

**CHEM 101 Syllabus
SUMMER I - 2009
General Chemistry**

- Lecturer:** Dr. Jeffrey Ashley
ashleyj@philau.edu
- Lab Instructor:** Dr. Jeffrey Ashley
ashleyj@philau.edu
office hours: Any time after lecture or lab
- Lecture Hours:** T, Th @ 6 to 9:10 pm (Hayward 201)
- Laboratory Hours:** W @ 6 to 10:10 pm (Hayward 201)
- Required Texts:** Chemistry for Changing Times (12th Edition) by Hill, McCreary, & Kolb
(free copies of the text book have graciously been donated by Prentice Hall)

Objectives of Course: The course assumes you have no or little background in chemistry. The course is designed for the non-science major who requires a laboratory science course and for those who will need a basic knowledge of chemical concepts in further courses (e.g., textile design, textile engineering, fashion industry merchandising). Through class discussions, laboratories and assignments, your problem-solving and presentation skills will be further developed.

Upon completion of this goal, you will understand:

1. The difference between elements and compounds (how can you tell?),
2. The difference between chemical and physical changes (w/ emphasis on temperature effect on phase change),
3. Solution properties (with emphasis on "concentration" & "solubility"),
4. Covalent (polar & non-polar) versus ionic bonding,
5. Intermolecular forces (e.g., hydrogen bonding, dipole/dipole & dispersion forces),
6. Nomenclature of inorganic and (limited) organic substances,
7. Correct methods of writing formulas,
8. pH (general understanding of an acid & base chemistry, strong acid/base versus weak acid/base).

Tentative Lecture and Lab Schedule

Week	Date	Chemistry Topics to Be Covered That Week	Reading Assignment From Text (Chapter)	Laboratory Experiments
1	May 19	Introduction to the Course - What are My Expectations, Introduction to the Scientific Method	None	May 20 Lab 1: Questions/Discussion of Two Scientific Papers Lab 2: Mentos and Diet Coke: An Introduction to the Scientific Method
	May 21	Chemistry – The Basics	1	
2	May 26	Atoms	Chapter 2	May 27 Lab 3: Paper Chromatography of Felt-Tip Pen Inks: Separating Compounds from a Mixtures Lab 4: High Performance Chromatography of Caffeine in Soda
	May 28	Atomic Structure	Chapter 3	
3	June 2	Chemical Bonds	Chapter 4	June 3 Lab 5: Light Lessons: Spectrophotometric Study of Colored Solutions Test 1 (Chapters 1-4)
	June 4	Chemical Accounting	Chapter 5	
4	June 9	Gases, Liquids, Solids and Intermolecular Forces	Chapter 6	June 10 Lab 6: Screening of Apparel Products for Elements using XRF Lab 7: Analysis of Elements such as Lead in Apparel and Consumer Products using Flame Atomic Absorption Spectrophotometry
	June 11	Acids and Bases	Chapter 7	
5	June 16	Oxidation and Reduction	Chapter 8	June 17 Lab 8: Acid and Base Chemistry: Monitoring pH Changes in Neutralization Reactions TEST 2 (Chapter 5-8)
	June 18	Organic Chemistry	Chapter 9	
6	June 23	Polymers	Chapter 10	June 24 Film for Thought: Blue Vinyl Discussion to follow
	June 25	FINAL EXAM		

Tests: There will be TWO 75-minute tests during the semester. The tests will emphasize your understanding of basic concepts as well as problem-solving. **Bring a calculator and your periodic chart to each exam.**

Final Exam: The 2 hour final exam will be cumulative and scheduled during our last lecture (June 25, 2009).

Quizzes: There will be periodic "pop" (meaning unannounced) quizzes during the semester (in-class and take home). The quizzes will be focused on a recently introduced topic(s) and are intended to prepare students for upcoming tests and the final exams.

Homework: There will be homework problems assigned from each chapter. These homework problems may or may be graded. Test questions are heavily based on these home problems. Additional problem sets may also be given to better prepare you for the test and quizzes.

