

**UNIVERSITY OF KENTUCKY**  
**Department of Chemistry**

***SYLLABUS***

**GENERAL COLLEGE CHEMISTRY I**

**CHE 105-001, 002, 003**

**MWF**

**Fall 2007**

Textbook: Raymond Chang, *Chemistry, 9th Edition*, McGraw-Hill Publishing, 2006.

Recommended Supplement: Chemistry CD-ROM, Thinkwell Publishing.

<b>DATES</b>	<b>CHAPTER</b>	<b>TOPICS</b>	<b>SUGGESTED HOMEWORK FROM TEXTBOOK</b>
Aug. 22, 24, 27	CH 1	Syllabus; Chemistry: The Study of Change	2, 3, 5-10, 12, 16, 21-26, 30, 32-34, 36, 38-40, 42-50 (even), 62, 65, 69, 70, 86, 89
Aug. 29, 31, Sept. 5, 7	CH 2	Atoms, Molecules and Ions	5, 7, 8, 14-18 (even), 22, 24, 26, 27, 28, 30-36, 40, 44-48 (even), 57-60, 64, 66, 68, 69, 74, 90, 99 (if you like puzzles)
Sept. 10	CH 3.1 - 3.4	Mass Relationships in Chemical Reactions	2, 5-8, 9, 11, 12-22 (even), 23, 24-30 (even)
Sept. 12		*Optional Review	
Sept. 13	CH 1, 2, 3.1 - 3.4	<b>EXAM I (8:00-9:15 PM)</b>	
Sept. 14, 17, 19	CH 3.5 - 3.9	Mass Relationships in Chemical Reactions	35, 39, 40, 43, 44-54 (even), 59, 60, 63, 64-68 (even), 69, 74, 78, 81, 82-86 (even), 90, 92, 96, 102, 104, 111
Sept. 21, 24, 26	CH 4	Reactions in Aqueous Solutions	1, 6, 7-10, 17-19, 20-24 (even), 26, 29, 31, 32, 33, 40, 43, 44, 46, 48-50, 60-66 (even), 70-73, 77, 78, 79, 83, 85-88, 92, 96, 104, 107, 130
Sept. 28, Oct. 1, 3	CH 5	Gases	13, 14, 16-20, 22-26 (even), 31-34, 36-50 (even), 52-54, 58, 64-70 (even), 78, 86, 92, 106, 107, 132, 139, 148
Oct. 5, 8	CH 6.1 - 6.3	Thermochemistry	1, 3, 7, 11, 14-16, 18, 20, 21, 25-28, 30, 33-38, 41, 45, 48, 51-54, 56, 61-65, 72, 78, 82, 88, 95, 100, 116
Oct. 10		*Optional Review	

Oct. 11	CH 3.5 - 3.10, 4, 5	<b>EXAM II (8:00-9:15 PM)</b>	
Oct. 12, 15, 17	CH 6.2 - 6.8	Thermochemistry	
Oct. 19, 22, 24, 26	CH 7	Quantum Theory and the Electronic Structure of Atoms	1, 7-12, 15, 16-20 (even), 23, 29, 30-34 (even), 35, 39, 40, 42-44, 48, 52, 55, 56-66 (even), 67, 75-78, 88-92, 96, 106, 109, 120, 124, 132
Oct. 29, 31, Nov. 2, 5	CH 8	Periodic Relationships Among the Elements	5, 12, 13, 15, 21, 22, 25-28, 30, 32, 38-42 (even), 43-46, 48, 49, 52, 55-59, 61, 64, 68, 74, 78, 90, 102, 118, 121, 128
Nov. 7		*Optional Review	
Nov. 8	CH 6, 7, 8	<b>EXAM III (8:00-9:15 PM)</b>	
Nov. 9, 12, 14, 16	CH 9	Chemical Bonding I: Basic Concepts	4, 5, 7, 15, 18, 23, 25, 26, 35-38, 40, 44-48, 51, 52, 54, 55, 64-66, 69-72, 80, 88, 92, 96, 104
Nov. 19, 26, 28, 30	CH 10	Chemical Bonding II: Molecular Geometry and Hybridization of Atomic Orbitals	7, 8-14 (even), 15, 19, 22-25, 28, 33, 34-44 (even), 45, 49, 52, 57, 58, 68, 69, 76, 89, 90
Dec. 3, 5, 7	CH 11	Intermolecular Forces and Liquids and Solids	2, 7, 9, 10-20 (even), 31, 32, 33, 36, 38-40, 42, 44, 49, 52, 59, 66, 75, 77, 78, 80, 84, 93, 100, 112, 119, 122, 127, 132, 146
Dec. 10 (Mon.)	CH 1 - 11	<b>Final Exam (8:30 - 10:30 PM)</b>	

