

## General Chemistry I CHE 120 N-03 Syllabus

Spring 2009

TR 10:50-12:05 SC 308

Instructor: Dr. PJ Ball

Office: SC 454

Phone: 859-572-6960

Email: ballp1@nku.edu

Office Hours: M: 11-1; T: 12:15-1:15; R: 2-4; open door policy and others by appointment

**Course Description:** This course explores the basic principles of chemistry; the physical and chemical properties of elements and compounds. This course is intended for science majors and fulfills the general education science requirement.

**Prerequisite:** High School Chemistry and a math ACT score of 20, or a C or better in CHE 102

**Co-requisite:** CHE 120L(any section)- If you drop the lecture you must also drop the lab and vice versa.

**Text:** *Chemistry and Chemical Reactivity*, 6<sup>th</sup> edition. Kotz, Treichel, Weaver, Thomson Brooks/Cole, 2006 (With access code for OWL). Chapters 1-10 and 12 will be covered.

**Course Calendar:** Important dates and the tentative class schedule are found on the class calendar which is on the last page of the syllabus. Students in 120 may be allowed to transfer to CHE 102 until February 2 with instructor permission.

**Internet Resources:** CHE 120 is a web-enhanced course. Students must have access to the internet in order to fulfill the requirements for this course.

**Blackboard:** <http://learnonline.nku.edu> Announcements, quizzes, handouts, and course notes will be posted here.

**Online-Web Based Learning (OWL):** <http://owl.thomsonlearning.com> Required homework problems can be found here.

**General Chemistry Website:** [http://www.nku.edu/~chemistry/general\\_chem](http://www.nku.edu/~chemistry/general_chem) Information relevant to General Chemistry can be found here.

**Ch.1 & 2 Quiz:** On January 29<sup>th</sup> a 50 point in class quiz will be given over chapters 1, 2 and the polyatomic ions.

**Exams:** There will be three tests during the semester and a final exam. The dates are listed on the attached schedule, but note that test dates are subject to change, so please be attentive to any announcements. There will be **NO** make up tests. If you miss one test, the final exam will count in place of the missed test. If you miss more than one test, you will receive a zero for each test missed beyond the first test. If a student takes all four exams, at the end of the semester I will replace the lowest exam grade with the final exam grade. I will do this only if it is beneficial to your grade (i.e. your final exam score is higher than your lowest test score).

**Quizzes:** Quizzes will be given both online via Blackboard and in class. The Blackboard quizzes are listed on the course schedule. The quizzes will be available from 1:00 pm on Thursday until 3:00 pm on Friday. Students may use course notes and books during the quiz, but there is a 45 minute time limit on the quizzes. Students are expected to work **ALONE** on the quizzes. **Once a quiz has gone off line it cannot be reset.** It is your responsibility to contact the instructor immediately if there is a problem with your quiz. If you miss a quiz it will have to be one of your dropped scores. Quizzes given in class may or may not be announced. Each quiz is worth 10 points and the best ten will count toward your grade.

**Assignments:** Chemistry is a problem based course. In order to fully grasp and understand the material, you must work problems, problems, and more problems! OWL (On-line Web Assisted Learning) is the on-line homework system that is used in this course. Students are expected to complete the assigned OWL homework problems given on the course schedule. There will be a total of twelve assignments this semester and each assignment is worth 10 points. Questions for the exams are similar to the ones you will see in OWL so it is definitely worthwhile to complete these homework assignments. OWL homework is due at midnight of the day listed on the course calendar. The first OWL assignment is due at midnight on Sat. Jan. 24<sup>th</sup>.

**Calculator:** Calculators need to be brought to class every day. Students may use only scientific, **non programmable** calculators for the tests. Cell phones may not be used as calculators. Failure to have a working calculator does not excuse you from completing a problem on a test or quiz. Students may not share calculators during a test or quiz.

**Cell phones:** Please remember to put cell phones on silent mode during class. Cell phones may not be out during class. The instructor has the right to dismiss a student from class if this rule is not followed.

**Studying:** It is very important that you set aside at least 7-10 hours per week to study. In order to do well in the course you must study in advance of the exams. Cramming does NOT work for science courses and please be aware that science courses generally require more studying than other courses.

**Attendance:** Students are encouraged to attend all classes. Attendance is not formally taken, but students should be aware that they are responsible for all announcements and material covered in class even if they are not present.

**Grading:**

Exams:	375 points (125 points each)
Chapter 1,2 Quiz	50 points
Quizzes:	100 points (10 points each)
OWL Homework:	100 points (10 points each)
Final Exam:	150 points

Grading Scale: A >697 points B > 620 points C >542 points D > 465 points F <465 points

**Note: A grade of C or better is required to continue with CHE 121**

**Honor Code:** The work that you do in this course is subject to the Student Honor Code. The Honor Code is a commitment to the highest degree of ethical integrity in academic conduct, a commitment that, individually and collectively, the students of Northern Kentucky University will not lie, cheat, or plagiarize to gain an academic advantage over fellow students or avoid academic requirements.

**Cheating:** Cheating will not be tolerated. Faculty members have the right to determine actions to be taken when a student is caught cheating.