Class Participation: Occasionally group activities will be used to present a chemistry concept. Participation is expected. Questions during class are encouraged. Visit the class web site to learn more. Bring a calculator to every class. Attendance will be factored into your participation grade (missed hours will result in 2 points per missed hour).

Laboratory: The laboratory portion of this course provides hands-on experience with topics discussed in the lecture. **YOU MUST ATTEND ALL LABS.**

You must show up on time to your laboratory session and be prepared by reading your laboratory experiment/readings before you show up. At the beginning of the laboratory a brief lecture on the laboratory experiment (equipment, methodology, and theory) is given and a short quiz will test your preliminary understanding and how prepared you are. It is absolutely important that you attend this brief lecture; missing it may result in danger to you and a poor grade on your laboratory write up. You must wear eye protection at all times when in the chemistry laboratory.

You are required to wear a protective goggle during the entire lab period. You MUST come to lab in closed-toe shoes and pants below the knee. Wearing long sleeve shirts and/or lab coats are strongly encouraged. Students who fail to show up to lab

with proper attire will NOT BE ALLOWED to participate in class and the lab will be graded as zero. Food and drink are STRICTLY prohibited from lab.

Grading: Two In-class Tests (non-cumulative; 15 points EACH; 30 points total)
Quizzes (non-cumulative; 10 points)
Final Exam (cumulative; 25 points)
Lab (20 points)
Homework (15 points)

NOTE: Attendance (you will lose 2 points for each hour of lecture or lab missed)

Your final letter grade will be based on the following percent distributions:

<i>Letter Grade</i>	<i>Corresponding % Range</i>	<i>Letter Grade</i>	<i>Corresponding % Range</i>
A	94-100%	C+	77-79%
A-	90-93%	C	74-76%
B+	87-89%	C-	70-73%
B	84-86%	D+	60-69%
B-	80-83%	D	50-59%
		F	<50%

Course Policies:

If you miss a test or quiz due to an excused absence, your remaining grades will be averaged for your final grade (**NO MAKE-UP EXAMS ARE GIVEN**). If your absence is not excused, you will receive a grade of zero for that test or quiz.

Assignments that are turned in late will not be accepted. No extra credit assignments will be made. **Therefore, to do well in this course, you must keep up with the lecture material, reading, and any assignments.**

Attendance is mandatory in lecture and in lab. Missing classes and laboratories will affect your grade in two ways:

1) Missed classes EQUATE to missed material. Time and time again, I've seen that this relates to a poorer understanding of key concepts (and ultimately will decrease your chance of success on quizzes and tests), and

2) Penalties for missed UNEXCUSED class hours will be as follows: For every unexcused hour of absence, your final grade will be decreased by 2 points.

Student Code of Conduct:

The faculty members of Philadelphia University take academic integrity seriously. Instances of academic dishonesty will not be tolerated, and students violating the University's academic integrity policy will be subject to appropriate sanctions. Plagiarism on any written assignments will not be tolerated. You may turn in only your own work for writing and homework assignments (unless I inform you otherwise), and any references that you use must be fully documented (using MLA format). As well, cheating on tests, final exams or quizzes will not be tolerated. Once again, please familiarize yourself with the Student Code of Conduct as it appears in the Student Handbook for Philadelphia University.

Academic Support Services:

Gutman Library (www.philau.edu/library)

The home page of the Gutman Library provides students with a variety of information resources, including databases and research guides. Librarians are available online and in person at the information desk to help students with research.

The Learning and Advising Center (www.philau.edu/learning)

The Learning and Advising Center provides one-on-one tutoring assistance for writing, study strategies, test taking, and specific Philadelphia University courses. To make a tutoring appointment, students should stop by the Learning and Advising Center in Haggard Hall or call (215) 951-2799. Academic resources, including information on citation and documentation, note taking, and study strategies are available on the Center's website.

Technology assistance (www.philau.edu/OIT/)

For assistance with technology issues, students should contact the Technology Help Desk at (215) 951-4648 or send an email to helpdesk@philau.edu. General purpose computing facilities are available in Search Hall and Gutman Library.