Chemistry 1120, General Chemistry II, spring 2015, 4 credits  
Professor: Dr. Sofia Origanti, Office: Maesser Lab-361, Ph: 797-2267  
soriganti@aggiemail.usu.edu

<table>
<thead>
<tr>
<th>Class Time/Place:</th>
<th>M, W, F: 1:00 – 1:50 PM, Tuesday: 4:30 – 5:20 PM, Widtsoe - 007</th>
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<tr>
<td>Office Hours:</td>
<td>Wednesday - 10-11 am, Office - Maesser Lab-361, or appointment-email.</td>
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| Support Staff:   | Carson Jessop, email: carson.jessop@aggiemail.usu.edu  
|                  | Help Sessions – Friday 4:30 to 5:30 pm, Widtsoe 226 |
| Text Book:       | Karen C. Timberlake, General, Organic, And Biological Chemistry:  
| Course Online Resources: | All copies of lecture overheads as power point slides, quizzes, syllabus,  
|                  | tutorials, schedules, practice problems, grades, will be available online at canvas.usu.edu |
| Course Content:  | Chem 1120 is the theoretical section of the General Chem course and taught in parallel with the General Chem 1125-lab course. This course is encompasses Organic Chemistry and General Biochemistry. |
| iClicker:        | 10 points for using the iClicker in class. No penalty for wrong answers. The purpose of iClickers is to assess your understanding of the course and to encourage participation. Info on how to use iClickers can be found at : https://cidi.usu.edu/resources/iclicker/  
|                  | Students must register iClickers online with A# (student ID) on: http://www1.iclicker.com/register-clicker/ |
| Quizzes:         | There will be OPEN-BOOK quizzes available weekly-online on canvas (11-total). The point of a quiz is to familiarize yourself with the course content way ahead of the exam date. Quizzes will be multiple-choice questions and will cover material taught per week based on the lectures and text book. Each online quiz can be taken up to two times and only the highest score will be recorded. Each online quiz has a time-limit of 45min and will be available weekly from Thursday 10 am to Monday 10 am. Out of the 11 quizzes, only the 9 highest quiz scores will be recorded for the final grade. Since this will give you two extra quizzes, if you do miss a quiz, NO EXCEPTIONS will be made to re-open a closed Quiz. Please check Canvas for quiz availability. |
| Study format:    | This is a suggested study format that will help you with reviewing materials for the exams. Start with reviewing each chapter, lecture slides, tutorials. Then go over the chapter study-checks and solve the sample problems and answer the questions found within each chapter and at the end of chapter. |
Midterm Exams: Each exam will be 50 min long (in class) and will be mostly multiple choice and may have some short answer questions. There will be 3 mid-term exams and they are 100 points each. Please check Canvas and course-outline for the chapters tested for each mid-term. No make-up exams.

Final Exam: The final exam will be 1 hour-50 min long and will include the material covered in all three mid-term exams as well as the material covered after the third mid-term exam. It will be multiple choice and short answers. The final exam is 200 points.

Grading Scheme: Three mid-term exams (100 points each exam – 3x100)……………300 pts
Online quizzes (9 out of 11 - 10 points each) ………………………90 pts
iClicker participation in class………………………………………………10 pts
Comprehensive Final Exam ………………………………………200 pts

Total Points …………………………………………………… 600 pts

Grade breakdown: Final grades are as follows:
A, A- 89% -100%, B+/B/B- 77% - 88%,
C+, C, C- 60% - 76%, D+, D 50% to 59%

Based on the class average, actual grades may be curved and the percentages may shift lower (never higher) than the above defined set-points, which will only be to your advantage, if implemented.

Provisions: The administration of Chem 1120 will adhere strictly to the academic policies stipulated in the most recent USU General Catalog. The complete code of Policies and Procedures for students can be viewed at:
www.usu.edu/studentservices/studentcode

Course Withdrawal: University add/drop schedule can be found at: www.usu.edu/registrar/
University policy on giving a grade of incomplete will be strictly followed.