### 105 TENTATIVE HOMEWORK DUE DATES

Introduction Assignment	Friday, Aug. 31	11:59 PM
Chapter 1	Friday, Sept. 7	11:59 PM
Chapter 2	Tuesday, Sept. 11	11:59 PM
Chapter 3	Tuesday, Sept. 25	11:59 PM
Chapter 4	Tuesday, Oct. 2	11:59 PM
Chapter 5	Tuesday, Oct. 9	11:59 PM
Chapter 6	Tuesday, Oct. 23	11:59 PM
Chapter 7	Tuesday, Nov. 6	11:59 PM
Chapter 8	Tuesday, Nov. 13	11:59 PM
Chapter 9	Tuesday, Nov. 27	11:59 PM
Chapter 10	Thursday, Dec. 6	11:59 PM
Chapter 11	Sunday, Dec. 9	11:59 PM

**UNIVERSITY OF KENTUCKY**  
**Department of Chemistry**

**CHE 105                      GENERAL COLLEGE CHEMISTRY I                      (3)**

**COURSE DESCRIPTION:**

A study of the principles of chemistry and their application to the more important elements and their compounds. Not open to students who have already completed both CHE 104 and 106 or CHE 104 and CHE 108, but is open to students who have completed just CHE 104. Prereq: Math ACTE of 23 or above or (Math placement test) or MA 109 or the community college course CHM 100 or CHM 102.

**UNIVERSITY STUDIES PROGRAM:**

This course is part of the University Studies Program, which is designed to provide a comprehensive liberal arts education to all undergraduates. The course can be taken together with CHE 107 and CHE 115 to fulfill the Natural Science requirement in University Studies.

Course/Section	Days	Meeting Time	Instructor	Room
CHE 105-001	MWF	9:00 - 9:50 AM	Dr. S. M. Holmes	CP-139
CHE 105-002	MWF	12:00 - 12:50 PM	Dr. K. Woodrum	CP-139
CHE 105-003	MWF	1:00 - 1:50 PM	Dr. M. R. Knecht	CP-139

**PAGERS, CELLPHONES AND ANY OTHER FORM OF ELECTRONIC COMMUNICATION DEVICE MUST BE TURNED OFF DURING CLASS AND ARE PROHIBITED DURING EXAMS.**

**IMPORTANT DATES**

Last day to add any course - 28 August.

Last day to drop a course without its appearing on your transcript - 12 September. This is also the last day to change the grading option (letter grade to pass/fail or vice versa; credit to audit or vice versa).

Last day to withdraw from a course - 19 October.

Designated University Holidays - 3 September; 21, 22 and 23 November.

**MAJOR RELIGIOUS HOLIDAYS**

Students are responsible for notifying the General Chemistry secretary, Ms. Geri Gerke (CP-125) **in writing** of anticipated absences due to their observance of such holidays. Notification must be received no later than the last day for adding a class (28 August).

**STUDENTS WITH DISABILITIES**

Any student with a certified disability should provide this information to the General Chemistry secretary, Ms. Geri Gerke (CP-125) no later than the last day for adding a class (28 August).

**INFORMATION CARD (FORM GC-1.1)**

All students shall complete and return to the instructor the information card provided. This satisfies University Senate rules regarding intent to attend this course. Failure to submit this card within the first two class periods shall be cause for removal from the class roll.

## EXAMINATIONS

Each examination will last 75 minutes. Instructions for each examination will be given at 7:55 PM on the day of the examination. Be on time; no student may leave prior to 8:20 PM and ***no student will be admitted after 8:20 PM***. If you show up after 8:20 PM, you will **NOT** be allowed to take the exam. See "Make-up Examinations" for details. You must bring an ID card (or other identification with a picture, preferably in color), one or more #2 pencils, and your own simple scientific calculator (with exponents and logarithms) to all examinations. Graphing calculators, calculators with large memory banks and calculators which permit the entering of alphabetic symbols are **NOT** permitted. No TI-80 series or higher graphing calculator is permitted. The instructor has the final say as to what is acceptable. If you have questions, ask your instructor. All materials (backpacks, pagers, phones, and other electronic devices) must be left at the front of the room during the exam. Your seating assignment for the examinations will be posted in Blackboard 1-2 days prior to the examination. The file is located under "Course Information", "Exam Information". Please check carefully all exam dates and times for the semester and if you have any school-related conflicts with the dates and/or times, contact Ms. Geri Gerke (CP-125) at least two weeks before the first exam.

