

Grading Details:

Homework assignments	170 pts	A ≥ 900 pts and 5th test ≥ 60%
		And no more than 2 re-tests
5 exams, av. 160 pts each	810 pts	B ≥ 800 pts
<u>Quizzes/Attendance</u>	<u>20 pts</u>	<u>C ≥ 700 pts</u>
Total	1000 pts	D ≥ 600 pts F < 600 pts
** Optional web homework:	48 pts	

Course Policies

1. Missed exam policy

If for any reason you fail to take the test or retest on or before the deadline, you will be given a 3-day extension with penalties as following: 5% off for one day extension, 10% off for two-day extension and 15% off for three-day extension. No re-tests are allowed if you miss test deadline.. Instructor's signed permission is required for test or retest after the 3-day extension deadline

Limit for Re-Test: only one retest allowed for each test

Test Grade with retest: = 0.25 (original test grade) + 0.75 (re-test grade)

Must show yellow receipt of original test to Testing center when taking retest

Make sure you are given different form for retest by the Testing Center

2. Policy about late work (if applicable)

Assignments given in class will be collected on specific days. Internet based homework should be turned in by its deadline (see separate handout). Late assignments of either type will be subject to penalty of one point (or 10% of grade) a day (whichever is less). All class homework turned in must show detailed work to get credit. Assignment more than one week late will not be accepted.

Answers to some class assignments will be posted on Blackboard. Answers to the Internet based homework can be downloaded from the website after the deadline. Instructor's permission is required to submit late web homework. (Late web home work is not allowed if you have already downloaded the answer).

3. Attendance policy

Students are encouraged to participate in classes and discussions. Detailed attendance records will be kept for each student. If you fail to attend class for 3 consecutive sessions without legitimate excuses, you may be withdrawn from the course by the instructor. However, it is your responsibility to withdraw if you so desire. You can ask the instructor to withdraw you (before deadline) if you have difficulty doing it yourself.

4. Withdrawal deadline: Nov. 18, 2010 (**Thursday**)

5. Incomplete grade policy

Incomplete grade will only be granted for medical/emergency reasons. Students must have successfully completed at least 60% of the course materials to get an incomplete.

6. Scholastic dishonesty

"Acts prohibited by the college for which discipline may be administered include scholastic dishonesty, including but not limited to, cheating on an exam or quiz, plagiarizing, and unauthorized collaboration with another in preparing outside work. Academic work submitted by students shall be the result of their thought, research or self-expression. Academic work is defined as, but not limited to, tests, quizzes, whether taken electronically or on paper; projects, either individual or group; classroom presentations; and homework."

The penalty for cheating in the testing center is withdrawal from class or an F grade.

Use of programmable calculator will result in a 15% grade penalty.

7. Students with disabilities

"Each ACC campus offers support services for students with documented physical or psychological disabilities. Students with disabilities must request reasonable accommodations through the Office of Students with Disabilities on the campus where they expect to take the majority of their classes. Students are encouraged to do this three weeks before the start of the semester." Students who are requesting accommodation must provide the instructor with a letter of accommodation from the Office of Students with Disabilities (OSD) at the beginning of the semester. Accommodations can only be made after the instructor receives the letter of accommodation from OSD."

8. Academic freedom

"Institutions of higher education are conducted for the common good. The common good depends upon a search for truth and upon free expression. In this course the professor and students shall strive to protect free inquiry and the open exchange of facts, ideas, and opinions. Students are free to take exception to views offered in this course and to reserve judgment about debatable issues. Grades will not be affected by personal views. With this freedom comes the responsibility of civility and a respect for a diversity of ideas and opinions. This means that students must take turns speaking, listen to others speak without interruption, and refrain from name-calling or other personal attacks."

9. Student discipline policy

"Students at the College have the rights accorded to all persons under the Constitution to freedom of speech, peaceful assembly, petition, and association. These rights carry with them the responsibility for each individual to accord the same rights to others in the College community and not to interfere with or disrupt the educational process. As willing partners in learning, it is expected that students will comply with College rules and procedures. ACC students are recognized as responsible persons who neither lose the rights nor escape the responsibilities of citizenship. Enrollment in the College indicates acceptance of the rules set forth in this policy, administered through the office of the Campus Dean of Student Services. Due process, through an investigation and appeal process, is assured to any student involved in disciplinary action."

