

Syllabus, General Chemistry I, CHM 1142

Section TCAA, Fall, 2008

McCall Hall, Room 318

MWF 9:00-9:50 AM

Instructor: Dr. Christopher King, cking@troy.edu

Office: McCall 315, (334)670-3576.

My office hours and schedule:

	Monday	Tuesday	Wednesday	Thursday	Friday
8-9	Office hours		Office hours		Office hours
9-9:50	Gen. Chem. I	Office hours	Gen. Chem. I	Office hours	Gen. Chem. I
10-11:30		Office hours		Office hours	
11:30-12				Gen. Chem. II Lab	
12-12:50	Biochemistry		Biochemistry	(Continued)	Biochemistry
1-2:15	Office hours		Office hours	(Continued)	
2:30-5					

Home page: <http://spectrum.troy.edu/~cking>. To get to it, go to spectrum.troy.edu, click on "Troy University Faculty", then on "King, Dr. Christopher". Computers are available in 164 Smith Hall, and in the library.

Description: A 3 credit hour course. Emphasis is placed on the periodic table and stoichiometry, including chemical properties, physical states, and structure.

Objectives:

1. Atomic, molecular, and ionic structure of matter and its relation to the physical and chemical properties of substances;
2. Measurement and stoichiometric calculations of quantities of substances and their quantitative behavior in chemical reactions, using mass, volume, and mole quantities of gases, liquids, and solids;
3. Qualitative behavior of gases and the ideal gas laws;
4. Organization of the elements in the periodic table and the relationship of their physical and chemical properties as represented by the table;
5. Physical nature of mixtures (solutions) and basic expressions of concentration;

6. Nature of energy and energy relationship in physical changes and chemical reactions;
7. Nature of chemical reactions in solution.

Textbook: Brown, LeMay, Bursten, *Chemistry The Central Science*, 2005, 10th ed., Pearson/Prentice Hall. Includes access code to Mastering General Chem, an on-line homework/tutorial system.

A calculator is required for tests.

Prerequisites: Pass MTH 1112 with at least a C (or a score of 0, 1, or 5 on the math placement exam), or be taking the course concurrently.

Corequisite: CHM L142

If you drop lecture, you must drop lab, and vice versa.

Tentative Schedule

8/15	Wed	Chap. 1, Introduction: Matter and Measurement
8/17	Fri	
8/20	Mon	
8/22	Wed	
8/24	Fri	
8/27	Mon	Chap. 2, Atoms, Molecules, and Ions
8/29	Wed	
8/31	Fri	
9/3	Mon	Labor Day; No Class
9/5	Wed	
9/7	Fri	
9/10	Mon	Chap. 3, Stoichiometry: Calculations with Chemical Formulas and Equations
9/12	Wed	Test 1
9/14	Fri	
9/17	Mon	
9/19	Wed	
9/21	Fri	
9/24	Mon	Chap. 4, Aqueous Reactions and Solution Stoichiometry
9/26	Wed	
9/28	Fri	
10/1	Mon	
10/3	Wed	
10/5	Fri	Test 2

10/8-10/14	Fall Break
10/15 Mon	Chap. 5, Thermochemistry
10/17 Wed	
10/19 Fri	
10/22 Mon	<i>Last day to drop without academic penalty</i>
10/24 Wed	Chap. 6, Electronic Structure of Atoms
10/26 Fri	
10/29 Mon	
10/31 Wed	
11/2 Fri	Chap. 7, Periodic Properties of the Elements
11/5 Mon	Test 3
11/7 Wed	
11/9 Fri	
11/12 Mon	Veteran's Day; No Class
11/14 Wed	Chap. 8, Basic Concepts of Chemical Bonding
11/16 Fri	
11/19 Mon	
11/21, Wed-11/25, Sun	Thanksgiving Day Break
11/26 Mon	
11/28 Wed	Chap. 9, Molecular Geometry and Bonding Theories
11/30 Fri	
12/3 Mon	
12/5 Wed	
12/7 Fri	Test 4
12/10 Mon	Dead Day (?) Final Exam, TBA

Grading: A, 90-100; B, 80-89; C, 70-79; D, 60-69

20% Homework

50% Tests

30% Final Exam

An excuse must be provided for missed tests and quizzes.

For an incomplete to be considered, you must have a C for the completed material.

Disabilities: Students whose disabilities fall within the "Americans with Disabilities Act" should inform me as soon as possible of any special needs. Students with a learning disability should inform the instructor, preferably after contacting the Office of Adaptive Needs Program (Trojan Center 215, 670-3221). Various accommodations are available through the Adaptive Needs Program.

Code of Conduct: Students are expected to know and abide by the Academic Code described in the student handbook, the *Oracle*. Any student involved in any activity that violates this Code will be subject to appropriate disciplinary action, including dismissal from class.

General Chemistry I Lab Syllabus

CHM L142, Spring, 2007
McCall Hall, Room 310 and 306

Note: This syllabus is for the Troy campus; the course content on other campuses is similar, but not yet exactly the same.

