CHEM 101 GENERAL CHEMISTRY TUTORIAL I
COURSE SYLLABUS: SPRING 2018

Instructor: Dr. Laurence Angel **Office Location:** STC # 341
Office Hours: Monday-Friday, 11:00-12:00 am
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COURSE INFORMATION

Section 001	**Monday 4:00pm-4:50pm**	**Room: STC146**
Section 004	**Friday 9:00am-9:50am**	**Room: STC135**
Section 005	**Friday 10:00am-10:50am**	**Room: STC135**

If for some reason you cannot attend your regularly scheduled class, you may, with instructor approval, attend one of the other sections. Dr. Starnes's sections of Chem 101 meet:

Section 002 meets in STC 146, Wednesdays from 4:00pm – 4:50pm
Section 003 meets in STC 135, Thursdays from 4:00pm – 4:50pm

Text: GENERAL CHEMISTRY, 9th or 10th Editions, by Ebbing and Gammon, Houghton Mifflin Company.

Non-programmable Calculator (bring to class)

Course Description

The course will act as a support to understand the fundamental chemistry covered in Chemistry 1311. Topics include the scientific method, making measurements, the SI system, dimensional analysis, atomic and molecular structure, chemical formulas, chemical reactions, chemical equations, thermochemistry, quantum theory, electron configurations, periodicity, chemical bonding, states of gases, and states of matter and solutions.

COURSE REQUIREMENTS

Instructional Methods

Class Procedure: The intent of the course is for you to work in small groups to complete the lesson for that day. You will be required to work in groups of 3-4 students. Groups made of less than 3 students or more than 4 students will not be allowed. I may change the groups periodically. You are expected to work together as a team to answer the questions posed in the lesson. Thus, you are highly encouraged and expected to discuss, with your group members, the lesson and the answers to the questions posed. The instructor for the course is not present to answer the questions for you. Rather, the instructor is present to guide you in your learning efforts. This has proven to be an effective way to learn Chemistry; we will be using methods similar to a National Science Foundation sponsored program called POGIL (Process Oriented Guided Inquiry Learning, www.pogil.org).

Grading

Your course grade will be based on your participation (80%) and a weekly class assignment(s) grade (20%), as illustrated in the Table below. There are 15 class days in the semester.

Week	Participation grade (0-100 points)*0.8	Weekly Class Grade out of 100 points (total of group work, group quiz, pre-class worksheet, and/or individual quiz) * 0.2	Total points for the week (out of 100)
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
(Semester Total Points / 1500 points) *100% = Class Average %			

The final letter grade will be based on a standard scale 90-100% A, 80-89% B, 70-79% C, 60-69% D, and below 60% F. The grades may be curved, if warranted. Incomplete grades may be given only if the student has a current average ≥70% and is precluded from completion of the course by a documented illness or family crisis.

If you fail to sign the attendance sheet for a class period, you will be counted as absent even if you were in class that day; the sign-in sheet is the official record of your attendance in class. If you will miss your class one week, you can attend one of the other sections that same week with instructor approval. This will be your only option for earning credit for that week. There will be absolutely no make-ups for missed class attendance. If you fail to sign the attendance sheet for a class period, you may be counted as absent even if you were in class that day; the sign-in sheet is the official record of your attendance in class.

Your participation grade is not based on you simply showing up to class. To receive participation credit for the class period you must meet the following requirements:

1. You cannot be *late to class*. Missing the introductory lesson at class time will equate to a non-attendance for that day.
2. You must *participate in the class or group discussion*. Non-participation will equate to a non-attendance for that day.
3. Disorderly conduct will equate to a non-attendance for that day.
4. Your group must work diligently to complete the lesson for that day. If your group does not work diligently to complete the lesson you will receive a non-attendance for that day.

COMMUNICATION AND SUPPORT

Communication: If the instructor needs to contact an individual student, it will be via the student's A&M-Commerce e-mail account.

COURSE AND UNIVERSITY PROCEDURES/POLICIES

Attendance Policy: All students are expected to attend class on a regular basis. The Department of Chemistry adheres to the attendance policy set by the University as stated in the most current Undergraduate Catalog. The attendance record is taken from a daily sign-in sheet. A student who is late by more than 5 minutes or fails to sign the sign-in sheet will be counted as missing a lecture. Excessive absence is defined as missing more than 10% of the lectures without excusable reasons. Excessive absence will be reported to the Dean of the College and the Dean of Students. In addition, **according to the TAMU-Commerce Procedure 13.99.99.R0.01, if a student has excessive absences, the instructor may drop the student from the course**. The instructor will only excuse an absence if the student provides, with appropriate documentation, an excusable reason allowed by the TAMU-Commerce Procedure 13.99.99.R0.01. Good class attendance will be necessary in order to pass this course.