Course Outline/Calendar

There are five tests for the semester. The first 4 tests will be held in the testing center and one retest is allowed for each one. The last test is to be held in class (no re-test allowed). In order to receive full credit for the test questions you MUST show all your work on the scratch paper provided by the testing center.

Tentative Test Schedule for test and retest and the material covered are as following:

Test	Date	Topics	Brown 11/e	points
1	Sept. 16 (Th) – Sept. 21 (T)	Chemical kinetics Chemical equilibrium	Ch. 14 Ch. 15	150
2	Oct. 12 (T) – Oct. 18 (M)	Acid/base theories Acid/base equilibrium, ,	Ch. 16 Ch. 17	160
3	Nov. 2 (T) – Nov. 8 (M)	A/B titration, Solubility Equilibrium, Thermodynamics	Ch. 17 Ch. 19	150
4	Nov. 19 (F) – Nov. 24 (W)	Redox (review) Electrochemistry Coordination Cpds	Ch. 20 Ch. 24	150
5	Dec. 8 (W), 9 (Th)	Nuclear chemistry Organic chemistry & comprehensive	Ch. 21 Ch. 25	200

Miscellaneous:

1. **Learning lab**: free tutoring for chemistry and other subjects. Check room 212 (233.3367) for individual tutor's schedule. (MTWTh: 9 am – 9 pm, F: 9 am- noon)
2. **NO FOODS / DRINKS or cellular phone / pager in CLASSROOM**
3. **Testing Center: Room 127, (MTWTh: 8 am – 8 pm, F: 8 am- 4 pm, S: 9 am – 1 pm)**
4. **Tests are available only at the Testing Center at the Rio Grande campus**
5. **Please staple homework pages together with your name and assignment # indicated**
6. **Homework submitted for grade need to be legible and neat, points will be deducted if submitted otherwise. Extra point may be given for showing work on scratch paper on test**
7. **Your grade will be updated periodically on Blackboard, please check for accuracy**
8. **UT Quest HW: (still under construction). Unique number: 16394. No Password**
You can obtain a UT EID and enroll by the link <http://cns.utexas.edu/quest/support/student/>
Student overview: <http://cns.utexas.edu/quest/student/aboutQuest.pdf>
You can follow steps on Blackboard (UT Quest login) to enroll in Quest
9. **You must enroll and wait for approval before accessing any homework**
10. **I may ask you to verify your work on web HW**
11. **Withdraw deadline: Nov. 18, 2010 (Thursday)**
12. **Late homework/assignment should be turned in to Room 204 (Duplication center) –the “Student Paper” tray where they can be stamped and logged**
13. **For emergency or last minute information, please check my web page or Blackboard. I will send mass e-mail to ACC e-mail addresses when possible**
14. **Student Support and Success System: <http://www.austincc.edu/support/>**
 - The web address for student services is:
<http://www3.austincc.edu/evpcss/newsemester/pdfs2/studsvcs.pdf>
 - The ACC student handbook can be found at: <http://www.austincc.edu/handbook/>
 - Student resources: <http://www.austincc.edu/current/>

Testing Center (<http://www.austincc.edu/testctr/>) Policy

Only non-programmable calculators are allowed in the Testing Center for this class.

Student Summary Guide For Use Of ACC Academic Testing Centers:

All students must read the Student Guidelines prior to arrival at the Testing Center

(<http://www.austincc.edu/testctr/studentarea.php>).