**Syllabus:** Students are responsible for reading and understanding the syllabus. **Students must sign and return the General Chemistry contract stating that they have read the syllabus and agree to follow the course policies.** Any items that are not understood need to be brought to the attention of the instructor within the first two weeks of the semester. All items on the syllabus are subject to change at the discretion of the instructor

**Other:** Faculty members have the right to dismiss or have removed disruptive students from their classroom.

Please see blackboard for information concerning disability services and the learning assistance program

**Department of Chemistry**  
**Student Learning Outcomes for General Chemistry I**

1. Explain the major concepts and experimental findings in the chemical sciences.
2. Utilize critical thinking skills to apply concept knowledge and adapt experimental techniques to: a) form and test hypotheses and b) solve scientific problems
3. Compile, critically evaluate, and interpret scientific information and data.
4. Effectively communicate scientific information through written and oral means.
5. Evaluate the relationships between chemistry and mathematics, physics, biology, and other disciplines and between chemistry and society.
6. Apply computer technology and other technologies in the comprehension, interpretation, and presentation of the chemical sciences.

**Course Objectives for General Chemistry I**

After completing General Chemistry I, students will be expected to:

1. Perform calculations involving chemical and physical processes, use the factor label method, record numerical answers with proper units, and attain proficiency in the proper use of scientific notation and significant figures, including the concept of uncertainty in scientific measurements.
2. Name compounds and ions, write their chemical formulas, calculate their molar masses and percent composition, and determine the empirical and molecular formulas of compounds.
3. Classify substances, reactions, and processes according to various classification schemes.
4. Complete and balance chemical equations, determine whether or not a reaction actually occurs based on chemical and physical properties of the reactants and products, and solve stoichiometry problems.
5. Describe and calculate the energy changes involved in chemical reactions and physical processes.
6. Describe the atomic and electronic structure of the elements.
7. Predict the relative magnitudes of physical properties of elements on their electronic structures.
8. Determine the structures of compounds.
9. Describe properties of real and ideal gases using the Kinetic Molecular Theory and solve gas law problems.

## Tentative Course Calendar

<b>January 2009</b>						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
11	12	13 Chapter 1	14	15 Chapter 1	16	17
18	19 King Day	20 Chapter 2	21	22 Quiz 1 Chapter 2/3	23	24 OWL 0,1 due
25	26 OWL 2 due	27 Chapter 3	28	29 IC Quiz Chapter 3	30	31
<b>February 2009</b>						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2 X-Day	3 102 Day Chapter 3/4	4	5 Quiz 2 Chapter 4	6 OWL 3 due	7
8	9	10 Chapter 4/CUR	11 OWL 4 due	12 Exam 1 (1-4)	13	14
15	16	17 Chapter 5	18	19 Quiz 3 Chapter 5	20	21
22	23	24 Chapter 5	25	26 Quiz 4 Chapter 5/6	27 OWL 5 due	28
<b>March 2009</b>						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2	3 Chapter 6	4	5 Quiz 5 Chapter 6/7	6	7
8	9 Spring Break	10	11	12	13	14
15	16	17 Chapter 7	18 OWL 6 due	19 Quiz 6 Chapter 7/CUR	20	21
22 OWL 7 due	23	24 Exam 2 (5-7)	25	26 Chapter 8	27	28
29	30 W-Day	31 Chapter 8				
<b>April 2009</b>						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1 OWL 8 due	2 Quiz 7 Chapter 9	3	4
5	6	7 Chapter 9	8	9 Quiz 8 Chapter 9	10	11
12	13	14 Chapter 9	15	16 Quiz 9 Chapter 10	17 OWL 9 due	18
19	20	21 Chapter 10/CUR	22	23 Exam 3 (8-10)	24 OWL 10 due	25
26	27	28 Chapter 12	29	30 Quiz 10 Chapter 12		
<b>May 2009</b>						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1	2
3 OWL 12 due	4	5	6	7 Final Exam 10:10 – 12:10	8	9

CUR – catch up and review.

All OWL homework is due at midnight.

Quizzes go online at 1:00 pm on Thursday & offline at 3:00 pm on Friday.

**General Chemistry Contract**  
**CHE 120 N03**

Please fill out the form below and return it to Dr. PJ Ball by Tuesday Jan. 20<sup>th</sup>. Use blue or black ink to sign the form. You will not be allowed to take the first exam if you do not return this form by the Jan. 20<sup>th</sup>.

1. I understand that CHE 120 is a challenging course that requires 7-10 hours of studying per week (outside of class).
2. I understand that chemistry is a problems-based course and in order to fully grasp the material, I must do all the assigned problems.
3. I understand that this course is not easy and that working through the assigned problems takes dedication and hard work. Answers to the assigned problems may not be figured out immediately. Giving up on the problems is not a good decision.
4. I understand that if I am having trouble with the material, there are resources available for me to receive assistance (instructor's office hours, other classmates, learning center) and that before Feb. 2, 2009 I can switch to Chemistry 102.
5. I know that I should not procrastinate with the OWL homework and the blackboard quizzes as technical difficulties often occur.
6. I understand that this course has a 40% D,F,W rate and that I must be proactive and stay on top of the material in order to succeed in the class.
7. I know that if I have a problem, concern, or issue I should respectfully bring it to my instructor's attention.
8. I understand that my instructor is more than happy to assist me, but she cannot do the work for me and I must attempt the problems and prepare questions in advance of meeting with her.
9. I understand that I am responsible for my education and that I must put in a lot of work, read the text book and utilize the resources available to me in order to succeed.

I, \_\_\_\_\_(student name), have carefully read the Course Syllabus for General Chemistry (CHE 120-N03) and agree to comply to the procedures and policies for this course for the Spring 2009 semester.

Signed: \_\_\_\_\_

Date: \_\_\_\_\_