## FINAL EXAMS

The final exam is Monday, 10 December from 8:30-10:30 PM. Contact Ms. Geri Gerke in CP-125 if you have a course conflict with this time. If you miss the final, if you are excused, and if you are in passing standing in the course you will receive an "I" for the course and you will make up the exam with the next semester's final. If you are not in passing standing and if you miss the final exam, you will receive an "E" grade for the course.

## GRADING IN THE COURSE

Three examinations (each of 75 minutes duration; 25 multiple-choice questions) and a Final Examination (of two hours duration, subdivided into four sections that correspond to the three examinations and the material following the third examination) will be given in this course. Grades for the course will be assigned on the following basis: A: 90.0 - 100; B: 80.0 - 89.9; C: 70.0 - 79.9; D: 60.0 - 69.9; E: below 59.9.

On the final examination, if the grade on that section corresponding to the examination with **THE LOWEST GRADE** is improved, that section grade will be substituted for the original examination grade.

The final grade for the course will be calculated as follows:

Three examinations, at 20% each	.....	60%
Class Participation and Assigned Homework	.....	15 %
Comprehensive Final Examination	.....	<u>25%</u>
Total	.....	100%

The department adheres rigorously to University policy with respect to awarding grades of I (incomplete) - see "Student Rights and Responsibilities," by going to <http://www.uky.edu/StudentAffairs/Code/>. Go to Part II: Rules of University Senate, Section V, 5.1.3.2.

## EXTRA CREDIT OPPORTUNITIES

You will be given the opportunity to earn up to 10 "Bonus Points" throughout the semester. Each Bonus Point will add 0.1% to your final average. For example, if you earn 7 Bonus Points and your average at the end of the semester is 89.3, your new average will be 90.0 and you have an "A" for the semester. Bonus Points will be given for attending the General Chemistry Learning Center and as described by your individual instructor. You may not earn Bonus Points after the final examination.

## **MAKE-UP EXAMINATIONS**

There will be no separate make-up examinations for the three examinations. However, for those students who miss one examination with a legitimate, documented excuse under the guidelines outlined on a separate sheet posted on the General Chemistry Bulletin Board (outside of CP-139) *AND WHO OBTAIN PERMISSION WITHIN THE TIME LIMIT INDICATED ON THE EXCUSED ABSENCE POLICY FORM POSTED*, the score on a section of the Final Examination pertaining to the material of the missed examination will be converted to a percentage and substituted for the score on the missed examination. *PLEASE CAREFULLY NOTE BOTH THE TIME REQUIREMENTS AND THE PROCEDURE FOR OBTAINING A LEGITIMATE EXCUSED ABSENCE*. Purchase of airline tickets is **NOT** considered a legitimate reason to be excused from an exam. Don't purchase tickets which conflict with exams. If an exam is missed and is not excused, a zero will be given. This score will be your **LOWEST** grade and will be replaced as described under "Grading in the Course".

## **SPECIAL OPPORTUNITY TO CHANGE TO CHE 104**

You may wish to take advantage of a special opportunity to change to CHE 104 if you are having serious difficulty in mastering the material in CHE 105. Students may receive special permission to change from CHE 105 to CHE 104; if wished, the change must be accomplished on 14, 17, or by noon on 18 September - no other times are permitted. **ONLY** a change from a section of CHE 105 to a section of CHE 104 will be permitted; *no other alteration of your schedule will be allowed*.

Those students who switch to CHE 104 may take Exam I on Thursday, 20 September and the best of the two scores will be recorded for your Exam I grade. You will receive general advice from your instructor on 14, 17, and/or 18 September concerning the advisability of taking advantage of this special opportunity. You are welcome to discuss your situation individually with your instructor and/or the Director of General Chemistry during their usual office hours.

