

CHEM 101 GENERAL CHEMISTRY TUTORIAL I

COURSE SYLLABUS: SUMMER I 2015

M-Th 1:00-1:50 pm, STC 135

Instructor:	Dr. Stephen Starnes	Office Location:	STC # 339
Office Hours:	M-Th 11:00 am – noon	Office Phone:	903-886-5389
Office Fax:	903-468-6020	Email Address:	stephen.starnes@tamuc.edu

COURSE INFORMATION

Text/ Manual and other required material:

Chemistry, an atoms-focused approach, by Thomas Gilbert, Rein Kirss, and Natalie Foster, (W.W. Norton and Co publisher) Hardcover ISBN: 978-0-393-91234-0 or Paperback: ISBN: 978-0-393-12419-4, or 3-hole punch version of the textbook: ISBN: 978-0-393- 12420-0 or e-book version (Nortonebooks.com).

Non-programmable Calculator (bring to class)

Course Description

The course will be cover and act as a support to understand the fundamental chemistry topics including atomic and molecular structure, chemical formulas, chemical reactions, chemical equations, thermochemistry, quantum theory, electron configurations, periodicity, chemical bonding, states of gases, 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

Attendance and Class Participation: Class attendance and class work is required to pass the course. Your grade in the course will be based on your daily attendance and effort spent solving the problems assigned each day.

There are 19 class days in the semester.

Attendance/participation grades will be assigned as follows:

- A: Attend 17 of the 19 class periods and actively participate in solving assigned problems.
- B: Attend 15 of the 19 class periods and actively participate in solving assigned problems.
- C: Attend 13 of the 19 class periods and actively participate in solving assigned problems.
- D: Attend 11 of the 19 class periods and actively participate in solving assigned problems.
- F: Attend 10 or fewer of the 19 class periods.

The grade scale will be A = 90 - 100%, B = 80 – 89 %, C = 70 - 79 %, D = 60 - 69 %, F = <59 %.

There will be absolutely no make-ups for missed class attendance. 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.

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

1. You cannot be more than 5 minutes late to class. Missing more than 5 minutes of class time will equate to a non-attendance for that day.
2. You must participate in the group work using the problem set provided in the class. 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 problem set for that day. If your group does not work diligently to complete the problem set you will receive a non-attendance for that day.

Class Attendance Policy:

All students are expected to attend class on a regular basis and attendance will be recorded. The Department of Chemistry adheres to the attendance policy set by the University as stated in the most current Undergraduate Catalog. Being late by more than 5 minutes is equivalent to missing a class period. 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 A13.02., good class attendance will be necessary in order to pass the course.

COMMUNICATION AND SUPPORT

Communication: If the faculty needs to contact an individual student, it will be via the student's e-mail account. Students should check e-mail frequently, especially after an absence. E-mail is the best, easiest and fastest way to communicate with me.

COURSE AND UNIVERSITY PROCEDURES/POLICIES

Course Specific Procedures

Student Conduct

All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment (See *Code of Student Conduct from Student Guide Handbook*). Students are required to turn off all cell phones, MP3 players, PDA's, Pagers, and any other electronic devices before entering the class. Students are expected to comply with the student code of conduct as stated Student's Guidebook, Policies and Procedures, Conduct. If the student's failed to comply with the code of conduct and being disrespectful, disruptive to the instructor or the students of the class, the instructor reserves the right to dismiss the student from the class on the first offense. A second offense may constitute dismissal from the course with a failing grade.

Academic Integrity and Dishonesty Policy:

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 Student's Guidebook A&M-Commerce Procedure 13.99.99.R0.10

Student Withdrawal: It is the student's responsibility to withdraw from class if so desired. However, the instructor reserves the right to administratively withdraw any student who is not actively fulfilling the objectives of the course before the final. **Last day to drop a 16-week class with a Q grade is June 29, 2015.**

Incomplete: An incomplete is given only when a student, for a valid reason, has been unable to complete course within the time allotted and has a current average $\geq 70\%$. This is not allowed except in documented illness.

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 132 Fax (903) 468-8148
Phone (903) 886-5150 or (903) 886-5835 StudentDisabilityServices@tamuc.edu

COURSE OUTLINE / CALENDAR

Tentative Lecture Calendar

Week	Date	Chapter	Problem Set Related To:
1	June 8	Chapter 1: Matter and Energy: An Atomic Perspective	Mass conservation, matter, Physical Measurements
	June 9	Chapter 2: Atoms, Ions, and Molecules: The Building Blocks of Matter	Atomic theory and structure, mass and moles of a substance, Avogadro's number
	June 10	Chapter 3: Atomic Structure: Explaining the Properties of Elements	Light wave and photons, Electronic structure of atoms, Bohr theory, Quantum mechanics, Atomic orbitals, Periodicity of the elements
	June 11		Chapter 3 material
2	June 15	Chapter 4: Chemical Bonding: Understanding Climate Change	Chemical substances, Lewis structures, ionic and covalent bonds, polarity, resonance, formal charge, electronegativity
	June 16		No class
	June 17	Chapter 5: Bonding Theories: Explaining Molecular Geometry	VSEPR model and geometry, valence bond theory, molecular orbital theory, polarity
	June 18	Chapter 6: Intermolecular Forces: Attractions Between Particles	London dispersion forces, dipole-dipole attractions, hydrogen bonding, viscosity, solubility trends, phase diagrams
3	June 22	Chapter 7: Stoichiometry: Mass Relationships and Chemical Reactions	Chemical reaction types, Stoichiometry, Percent & theoretical yield
	June 23		Chapter 7 material
	June 24		No class
	June 25	Chapter 8: Aqueous Solutions: Chemistry of the Hydrosphere	Ions in aqueous solution, electrolytes, acids and bases, solutions, dilutions, quantitative analysis, oxidation-reduction reactions
4	June 29		Chapter 8 material, Last day to drop
	June 30	Chapter 9: Thermochemistry: Energy Changes in Chemical Reactions	Reaction heat, enthalpy heat changes in processes, heat capacity, calorimetry, Hess's Law, standard heats of reaction
	July 1	Chapter 10: Properties of Gases: The Air We Breathe	Gas laws, Kinetic-molecular theory
	July 2		No class
5	July 6		Chapter 10 material
	July 7	Chapter 11: Properties of Solutions: Their Concentrations and Colligative Properties	Vapor pressure, molality, colligative properties, osmosis
	July 8		Chapter 11 material
	July 9		No class

Note: Instructor retains the right to make changes to the syllabus.