Course ID:	Course Title:	Fall 2019
CHE 101	General Chemistry I	Prerequisite:
		Credits: 3

Class Information		Instructor Information		Important Dates	
Days:	W & F	**Instructor:**	Dr. Liza Abraham(Lecture) Ibrahim AbuNada MSc (Lab)	**First day of classes:**	Wed., Sept. 4
Time:	9:45-11:00	**Email:**	labraham@ambrose.edu	**Last day to add/drop, or change to audit:**	Sun, Sept 15
Room:	A 2131	**Phone:**	(403) 410-2000 ext. 6921	**Last day to request revised exam:**	Fri, Nov.1
Lab/ Tutorial:	Monday 8:00-11:00 11:00-2:00 2:15-5:15	**Office:**	A2160	**Last day to withdraw from course:**	Mon, Nov 18
		Office Hours:	open door policy	**Last day to apply for coursework extension:**	Mon, Nov 25
Final Exam:	F December 13 1:00- 4:00 A 1085			**Last day of classes:**	Wed, Dec 11

Course Description

This course looks at atomic and molecular structure; it examines the elements and chemistry of the periodic table, bonding, and the basis of chemical reactions.

Expected Learning Outcomes

Students should come out of this course being able to:

- Generate and analyze valid Lewis structures and resonance structures
- Build VSEPR diagrams, build Line drawings from valid VSEPR diagrams and vice versa. Assign electronic geometry and molecular shapes to atoms, assign approximate bond angles.
- Recognize and generate constitutional, conformational, geometric and optical isomerism and isomers. Identify functional groups
- Contrast VB and MO Theories, Draw the sigma and pi overlaps for a chemical species, Name hybridized orbitals and orbital overlaps according to VBT, Draw and name the molecular orbitals for bonding and antibonding interactions in MOT.
- Distinguish bond polarities, Identify polar and non-polar molecules, Identify the intermolecular forces present within a collection of chemical species (pure samples and mixtures). Use IMF to explain or predict relative

boiling points, viscosities, solubility or mixing. Use IMF to rationalize why molecules react at the site of functional groups. Use curly arrows and Lewis diagrams to explain bond breaking and bond making.

Textbook: *https://www.openstaxcollege.org/textbooks/chemistry* (available in electronic form), and the Student Solutions Manual (available online).

Course Schedule: (Tentative Lecture / Tutorial / Laboratory Schedule)

Week of	Lecture	Tutorial	Lab
Sep 2	Introduction to the course Electronic Structure and Periodic properties of Elements	No tutorial	No Lab
Sep 9	Electronic Structure and Periodic properties of Elements	**Tutorial 1 / Quiz 1**	No Lab
Sep 16	Electronic Structure and Periodic properties of Elements	No Tutorial	**Lab 1: Mass percent of Acetic Acid**
Sep 23	Chemical Bonding and Molecular Geometry **Sep 27 Assignment 1 and 2 are due in Class** Sep 25-Sep 26 Spiritual Emphasis days (no class)	**Tutorial 2/Quiz 2**	No Lab
Sep 30	Chemical Bonding and Molecular Geometry	**No Tutorial**	**Lab 2: Determination of Ascorbic Acid Content in Vitamin C Tablet**
Oct 7	Chemical Bonding and Molecular Geometry **Term Test 1 Oct 9**	Tutorial 3/Quiz 3	No Lab
Oct 14	Chemical Bonding and Molecular Geometry Oct 14 Mon Thanksgiving: No class	**No Tutorial**	**No Lab**
Oct 21	Advanced Theories of Covalent Bonding	**No Tutorial**	**Lab 3: Dry Lab_ Lewis Structures & VSEPR diagrams**
Oct 28	Advanced Theories of Covalent Bonding	**Tutorial 4/Quiz 4**	**No Lab**
Nov 4	Advanced Theories of Covalent Bonding Nov.12-16, T-S (mid-semester break; no classes)	**No Tutorial**	No Lab
Nov 11	Intermolecular Forces; **Term Test 2 Nov.20**	No Tutorial	**Lab 4: Synthesis of Aspirin**
Nov 18	Intermolecular Forces	**Tutorial 4/ Quiz 4**	No Lab
Nov 25	Organic Chemistry	No Tutorial	**Lab 5: Structure and Physical Properties of Compounds**

Dec 2	Organic Chemistry **<u>December 5: Assignment 3 is due in class</u>**	**Tutorial 5/Quiz 5**	No Lab
Dec 9	Last Day of Classes: Wed, Dec 11 Final Exam : F December 13 1:00- 4:00 A 1085	Tutorial: Final Exam Review	No Lab

Grading Assessments:
In determining the overall grade in the course the following weights will be used:

Laboratory Experiments	25%
Tutorial Quizzes	10%
Assignments	5%
Term Test 1 & Term test 2	30%
Final Examination	30%

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

A+	A	A-	B+	B	B-
95% - 100%	**87% - 94.99%**	**82% - 86.99%**	**77% - 81.99%**	**72% -76.99%**	**66% - 71.99%**

C+	C	C-	D+	D	F
62% - 65.99%	**58% - 61.99%**	**54% - 57.99%**	**50% - 53.99%**	**45% - 49.99%**	**< 44.99%**

Because of the nature of the Alpha 4.00 system, there can be no uniform University-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 not mailed out.