1. You are required to have a current ACC photo student I.D, available only through the Admissions & Records Office. Alternate ID forms are not accepted. You also need course abbreviation and number (CHEM 1312), synonym & section number, test number and instructor's name to request a test.
2. You are required to complete the *Test Request Form*. For **re-testing**, you must provide the **yellow student copy** from the original test. Initial and re-testing on the same day is not allowed. If the test deadline has passed, you must also bring *written permission* from your instructor.
3. Any student suspected of and/or caught cheating (including the use of unauthorized materials during testing) is considered **scholastic dishonesty**. You will be referred to the appropriate administrator. Disciplinary actions for scholastic dishonesty range from exclusion from Academic Testing Centers to expulsion from ACC. You may refer to the ACC Student Handbook for disciplinary policies and procedures. You may also be subjected to disciplinary action for behavior that significantly interferes with or disrupts Academic Testing Center operations.
4. Bring *only* the materials allowed by your instructor for the given test. Approved items such as English dictionaries, Scantron answer sheets, and all types of paper are provided by the Academic Testing Centers. All other items (pagers, cell phones, laptops, purses/wallets, calculator/pencil cases, food/tobacco items, etc.) must be stored elsewhere, in a locker, or shelved in the Academic Testing Center at your own risk. **Children are not allowed in the Academic Testing Centers.**
5. You are responsible for the return of your locker key to Testing Center staff. Your property will not be surrendered in the case of a lost key until a report is filed with Campus Police. The incident will be reported to Student Services and a hold will be placed on your record until the key is returned or replaced.
6. You may be assigned seating in the Academic Testing Center. When the Academic Testing Center is full, you will be placed on a waiting list, issued a ticket, or be asked to line up outside the Academic Testing Center. Only *one test* is allowed per sitting. You **may not** leave the Academic Testing Center for breaks while testing (except for a medically verified reason), otherwise, your test must be turned in to be graded.
7. Testing for a grade of Incomplete requires an *Incomplete Grade Form* or grade slip verification from Admissions and Records and instructor signature.
8. If an answer key is available, your test will be graded and you will be given your raw score. Once the test has been scored, it cannot be reviewed or examined again in the Academic Testing Center; contact your instructor for feedback. Keep the yellow copy of the *Test Request Form* for the remainder of the semester for proof you took the exam and that the grade was posted.
9. All exams must be turned in no later than thirty (30) minutes after closing – **NO EXCEPTIONS**. No students will be admitted and no distribution of new test materials will be allowed *after closing time*. Hours of operation for the Academic Testing Centers are located at <http://www.austincc.edu/testctr/>.

August 2006

CHEM 1312 Lecture Schedule and Reference to textbook:

Fall 2010 (Aug. 23 – Dec. 12, 2010)

Please note: schedule may subject to changes

	Date	Subjects	Brown 11 th ed	Whitten 8 th ed
1	A23,24	Introduction & Math Review	Appendix A	Appendix A
2	A25,26	Reaction rate	14.1-14.2	16.1-16.2
3	A30,31	Rate laws: rate vs. concentration, conc. vs. time	14.3-14.4	16.3-16.4
4	S1,2	Kinetic theory of reaction rates, Arrhenius equation	14.5	16.5-16.6, 16-8
5	S7,8	Reaction mechanism & catalysts	14.6-14.7	16-7, 16-9
6	S9,13	Equilibrium concept and calculation	15.2-15.5	17.1-17.5
7	S14,15	Equilibrium calculation and La Chatelier's principle	15.6-15.7	17.6-17.12
8	S16,20	Arrhenius, Bronsted-Lowry acid & strength	16.1-16.2	10.1-10.6, 18.1
9	S21,22	Acid strength and structure, Lewis acids and bases	16.10-16.11	10.7-10.10
10	S23,27	Dissociation of water, pH, weak acids and bases	16.3 -16.8	18:2-5
11	S28, 29	Acid-base property of salt solutions, buffer	16.9, 17.1-17.2	18.6-11, 19.1-3
12	S30,O4	Indicators, Classification of acid/base/salt	p.150-151	19.4, 18.7-11
13	O5,6	Classification of acid/base/salt	18.7-11	18.7-11
14	O7,11	Acid-base titrations	17.3	19.5-19.7
15	O12, 13	Review, catch-up		19.8
16	O14,18	Solubility equilibrium	17.4-17.5	20.1-4
17	O19,20	Simultaneous equilibrium, dissolving precipitates	17.6	20.5-20.6
18	O21,25	Thermodynamics: 1 st law, enthalpy	5.1-5.4	15.1-15.7,15.10
19	O26,27	Enthalpy calculation, entropy, 2 nd law	5.5-5.7,19.1-19.3	15.8-15.15
20	O28,N1	Gibbs free energy and temp, equilibrium constant	19.4-19.7	15.16-15.17, 17.13
21	N2,3	Oxidation-reduction reactions, voltaic cell	20.1-20.3	11.4, 21:1-6
22	N4,8	Cell EMF and free energy change	20.4-20.5	21.8-21-16
23	N9,10	Nernst equation, electrolysis	20.6, 20.9	21.19-21.21
24	N11,15	Coordination Compounds Nomenclature, isomerism	24.1-24.4	25.1-25.7
25	N16,17	Crystal field theory, color & spectrochemical series	24.5-24.6	25.8-25.9
26	N18, 22	Organic chemistry: structure and nomenclature	25.1-25. 2	27.1-27.15
27	N23, 24	Organic chemistry	25.3-25.4	27.1-27.15
28	N29, 30	Nuclear stability, binding energy & decay	21.1-21.5	26.1-26.8
29	D1, 2	Rate of decay, fusion, fission	21.6-21.8	26.10-26.16
30	D6, 7	Final Review		
31	D8,9	Comprehensive final		

