of the grade. An appeal for change of final grade must be submitted to the Office of the Registrar in writing within 30 days of receiving notification of the final grade, providing the basis for appeal. A review fee of $50.00 must accompany the appeal to review final grades. If the appeal is sustained, the fee will be refunded.

Academic Integrity

We are committed to fostering personal integrity and will not overlook breaches of integrity such as plagiarism and cheating. Academic dishonesty is taken seriously at Ambrose University College as it undermines our academic standards and affects the integrity of each member of our learning community. Any attempt to obtain credit for academic work through fraudulent, deceptive, or dishonest means is academic dishonesty. Plagiarism involves presenting someone else's ideas, words, or work as one's own. Plagiarism is fraud and theft, but plagiarism can also occur by accident when a student fails or forgets to give credit to another person's ideas or words. Plagiarism and cheating can result in a failing grade for an assignment, for the course, or immediate dismissal from the university college. Students are expected to be familiar with the policies in the current Academic Calendar that deal with plagiarism, cheating, and the penalties and procedures for dealing with these matters. All cases of academic dishonesty are reported to the Academic Dean and become part of the student's permanent record.

Students are strongly advised to retain this syllabus for their records.

Other:

LAB SAFETY:

Lab coats and goggles are mandatory. You **must** abide by the regulations outlined in your lab manual. Proper handling and disposal of chemicals is important to protect, the environment, your fellow students, and your own health. Every chemical used in the laboratory comes with a WHMIS sheet. If you are uncertain regarding risks, ask your lab instructor, and/or refer to the WHMIS information sheet. Be familiar with all safety equipment and emergency exits within the lab. Hair should be tied back, no open shoes/sandals, avoid wearing contact lenses since many organic chemicals are readily absorbed by the gas permeable material of the lenses and are difficult to eradicate. Always be attentive and **think** about the risks associated with the lab procedure in progress. Many organic and inorganic chemicals can cause adverse health effects and many are potential carcinogens.