Course Description: This 1 credit hour course will familiarize you with laboratory techniques/equipment common to chemistry laboratories and reinforce concepts learned in lecture. Co-requisite: CHM 1142. If you drop lecture, you must also drop lab.

Objectives:

1. Provide hands-on experience with laboratory manipulations of substances including measuring quantities of solids and liquids and transferring, mixing, and heating materials
2. Give experience using significant figures and units in measurements and calculations
3. Illustrate basic physical and chemical properties of matter
4. Provide quantitative experiments of chemical reactions and physical properties and changes
5. Use of atomic and molecular models to illustrate bonding and properties of matter

Sections:

Section	Day	Time	Instructor	Location
TOBA	Tuesday	8:30 - 11:20	Gunter	McCall 310
TBBB	Tuesday	8:30 - 11:20	Sikabwe	McCall 306
TRBB	Tuesday	11:30 - 2: 20	King	McCall 310
TUBA	Tuesday	2:00 - 4:50	Gunter	McCall 310
THBA	Wednesday	2:00 - 4:50	Sundberg	McCall 310
TOBC	Thursday	8:30 - 11:20	Gunter	McCall 310
TRBB	Thursday	11:30 - 2:20	Sikabwe	McCall 310
TUBB	Thursday	2:30 - 5:20	Gunter	McCall 310

Contact information:

	Office	Phone	Email
Dr. E. Sikabwe	McCall 312E	670-3571	esikabwe@troy.edu
Ms. M. Barnett	McCall 312D	670-3570	mbarnett37429@troy.edu
Dr. K. R. Sundberg	McCall 312F	670-3577	ksundberg@troy.edu
Mr. Gunter			gunt@hiwaay.net
Dr. C. King	McCall 315	670-3576	cking@troy.edu

Course Web Page: Sundberg: spectrum.troy.edu/~sundberg/Courses.htm

Required Materials:

- 1) Textbook: General Chemistry I Lab Manual; T. Whatcott, editor. Thomson Learning: Mason, OH, 2006; ISBN: 0-534-19451-6. This is a custom textbook prepared especially for Troy University.
- 2) Scientific Calculator
- 3) Safety goggles

Tentative Schedule:

Week of	Experimental Topic
Jan. 08	No Chem I lab this week
Jan. 15	Safety Practices in the Chemistry Lab
Jan. 22	Density of Liquids and Solids
Jan. 29	Classifying Matter by Properties
Feb. 05	Percent Water in a Hydrate
Feb. 12	Determining the Empirical Formula of Magnesium Oxide
Feb. 19	Studying Chemical Reactions
Feb. 26	Determining the Molarity of a Sodium Hydroxide Solution
Mar. 05	Determining the Percent Sodium Hypochlorite in Commercial Bleach
Mar. 12	Evaluation of 0° K (Handout)
Mar. 19	SPRING BREAK
Mar. 26	Molar Mass of Volatile Liquid by Dumas Method (Handout)
Apr. 02	Calorimetry (Handout)
Apr. 09	A Sequence of Chemical Reactions: Transforming Copper
Apr. 16	Final Exams in lab this week
Apr. 23	No Lab

Grading:

- 90% Lab reports, including pre- and post-lab assignments
- 10% Final Exam

Grade	Percentage
A	90-100%
B	80-89%
C	70-79%
D	60-69%
F	< 60%

You will lose one letter grade for each lab that is missed. You are expected to attend the section of lab you registered for so be sure you attend the correct section. Makeup labs are NOT available. However, if you will not be able to attend a particular lab, let us know in advance and we may be able to arrange for you to attend a lab earlier or later in the week. There are problems with space in the laboratories, and these make up arrangements may not always be possible. Moreover, labs this semester meet only on Tuesdays and Wednesdays. You can't

miss a Wednesday lab and ask for a makeup later. You have to make these arrangements ahead of time.

Late lab report policy: Pre-lab assignments are due when you walk in the door; they will not be accepted after that. Post-lab assignments are due at the end of the lab.

Laboratory Safety: The chemistry lab can be a dangerous place if certain safety rules are not followed. In light of this we will require each student abides by certain safety policies and procedures when working in the chemistry lab. Failure to comply with these procedures will result in the student being asked to leave the laboratory and being assigned a "0" on the lab. You will be required to wear departmental approved safety goggles, long pants, and closed-toed shoes at all times when working in the lab. This means that on lab days you must plan ahead to assure you will not be in violation of laboratory dress-code.

Resources: Computers are available in McCartha 119, and in the library. The Natural Science Center (McCall 215) has tutors who can help with homework, etc.

Pregnancy: Women who become pregnant must either a) drop the lab (a grade of "incomplete" can be given), or b) obtain a written statement from a doctor recommending that you be allowed to complete the course. We will work with you on this.

Disabilities: Students whose disabilities fall within the "Americans with Disabilities Act" should inform me as soon as possible of any special needs. Students with a learning disability should inform me, preferably after contacting the Office of Adaptive Needs Program (Trojan Center 215, 670-3221). Various accommodations are available through the Adaptive Needs Program.

Posting of Grades: We will not provide grade information over the phone or via e-mail. If you have any questions or concerns about your grade please feel free to come by in person and we will discuss your grade in detail with you.