Objectives for CHEM 1312 (General Chemistry II)

This is a list of topics to be taught in General Chemistry II. It does not reflect the order in which the topics need be taught. *** Optional

1 Chemical Kinetics

- ❖ Rate of a reaction
- ❖ Factors that affect reaction rates
- ❖ Nature of reactants
- ❖ Concentration of reactants: Rate-law expressions & Reaction order
- ❖ Concentration vs. time: Integrated rate equations and half-life
- ❖ Collision theory, activation energy
- ❖ Transition state theory
- ❖ Mechanisms and Rate-law expressions
- ❖ Arrhenius equation: temperature and rate
- ❖ Catalysts

2 Chemical Equilibria

- ❖ Dynamic equilibria
- ❖ Equilibrium constant K_c
- ❖ Reaction quotients
- ❖ Calculations with K_c
- ❖ Heterogeneous equilibria
- ❖ K_p and K_c
- ❖ Le Chatelier's Principle: factors affecting equilibria

3 Acid-Base Theories

- ❖ Arrhenius Acid-base theories
- ❖ Bronsted-Lowry Acid-base theories
- ❖ Strength of acids: binary and ternary acids
- ❖ Lewis Acid-base theories

4 Acid-Base Equilibria

- ❖ Ionization of water, K_w
- ❖ pH and pOH
- ❖ K_a and K_b for weak acids and bases, % ionization
- ❖ Polyprotic acids
- ❖ Hydrolysis of salts: Relationship between K_a and K_b
- ❖ Hydrolysis of metal ions
- ❖ Common ion effect and Buffer solutions, Henderson-Hasselbalch equation
- ❖ Buffering action and preparation of buffer solutions
- ❖ Acid-base indicators
- ❖ Acid-base titrations

5 Ionic equilibria: Solubility

- ❖ K_{sp} and solubility
- ❖ Common ion effect of solubility Reaction quotients
- ❖ Predicting precipitate formation
- ❖ Fractional precipitation
- ❖ Simultaneous Equilibria: K_{sp} with K_b or K_a
- ❖ Dissolving precipitate, complex formation

6 Thermodynamic

- ❖ The First Law of Thermodynamics
- ❖ Enthalpy, ΔH
- ❖ Calorimetry (constant-pressure and constant volume)
- ❖ Thermochemical equations
- ❖ Internal energy, ΔE
- ❖ Relationship between ΔE and ΔH
- ❖ Hess' Law
- ❖ Standard enthalpies of formation and reaction
- ❖ Bond energy and ΔH
- ❖ The Second Law of Thermodynamics & Spontaneity
- ❖ Entropy and Third Laws of Thermodynamics
- ❖ Gibb's free energy
- ❖ Relationship between ΔG and K

7 Electrochemistry

- ❖ Balancing redox reactions
- ❖ Electrical conduction & electrodes
- ❖ Electrolysis
- ❖ Faraday's law of Electrolysis
- ❖ Voltaic cells
- ❖ Standard electrode potentials
- ❖ Nernst equation
- ❖ Concentration cells
- ❖ Relationship of ΔG° and K

8 Coordination Compounds

- ❖ Basics: ligands, coordination number
- ❖ Nomenclature
- ❖ Structural Isomers
- ❖ Stereoisomers: geometric & optical isomers
- ❖ Crystal field theory: high spin, low spin (Optional)
- ❖ Color & spectrochemical series (Optional)

9 Nuclear Chemistry

- ❖ n/p ratio and nuclear stability
- ❖ Nuclear binding energy & nuclear stability
- ❖ Radioactive decay
- ❖ Nuclear equations
- ❖ Kinetics
- ❖ Nuclear fission, fusion and reactors

10 Introduction to Organic Chemistry

- ❖ Types of hydrocarbons
- ❖ Functional groups: halides, alcohols, ethers, aldehydes, ketones, amines, carboxylic acids & derivatives
- ❖ Nomenclature
- ❖ Typical reactions: substitution, addition, elimination & polymerization
- ❖ Isomers