It is to be noted that *CHE 104 is not a substitute for CHE 105* in pursuing the CHE 105/CHE 107 sequence. CHE 104 is a part of the CHE 104/CHE 108 sequence. Credit is not available for both CHE 104 and CHE 105 to satisfy University requirements.

## **BY-PASS EXAMINATION**

A by-pass examination will be administered on Friday, 24 August from 5:00 to 6:50 PM in CP-139. This is open to all students wishing to "test out of" CHE 105 OR CHE 105/107, and is available at no cost, and does not affect your grade in CHE 105 or CHE 107 in any way. To take this by-pass examination, you must register with Ms. Gerke in CP-125 prior to 4:00 PM on 24 August 2007. Bring #2 pencils and your calculator to the by-pass examination.

## **CHEATING**

The Department of Chemistry considers cheating a very serious offense and will do everything possible to prevent cheating in this course. The penalty for cheating in any form is the assignment of a grade of "E" for the course. Sanctions imposed may include, and have included, suspension, dismissal, and expulsion from the University. Turning in falsified documents for obtaining an excuse from a missed exam, assignments or class is considered cheating and will result in a grade of "E" for the course.

## **HELP!**

The Department of Chemistry will offer **the week before** and **the week of** examinations a help session for students in CHE 105. Attendance at these help sessions is entirely voluntary. For the Fall 2007 semester these help sessions will be from 4:00 - 4:50 PM on Mondays in CP-139. In addition, the Chemistry Department provides a "General Chemistry Learning Center" that is staffed by General Chemistry Teaching Assistants. The learning center is located in CP-25. The schedule for the learning center is posted on the door to CP-25 and will be posted in Blackboard a few days after the beginning of classes.

You will also find several old examinations available by clicking on "External Links" in Blackboard.

## **PERSONAL TUTORS**

Tutors for General Chemistry are available. A list of names of Department of Chemistry staff willing to tutor can be obtained from the receptionist in the Chemistry Office (CP-125) soon after the beginning of the semester.

## **COPYRIGHT**

“All course material is copyrighted (either by the instructor or others). Therefore, transcribing and then selling, publishing or posting any of the lecture material presented in class is strictly prohibited. This applies particularly to ‘professional’ note-taking services and companies that publish such material on the Internet or in written form.”

## **OFFICE HOURS**

You are encouraged to make use of your instructor's office hours. Office hours for the CHE 105 instructors are as follows:

Instructors	Section	Phone/E-mail	Office Hours	Office
Dr. S. M. Holmes	001	Phone: 257-7073 E-mail: <a href="mailto:smholmes2@gmail.com">smholmes2@gmail.com</a>	M 1:00-3:00 PM	CP-15
Dr. K. Woodrum	002	Phone: 257-7081 E-mail: <a href="mailto:kwood2@uky.edu">kwood2@uky.edu</a>	MW 1:00-2:00 PM R 9:00-10:00 AM	CP-123
Dr. M. R. Knecht	003	Phone: 257-7058 E-mail: <a href="mailto:mrknech2@email.uky.edu">mrknech2@email.uky.edu</a>	T 2:00-4:00 PM W 9:00-10:00 AM	CP-101
Dr. F. J. Holler	004, 005, 006	Phone: 257-5884 E-mail: <a href="mailto:che105@bellsouth.net">che105@bellsouth.net</a>	TR 11:00 AM - 1:00 PM	CP-209
Mr. D. Lafferty	401	Phone: 257-2126 E-mail: <a href="mailto:dalafferty@uky.edu">dalafferty@uky.edu</a>	MW 7:30-9:00 PM	CP-305

You are also welcome to come to the office of the Director of General Chemistry (Dr. Kim Woodrum, CP-125, E-mail: [kwood2@uky.edu](mailto:kwood2@uky.edu)) to discuss matters of policy or to make comments about the course. Dr. Woodrum is normally available Tuesdays and Thursdays by appointment only. You may make an appointment by calling the General Chemistry secretary (Ms. Geri Gerke) at 257-3882.

## **E-MAIL COMMUNICATION**

When you e-mail faculty or staff regarding course issues, please include in the subject line of your e-mail the following: CHE 105 00Y Subject, where Y is your section number and Subject is a few words describing the topic of your e-mail. Also, be sure to include your name either in the From: field or in the body of your message. E-mails that do not include a proper subject line and your name may be returned without comment.