In accordance with the Americans with the Disabilities Act, reasonable accommodations will be provided for all persons with disabilities in order to ensure equal participation in Chem 1120 in cooperation with the Disability Resource Centre (DRC). Please contact Disability Resource Centre (http://www.usu.edu/drc/) and meet with the instructor during the first week of class to coordinate arrangements.

ALL STUDENTS ARE RESPONSIBLE FOR UNDERSTANDING THE CONTENTS OF THIS SYLLABUS

(Course Schedule and Course Objectives- next two pages)
<table>
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<tr>
<th>Week</th>
<th>Dates</th>
<th>Topic/Chapters</th>
<th>Quiz</th>
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| 1    | 1/7 – 1/9   | Introduction to course  
Chapter 11 - sections 11.1, 11.2, 11.5  
Chapter 13 – Alcohols, Phenols, Thiols and Ethers |      |
| 2    | 1/12 – 1/16 | Chapter 13  
Chapter 14 – Aldehydes, Ketones, Chiral Molecules                              | 1    |
| 3    | 1/19 -1/23  | Chapter 14  
Chapter 15 - Carbohydrates                                                    | 2    |
| 4    | 1/26 – 1/30 | **Mid Term Exam I (1/26, Monday, in class)**  
Chapter 15                                                                      | 3    |
| 5    | 2/2 – 2/6   | Chapter 16 – Carboxylic acids and esters                                      | 4    |
| 6    | 2/9 – 2/13  | Chapter 17 – Lipids                                                           | 5    |
| 7    | 2/16 – 2/20 | Chapter 18 – Amines and Amides                                                 | 6    |
| 8    | 2/23 – 2/27 | **Mid Term Exam II (2/23, Monday, in class)**  
Chapter 19 – Amino acids and Proteins                                           | 7    |
| 9    | 3/2 – 3/6   | Chapter 20 – Enzymes and Vitamins                                              | 8    |
| 10   | 3/9 – 3/13  | No class-Spring break                                                          |      |
| 11   | 3/16 – 3/20 | Chapter 21 - Nucleic acids and Protein Synthesis                               | 9    |
| 12   | 3/23 – 3/7  | Chapter 22 – Metabolic Pathways for Carbs                                     | 10   |
| 13   | 3/30 – 4/3  | **Mid Term Exam III (3/30, Monday, in class)**  
Chapter 23 – Metabolism and Energy Production                                  | 11   |
| 14   | 4/6 – 4/10  | Chapter 23 – Metabolism and Energy Production  
Chapter 24 – Metabolic pathways for lipids and amino acids                    |      |
| 15   | 4/13 – 4/17 | Chapter 24 – Metabolic pathways for lipids and amino acids                     |      |
| 16   | 4/20 – 4/23 | Revision for final                                                            |      |
| 17   | 4/27        | Comprehensive Final Exam (Monday)  
11:30 am to 1:20 pm                                                             |      |

(Please see next page- Course Objectives)
Course Objectives:

- Describe the properties of organic and inorganic compounds.
- Describe IUPAC and common names, and draw condensed and structural formulas for organic compounds.
- Learn to classify organic compounds based on functional groups.
- Learn the structures, properties and common names of aromatic compounds, alcohols, phenols, thiols, aldehydes, ketones.
- Identify chiral and achiral carbon atoms, and structures of hemiacetals and acetals.
- Learn the types, properties, structures, and functions of carbohydrates.
- Learn the formulas and properties of carboxylic acids and esters.
- Know the types, formulas, properties, and functions of lipids.
- Learn the names, properties, and functions of amines and amides.
- Learn the names and properties of amino acids.
- Learn concepts of pH, isoelectric point, zwitterions and electrophoresis.
- Describe primary, secondary, tertiary and quaternary protein structures.
- Describe the functions, properties, and regulation of enzymes.
- Know the structure of DNA and RNA, and concepts of DNA replication, transcription, and protein synthesis- translation.
- Describe the metabolic pathways used for synthesis and degradation of glucose, glycogen and fatty acids, and degradation of amino acids.
- Learn the pathways for energy (ATP) production, citric acid cycle, electron transport and oxidative phosphorylation.