

General Chemistry I Syllabus (course outline) CHEM 1110 Fall 2010 Rybolt

Course Name: General Chemistry I (Natural Science Lab Course)
Dept, Number, Section: CHEM 1110 11
CRN: 40418
Semester and Year: Fall 2010
Time, days, location: Tues/Thurs (TR) 08:00am-09:15am Grote 317
Credit Hours: 3
Faculty Name: Thomas R. Rybolt (Dr. Tom Rybolt)
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Office Hours: Tues 9:30 – 11:30, Thurs 9:30-11:30, Fri 9:30-11:30
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ADA Statement: If you are a student with a disability (e.g. physical, learning, psychiatric, vision, hearing, etc.) and think that you might need special assistance or a special accommodation in this class or any other class, call the Office for Students with Disabilities at 425-4006, come by the office-102 Frist Hall-or see <http://www.utc.edu/OSD/>

If you find that personal problems, career indecision, study and time management difficulties, etc. are adversely affecting your successful progress at UTC, please contact the Counseling and Career Planning Center at 425-4438 or <http://www.utc.edu/Administration/CounselingAndCareerPlanning/>

Catalog Statement: Surveys chemical principles involving structure, properties and reactions. Every semester. Lecture 3 hours Prerequisite: UTC Math Placement level 20 or MATH 1006 or department head approval. Co-requisite: Chemistry 1110L.

Exams: Four exams will be given during the semester. The lowest exam grade will be dropped. **NO MAKE-UP EXAMS will be given.** A grade of 0 will be assigned for any exam that is not taken. This grade of 0 may count as the one grade that is dropped. Exams are based on textbook, class lectures, and homework. You should bring a charged working calculator and two pencils to exams. Some exams or some parts may be done with no calculator. You may not share a calculator during exams. No other paper, notes, books, or stored information is to be used except what I provide you. No cell phone use, texting, or checking phone in class at any time.

Grades: Final grades are based 70% on the average of the top three exams, and 30% on final exam. Grades in my lecture section are based on the following scale: 90-100 A, 80-89 B, 70-79 C, 65-69 D, and 0-64 F. In addition successful completion of other required activities that are presented in class may be required to pass the course. The FINAL EXAM is always harder because it covers all the material.

Lab: You must be registered for a Chemistry 1110L Laboratory course along with the Chemistry 1110 lecture course. Chemistry 1110L is a co-requisite.

Homework Problems are listed on separate page. You must **do the assigned homework problems** as we cover each chapter. You cannot effectively learn general chemistry unless you work problems. You need to **check your work** by comparing your work to the detailed solutions **in the *Student Solutions Manual***. It is essential that you have the textbook and the solutions manual and use both. Homework problems are essential to prepare you for exams. You should also use the Practice Exercises within chapter. Remember, learning chemistry requires thinking and doing, and not just listening and reading. Learning is an active process. Assigned questions/problems are given on separate Homework page.

Attendance and Respect:

You are expected to arrive on time for all class meetings and you are responsible for everything covered in lecture. Do not come late to class. Essential information, such as test times may be given only at the start of class. If you miss a class, check with a fellow student who is able to share notes and go over items you missed. Classroom behavior such as: talking to your neighbor during lecture, reading, sleeping, or checking cell phone, interferes with my ability to teach effectively and others ability to learn. I may require you to meet with me before you are allowed to take the next exam so I can explain more clearly why your activities are a problem. I also may ask you to leave the classroom. Laptop computers can be a big distraction in class so no laptops may be used at any time during class. No cell phone use of any kind during class.

"If the teacher is not respected and the student not cared for, confusion will arise, however clever one is." Lao Tsu (from the *Tao Te Ching* written about 600BC)

Study Suggestions—to Learn Chemistry:

To do well in this class you must you should do the following: **schedule, read, attend, listen, write, work, question, practice.**

Schedule specific study times and places - for a total of 9 hours a week just for chemistry lecture.

(For example: **1.5 hours a day for 6 days a week**)

Read and study all the assigned textbook material.

Attend and listen carefully in all lectures and collect good notes.

Write the notes and testing yourself on them again and again. Also you can read the on-line notes for additional or clarifying information. It is best to read and write notes to learn notes from the previous class prior to the next class — you can best learn notes by writing and testing yourself, reworking problems, writing out facts, etc. and not by just reading. Learning notes is an active process of writing and thinking.

Work all the assigned end of the chapter problems and check your work in the *Solutions Manual* book. Also you can work the practice exercises in the chapter and check your answers in the appendix.

For items that are not clear to you, write down your questions as you study textbook, notes, and homework and get answers to these questions by further study or seeking help from another student or from your instructor.

Test Yourself With Practice Exams

SCHEDULED COURSE TOPICS AND EXAMS

Textbook – *Chemistry: Matter and Its Changes* 5th edition by Brady and Senese

<u>EXAM</u>	<u>Chapter</u>	<u>Topic Sequence</u>
ONE	1	Basics and Measurements
	2	Elements, Compounds, and Chemical Reactions
TWO	3	Mole Calculations
	4	Reactions in Aqueous Solution
THREE	7	Quantum Mechanical Atom
	8	Chemical Bonding
	9	Bonds and Molecular Structure (skip 373-379)
FOUR	10	Gases
	11	Intermolecular Attractions, Liquids and Solids (skip 457-464)
	22	Organic Compounds, Polymers, and Biochemicals (selected topics covered in online notes—emphasis on structures not reactions)
FINAL	All topics covered	

Element Names And Symbols: Early in the course you need to learn the names and symbols of the elements numbered 1-57 and 72-92 (see the periodic table in the front of the textbook). When you see symbol you need to know name and how to spell it. When you see name of element, you need to know how to write proper symbol.

Rybolt Lecture Notes have been placed on-line and Internet available visuals attached for many topics. These notes may be accessed at <http://www.utc.edu/Faculty/Tom-Rybolt/> Thanks to UTC Chemistry students Eric Cohen and Eva Prince and Leah Rybolt for their work to create and revise the on-line version of my notes. At the website above you will find listing of textbook chapters and corresponding Rybolt note files with links to access.

Practice Exams and Web-Based Study Help:

Prior to each exam, you should study (notes, book, homework) until you feel prepared to take the exam. There are practice exams on-line but the order of topic coverage changes from year to year so an older Exam One may not cover exactly the same topics as a current Exam One. They make useful practice and illustrate types of questions that have been asked in the past, but the material may be slightly different from year to year. You should work practice exam questions and then grade yourself with listed answer keys.

To obtain my e-class notes and old exams and keys go to: <http://www.utc.edu/Faculty/Tom-Rybolt/>