Syllabus (course information) for GenChem II

Course Name:	General Chemistry II (Natural Science Lab Course)
Dept, Number, Section:	CHEM 1120 07
CRN:	20815
Semester and Year:	Spring 2011
Time, days, location:	Tues/Thurs (TR) 01:40pm-02:55pm Grote 317
Credit Hours:	3
Faculty Name:	Thomas R. Rybolt (Dr. Tom Rybolt)
Email:	tom-rybolt@utc.edu
Office Location:	Grote 318A
Office Hours:	Tues 9:00 – 11:30 / Fri 9:00-11:30
Office Phone:	425-4499

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/

All course information at Rybolt website www.utc.edu/tom-rybolt

Textbook *Chemistry* 5th edition by Brady & Senese, and accompanying *Student Solutions Manual*

Office Hours Office hours are the best time for questions. You are encouraged to ask chemistry questions during class, see me during my office hours, and if you cannot come during office hours then you can schedule an appointment with me.

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. If you need to leave class for some reason, do not return to that class period as it is disruptive. Essential information, such as test times will be given one time at start of class and not necessarily mentioned again by me. 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 these activities are a problem. I also may ask you to leave the classroom. Laptop computers can be a distraction in class so no laptops may be used at any time during class. No cell phone use of any kind (no texting) 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)

Homework Problems are listed on separate page. In addition to reading the textbook and studying your class notes, you must **do the assigned homework problems** as we cover each chapter. Your exams will include similar types of problems and you must do the homework to do well on the exams. You cannot effectively learn general chemistry unless you work problems. You should refer to the *Student Solutions Manual* to check your work on problems. Only refer to the *Solutions Manual* after you have worked or tried to work the problem by yourself. You can also use the worked examples in the textbook to test yourself. Remember, learning chemistry requires thinking and doing, and not just listening and reading. Learning is an active process! Success is a choice you will have to make.

Exams Three exams will be given during the semester. The lowest exam grade will be dropped. 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. **NO MAKE-UP EXAMS will be given.** Exams are based on textbook, class lectures, and homework. You should bring a working calculator and two pencils to exams. 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. After the first person leaves an exam, no one else can come late and start the exam. No cell phone use, texting, or checking phone in class at any time. The FINAL EXAM is always harder because it covers all the material.

Some of the exam questions may be given prior to the exam as take home questions or turned in homework problems. They will be announced one time and collected one time. No late take home exam questions will be collected.

Grades Course grades are determined from the formula

Grade = (top exam + next top exam + final exam)/3

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.

Lab You must be registered (or already have credit) for a Chemistry 1120L Laboratory course to take the Chemistry 1120 lecture course. CHEM 1120L is a co-requisite to CHEM 1120 but it is graded as a separate course.

Background Required This class assumes an A, B, or C level knowledge of Chemistry 1110 and understanding of basic pre-calculus mathematics such as logarithm, exponential, and algebra. You must have earned at least a C in Chemistry 1110 to take Chem 1120.

Inclement weather policy Rarely the university is closed or opens late due to bad weather. However, if the university opens during the time period for our class, we will not have lecture. If it opens before class then we will. If an exam is scheduled on a day when the university is closed or opens late, the exam will be scheduled for the next regular class meeting.

SCHEDULED COURSE TOPICS AND EXAMS

EXAM	Chapter	Topic Sequence
ONE		Chemistry 1110 review
	12	SOLUTIONS
	6	THERMOCHEMISTRY
	18	THERMODYNAMICS
	13	KINETICS
TWO	14	EQUILIBRIUM
	15	ACID-BASE EQUILIBRIUM
	16	REACTIONS IN AQUEOUS SOLUTION
	17	SOLUBILITY OF IONIC SOLIDS
THREE	5	REDUCTION-OXIDATION (REDOX)
	19	ELECTROCHEMISTRY
	20	NUCLEAR CHEMISTRY and RADIOACTIVITY
	21	CHEMICAL PROPERTIES OF ELEMENTS (selected topics covered)
	22	PROPERTIES OF MATERIALS (few selected topics covered)
FINAL		EVERYTHING ABOVE

RYBOLT WEBSITE with online notes, 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 online but the order of topic coverage changes from year to year so an older Exam may not cover exactly the same topics or information as a current Exam. However, the exams will be similar and provide useful practice and illustrate types of questions that have been asked in the past. You can work practice exam questions and grade yourself with online answer keys.
To obtain my e-class notes and old exams and keys go to: **www.utc.edu/tom-rybolt**

For some Internet browser software you may need to save the exam and answer key on your computer and then open or print. If weird text comes up when you first click on item just click Back on your browser software and then try again. For other browser software, the text and the answer key should both open as pdf documents when you double click on the item. On my webpage there are links for additional help and tutorials. Rybolt Lecture Notes also have been placed online and internet available visuals attached for some topics.

