

# CHEM 1100 Principles of Chemistry I

MWF : 10-12:05 Summer 2015 June 13-July 22nd 2015, Dr. Koni Stone

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Text: Chemistry, McMurray and Fay, 6th ISBN: 0321704959

**Census date is June 13th. You must drop this class or change your grading option before the census date.**

**Introduction:** This is the first semester of a two semester Principles of Chemistry class. This class is the appropriate course for all chemistry, physics, computer science and biology majors. It is also the correct 1<sup>st</sup> chemistry class for all forensics concentration, pre-physical therapy, pre-med, pre-pharmacy, pre-vet and pre-dental students.

You must be currently enrolled in the discussion. If you are not currently enrolled in a discussion you will be dropped from the lecture. It is highly recommended that you take the lab portion of this course (CHEM 1102).

You must have passed the ELM or be exempt from taking the ELM to enroll in this course. This course will require you to use college algebra. You will need a calculator that has scientific notation and log functions. Bring your calculator, a pencil and your brain to every lecture, lab and discussion class.

The learning goals for this course are:

1. Gain factual knowledge of chemistry. This includes learning the language of chemistry and the methods that are used to study chemical phenomena.
2. Understand some fundamental principles of chemistry, including: Atomic nature of matter, composition of molecules, chemical reactions and stoichiometry, behavior of gases, atoms and light, chemical bonding, and intermolecular forces.
3. Enhance problem solving skills. Use chemistry knowledge and math skills to solve problems.

Since this is a general education class there are the following additional GE goals:

1. Subject Knowledge. To provide an educational experience that will enhance student's understanding of the discipline's basic principles, methodologies, and perspectives.
2. Communication. To provide an educational experience that will enhance the ability to communicate.
3. Inquiry and Critical Thinking. To provide an educational experience that will enhance critical thinking skills and will contribute to continuous inquiry and life-long learning.
4. Information Retrieval and Evaluation. To provide an educational experience that will enhance the ability to find, understand, examine critically, and use information from various sources.
5. Interdisciplinary Relationships. To provide an educational experience that will enhance students' understanding of a discipline's interrelationships with other disciplines.
6. Global or Multicultural Perspectives. To provide an educational experience that will enhance the ability to look at issues from multiple perspectives and/or that will describe a discipline's impact on or connection to global issues.

## Learning Assessment Devices

Assessment	Dates	percentage of total
Cummulative Final Exam	Friday, July 22nd, 10:00, No early or late final exams.	20%
In class quizzes	Every day, no early or late quizzes, if you miss a quiz, you forfeit the points.	60%
In class activities	Often	10%
Discussion	Every discussion	10%

Quizzes: There will be a quiz every day. No early and no late quizzes. If you miss the quiz, you forfeit the points.

Class activities: There will be many class activities and you must be present to earn points. No early or late activities. If you miss the activity, you forfeit the points.

Discussion: You need to attend every discussion. Your discussion instructor will determine how you earn these points.

### **Grading**

This course is **graded with letter grades** with plus/minus or by Credit/No Credit. Grades will be earned using the following minimum scores: A, 90%; B, 80%; C, 70%; D, 60%. In order to receive a CR grade, you must earn 70% of the points. **If you want to change your grading option (Grade vs CR/NC) you must complete and turn in (to enrollment services) an Add/Drop form by the census date (June 13, 2015).**

The total grade percentage for the course is calculated as a weighted sum of the categories listed above with the following equation.

Total Grade Percentage = 0.60(% Earned on weekly quizzes) + 0.1(% earned for class activities) + 0.20(% earned on cumulative final) + 0.1(% Earned in Discussion)

**Activities and Quizzes:** the quizzes and class activities will allow you to become an active participant of every class. Material for these activities will come from the end of chapter homework problems. Some of these will be collected and graded, others will be for your eyes only. These in class activities will be used to develop questions for the weekly quizzes. The questions for the final exam will be based on homework, quizzes, and discussion work.

### **Textbook Problems.**

Problems found throughout and at the end of each chapter will be assigned in class and the course web page under "Suggested Homework Problems". These problems will not be collected or graded but are strongly recommended in order to master the material presented in lecture. No make-up final exams, quizzes or class activities will be given. If you have extenuating circumstances that involve serious and compelling reasons for missing class, you are advised to schedule a consultation with Dr. Stone as soon as possible, so that an appropriate plan of action can be developed.

**Academic Integrity.** Any cheating on examinations, quizzes, or homework is a serious offense. The first cheating offense results in a zero score. Any subsequent instance justifies a failing

course grade in the course. Copying answers and/or using unauthorized notes during quizzes and/or exams are regarded as cheating and will not be tolerated. The instructor may remove any person suspected of cheating from the lecture room. Copying the work of others in lab reports is also cheating and will result in a score of zero for the first lab and a failing grade in the course for any subsequent offenses.

This syllabus is not a legal contract. It is a guide. It was updated on June 2, 2016 by Dr. Koni Stone

## Summer 2016 Course schedule

Date	Chapter(s)	Topics
June 13	1	SI Units/Prefixes, Density, Scientific Notation and Significant Figures
June 15	2	Unit Conversion and The Periodic Table
June 17	2	Atomic Structure, Molecular and Ionic Compounds
June 20	3	Moles, Balancing Equations, Limiting Reactant, and Percent Yield
June 22	3	Mass Percent, Empirical and Molecular Formula, Molarity, and Classification of Chemical Reactions
June 24	4	Solubility and Redox Reactions
June 27	4	Solubility and Redox Reactions
June 29	5	Electromagnetic Radiation
July 1	5	Electron Configuration and Periodic Trends
July 4	No class	Happy 4th of July!
July 6	6	Electron Configuration and Periodic Trends
July 8	7	Lewis Structures (Resonance, Formal Charge), Bond Polarity
July 11	7	VSEPR, Hybridization, and Molecular Polarity
July 13	6,8	Born Haber Cycle, Energy, Heat Capacity, Calorimetry, Heats of Formation / Hess' Law, and Bond Enthalpy
July 15	8	Born Haber Cycle, Energy, Heat Capacity, Calorimetry, Heats of Formation / Hess' Law, and Bond Enthalpy
July 18	9	The Gas Laws, Gas Density and Molar Mass, Gas Reaction, and Partial Pressures
July 20	9	The Gas Laws, Gas Density and Molar Mass, Gas Reaction, and Partial Pressures
July 22	1-9	Final Exam, Comprehensive, no early, no late exams.