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## Blackboard and Homework Instructions

To access Blackboard, go to <http://myuk.uky.edu>. Your username and password is the same as your UK e-mail address. **It is your responsibility to log in and not miss assignments.** Ignorance or incompetence will not count as an excuse for missed assignments. Your first assignment is due Friday, August 31 @ 11:59 PM. Log in right away so any problems can be ironed out before your assignment is due.

Once on Blackboard, click on the course you wish to access. You will use Blackboard to access the following:

- I. **Announcements:** Current announcements will be displayed on the opening course screen. Be sure to log into Blackboard on a daily basis even if you do not have homework to do, so you can read announcements that the instructor, or Director of General Chemistry has posted for you.
- II. **Homework Assignments:** Assigned Homework will be completed on Blackboard. These assignments count as 15% of your grade.

Click on “Tools & WebAssign”, then “WebAssign link”.

When logging into WebAssign, you will be prompted to enter an access code. To use WebAssign, you **MUST** purchase the code, though a few days grace period will be granted. The code can be purchased at the bookstore or on-line with a credit card.

### **Please note the following:**

1. WebAssign is a separate website location that comes up in Blackboard. To ensure you know how to use WebAssign, **you need to read the Student Guide!** Disregard 1 and 2 of the guide. (They do not apply to you. You are already registered and logging into Blackboard will log you into WebAssign.) You must take responsibility to know how WebAssign works. The Student Guide, request for assistance and other important information are located at: [http://www.webassign.net/info/support/stu\\_support.html](http://www.webassign.net/info/support/stu_support.html)
  2. If WebAssign is unable to help you with your issues, contact Dr. Kim Woodrum at [kwood2@uky.edu](mailto:kwood2@uky.edu). She will be able to help or direct you to where to get the help you need. \*Follow the protocol for e-mail communication listed above.
  3. The lowest two assignments will be dropped. Therefore, two assignments are automatically excused through this drop policy for whatever reason, forgot to do it, missed due date, computer malfunction. A percentage score will be calculated for each of the 12 homework assignments. The two lowest percentages will be dropped, and the final homework score will be the average of the remaining percentages.
  4. To receive an extension on an assignment, you will need to provide legitimate, documented excuses consistent with University policy in order to be granted the manual extension. The documentation must be turned in to Ms. Geri Gerke in the main chemistry office (CP-125) within one week of the homework due date. Extensions will not be granted if you view the key.
  5. Additional issues that arise will be addressed in the Announcements in Blackboard. Be sure to check your announcement page daily.
  6. Grades for homework as well as exams will be posted in WebAssign. Click on “Grades” at the top of the screen. Click “View All” to see all grades for the semester.
- III. **Course Information:** At this site you will find seating assignments for exams, keys for exams, lecture notes and other important information.
  - IV. **Study Aids:** Extra resources for help with the topics of general chemistry.

- V. **External Links:** Important links will be posted here, including old exams and keys (make sure to read information for password to old exams).

**Contact the UK InfoTech Customer Service Center for help with these or other matters related to Blackboard.**

Online Blackboard Support Center is available to you to answer all kinds of Bb-related questions, 24 hours a day and seven days a week. This extra source of help offers web pages, real-time text chat, and a toll-free phone number. Take a few minutes to explore the full array of helpful information pages on this site. Users can learn about Bb features old and new and get help with a wide range of Bb-related issues.

Before logging into Bb, go to the 24/7 Bb Support Center at

<http://supportcenteronline.com/ics/support/default.asp?deptID=1083> (or use this abbreviated address:

<http://tinyurl.com/9qw5t>).

After logging in, the quickest way to access this Support Center is to click the Help icon (question mark) at the top of every Bb page, next to the Logout button.

The UK InfoTech CSC, located in 111 McVey Hall (Computing Center) is open for visits 7 AM to 6 PM, Monday through Friday. During these hours, you can also phone in (859-257-1300) to speak with a consultant. After hours, you can leave a phone message. You can send e-mail at any time to [helpdesk@uky.edu](mailto:helpdesk@uky.edu). In your message, be sure to provide as many details as you can.

Any Bb user who has forgotten a password and needs it reset to the default should contact the CSC for assistance.

**WebAssign Technical Support**

Go to [http://webassign.net/info/support/stu\\_support.html](http://webassign.net/info/support/stu_support.html)