TO LEARN CHEMISTRY you should do the following: **read, write, work, and question**
1) read and study all the relevant textbook material as covered in class

2) attend lectures, collect, write the notes and test yourself on them again and again is one of best ways to study and to learn, read online notes for additional or clarifying information

3) work practice exercises in chapter and check your answers in appendix and work all assigned end of chapter problems and check your work in solution manual.

4) 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.

STUDY SUGGESTIONS To Do Well In This Class You Must:
COME PREPARED TO EVERY CLASS AND CONCENTRATE ON CHEMISTRY DURING CLASS

READ THE TEXTBOOK PRIOR TO THE DISCUSSION IN CLASS OF THE MATERIAL

WRITE NOTES TO LEARN THE NOTES FROM PREVIOUS CLASS PRIOR TO NEXT CLASS — You learn 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 PROBLEMS – HOMEWORK AT END OF CHAPTER AND PRACTICE IN CHAPTER

ASK QUESTIONS AND WRITE DOWN AS YOU STUDY TEXTBOOK AND CLASS NOTES – THEN GET ANSWERS. TEST YOURSELF WITH PRACTICE EXAMS

SCHEDULE SPECIFIC STUDY TIMES AND PLACES - FOR A TOTAL OF (At Least) 9 HOURS AWEEK (For Example: **1.5 Hours A Day For 6 Days A Week**). You can learn, understand, and enjoy chemistry, but to reach your true potential in lecture you must work at least 9 hours each week.

You must do the assigned **HOMEWORK QUESTIONS/PROBLEMS** from your textbook – *Chemistry: Matter and Its Changes* 5th edition by Brady and Senese as we cover each chapter. You will not do well on class exams without this work. You cannot effectively learn general chemistry unless you work problems. Learning Chemistry is an active process and not a passive one.

You should use the *Student Solutions Manual* that is designed to go with your textbook or refer to online version. The questions at the end of the chapter that are numbered in color are worked out in detail in the *Student Solutions Manual*. Answers to these are also in your textbook Appendix. We will not have time in class to go through these problems and that is why you must check your work in the *Solutions Manual*. You should do as much work as you can on each question and only after you are done then compare your work or answer to the provided solution. The purpose of the *Solutions Manual* is to allow you to get feedback on your work not to give you an answer without doing the work.

All of these questions below are from Review Questions and Review Problems at the end of each chapter. In your text these are written as 1.7, 1.10, etc. I have simplified below by writing as chapter 1. 7 10 etc. The Review Problems marked in color in your text have worked out solutions in *Student Solutions Manual* and answers are also in textbook Appendix.

Chapter	**Review Questions and Review Problems** (Homework at end of chapter)
12.	18 21 31 35 42 44 48 50 52 60 62 66 68 70 74 78
6.	12 13 26 41 45 47 49 51 53 55 57 63 71ab 73 75
18.	18 27 28 32 38 46 48 50 58 60ace 68 74 78 80 96
13.	20 23 38 43 49 53 57 59 61 63 67 71 77 83
14.	19abd 21abd 25 29 37 29ac 41 43 45 49 51 53 55 67
15.	1 8 20 22 38 41 43 45 51 59 61 63 67 69 75
16.	1 7 32 34 36 42 44 46 56 58 60 88
17.	16 20 24 28 36 38 48 50
5.	1 8 10 25 27 31 35dg 37ac 47 53 57 63 65
19.	8 15 50ab 56ab 58 66 68 72 78 80 84 94
20.	4 7 35 51 53 59 69 77 81 85 87 89 100
21.	selected topics will be covered - no homework problems

11. and 22. a few selected topics on solids, polymers, and properties of materials as time allows - no homework problems