Requirements:

- All students registered in CHE 101are expected to take the *WHMIS 2015* quiz and pass with a percentage of at least 80 before engaging in lab activities. You are permitted to re-take the quiz this as many times as necessary. Students have not passed a version of this quiz by the time of their first lab will not be allowed to partake in the lab activity and will take a zero for anything from that lab that is marked. Students need to complete the quiz by Friday, September 7. Here is the link to the Moodle site; https://moodle.ambrose.edu/course/view.php?id=2576

- Chapters 1 to 4 review high school material and, therefore, are expected pre-requisite material.

- Labs and tutorials are mandatory. You must provide a doctor's note, if you need to miss one for health reasons.

- Pre-lab quizzes will help you to perform the necessary calculations, to make the lab quicker and easier. Pre-lab quizzes will be available on Moodle for you to print and make a copy of it. Complete it and hand it in to the Lab Instructor before start of each lab.

- Students wearing inappropriate laboratory attire or with incomplete pre-laboratory assignments will not be permitted to conduct experiments for safety reasons.

- Include everything in your notebook. Write legibly in pen (no erasing or white-out). Draw a line through any mistakes; don't scribble them out. At the top of each page, write the date and title of the experiment.

- You will have five labs to perform; three of them requires to fill in worksheets and two of them to submit formal lab reports. Worksheets are due at the end of the lab. Formal lab reports are due next week at the beginning of the tutorial. Each lab is out of 20 marks. Each worksheet or lab reports are worth 15 marks. Pre-lab quizzes for each lab count to 5 marks.

- The grade for each experiment will be based on your pre-laboratory assignment, maintaining a lab notebook, your performance in the laboratory, and the required experimental report.

- Tutorials are opportunities to work in groups and learn how to take good notes. You will have several opportunities for formal feedback on your progress throughout the term. During each tutorial, students work collaboratively in groups of 3 or 4 on a series of problems before writing an individual quiz.

- There are three assignments in this course; two of them are required to complete on or before September 28. These assignments involves review of high school chemistry and it which will not be covered in this course. The third assignment will be on creating a concept map of everything you have learned in the course. You will lose 10% day for late submission; no submission after 5 days including weekends.

- All classes are cumulative so what will be learned at the start of the course will be continually applied throughout the term. There will be six to seven tutorial quizzes, three assignments, two term tests, one final exam, five pre-lab assignments, and five laboratory reports (two formal reports and three work sheets). Tutorial activities and pre-lab assignments, and experiments will all help you to prepare for Term Tests and Final Examinations. Examinations are a combination of multiple choice, short answer and written answer questions. During exams students are allowed to bring only pencils, pens, erasers, model kits, their ID card, and non-programmable calculators.

- Class participation is extremely important to your learning in this course. If you miss any class please make sure to complete the notes from your peers.

- A mark of less than 50% in the laboratory component and/or on the weighted average of the midterm and final examinations will result in a final grade of no greater than D. Completion and submission of reports for fewer than three laboratory experiments will result in a final grade of no greater than D. A grade of D does not satisfy the pre-requisite requirements for further chemistry courses or admission to programs in Biology.

- You are not allowed to use phone as your calculator; you must use a calculator to do all your work.

- In respect to the professor and to your fellow students, we ask that you:

  a) Turn your phone off during class and that you don't use it for texting during lecture or lab;

  b) Not have conversations with the people beside you during lecture – it is very distracting to the people around you;

  c) Use your laptops for lecture material and assignments only – that you are not using the internet or Facebook during class time;

  d) Arrive to lecture, lab and tutorial on time; you will not be permitted in the lab if you miss the pre-lab talk;

  e) Don't listen to music in class or lab. These will help to maximize the learning experience for you and your fellow students (and will keep your professor in a good mood).

Ambrose University Academic Policies:

Communication
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, they will need to forward all messages from the Ambrose account to another personal account.

Registration
During the **Registration Revision Period** students may 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 or record. 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" form or by sending an email to the Registrar's Office by the **Withdrawal Deadline;** please consult the List of Important Dates on the my.ambrose.edu website. Students will not receive a tuition refund for courses from which they withdraw after the Registration Revision period. A grade of "W" will appear on their 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.

Exam Scheduling
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) the student has 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 use electronics for purposes unrelated to the course during a class session. Turn off all cell phones and other electronic devices during class. Laptops should be used for class-related purposes only. 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. Some professors will not allow the use of any electronic devises in 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 (information about an individual that may be used to identify that individual) may be required 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 Registrar's Office in writing and providing the basis for appeal 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. 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 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 acknowledge 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.

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