Student Conduct Policy: All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment (see Student¹s Guidebook, Policies and Procedures, Conduct, TAMU-Commerce Procedure 13.02.99.R0.06). Any student engaging in disruptive behavior will be dismissed from class on the first offence. A second offence may constitute dismissal from the course with a failing grade.
Cheating and other Breaches of Academic Conduct: Academic cheating, plagiarism, and other forms of academic misconduct may result in removal of the student from class with a failing grade or may in extreme cases result in suspension or expulsion from the University as described in the Code of Student Conduct section of the Student¹s Guidebook A&M-Commerce Procedure 13.99.99.R0.10.

Students with Disabilities: The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact: Office of Student Disability Resources and Services, Texas A&M University-Commerce, Gee Library, Room 162, Phone (903) 886-5150 or (903) 886-5835**,** Fax (903) 468-8148, StudentDisabilityServices@tamuc.edu

Nondiscrimination Statement: Texas A&M University-Commerce will comply in the classroom, and in online courses, with all federal and state laws prohibiting discrimination and related retaliation on the basis of race, color, religion, sex, national origin, disability, age, genetic information or veteran status. Further, an environment free from discrimination on the basis of sexual orientation, gender identity, or gender expression will be maintained.

Campus Concealed Carry: Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in Texas A&M University-Commerce buildings only by persons who have been issued and are in possession of a Texas License to Carry a

Handgun. Qualified law enforcement officers or those who are otherwise authorized to carry a concealed handgun in the State of Texas are also permitted to do so. Pursuant to Penal Code (PC) 46.035 and A&M- Commerce Rule 34.06.02.R1, license holders may not carry a concealed handgun in restricted locations. For a list of locations, please refer to (http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/34SafetyOfEmployeesAndStudents/34.06.02.R1.pdf) and/or consult your event organizer). Pursuant to PC 46.035, the open carrying of handguns is prohibited on all A&M-Commerce campuses. Report violations to the University Police Department at 903-886-5868 or 9-1-1.

TENTATIVE COURSE OUTLINE / CALENDAR

Date	Chapter	Problem Set Related To:
January 15-19	Chapter 1: Chemistry and Measurement	Mass conservation, matter, Physical Measurements
January 22-26	Chapter 1: Chemistry and Measurement	Dimensional analysis, significant figures, SI system
January 29 – February 2	Chapter 2: Atoms, Molecules and Ions	Atomic theory and structure, isotopes, nuclide symbols
February 5-9	Chapter 3: Calculations with Chemical Formulas and Equations	mass and moles of a substance, Avogadro's number
February 12-16	Chapter 3: Calculations with Chemical Formulas and Equations	Stoichiometry of reactions, theoretical yield, percent yield, empirical formulas
February 19-23	Chapter 7: Quantum Theory of the Atom	Light wave and photons, Electronic structure of atoms, Bohr theory
February 26 March 2	Chapter 7: Quantum Theory of the Atom	Quantum mechanics, Atomic orbitals, Periodicity of the elements
March 5 - 9	Chapter 8: Electron Configurations and Periodicity	Periodic trends: atomic radii, ionization energies, electron affinity,
March 12 - 16	**No class**	**No class**
March 19 - 23	Chapter 9: Ionic and Covalent Bonding	Covalent and ionic bonding, electronegativity, resonance, formal charge, Lewis Dot Structures
March 26 – March 30	Chapter 10: Molecular Geometry and Chemical Bonding Theory	VSEPR model and geometry, valence bond theory, molecular orbital theory, polarity, dipole moment,
April 2 – 6	Chapter 11: States of Matter; Liquids and Solids	London dispersion forces, dipole-dipole attractions, hydrogen bonding, viscosity, solubility trends, phase diagrams
April 9 - 13	Chapter 4: Chemical Reactions	Ions in aqueous solution, electrolytes, acids and bases, solutions, dilutions
April 16 – 20	Chapter 4: Chemical Reactions	Volumetric analysis, quantitative analysis**,** oxidation-reduction reactions
April 23 – 27	Chapter 5: The Gaseous State	Gas laws, Kinetic-molecular theory
April 30 - May 4	Chapter 6: Thermochemistry	Reaction heat, enthalpy heat changes in processes, heat capacity, calorimetry, Hess's Law, standard heats of reaction
May 7 - 11		**No class**