

Course Syllabus  
**Introductory Chemistry**

**CHEM 1405- CRN 80454 (SPRING 2014)**

<b>Semester with Course Reference Number (CRN)</b>	<b>SPRING 2014: Introductory Chemistry CHEM 1405 (CRN 80454)</b>
<b>Instructor contact information (phone number and email address)</b>	Mohammad Ali, Ph D 713-382 7420 <a href="mailto:msadathali@hotmail.com">msadathali@hotmail.com</a> or mohammad.ali@hccs.edu
<b>Office Location and Hours</b>	Class hours
<b>Course Location/Times</b>	<b>Monday: Lab-Lectures: Room No: 164 (2:00 – 5:00 PM) Wednesday: Lectures: Room No: C220 (2:00 – 5:00 PM)</b>
<b>Course Semester Credit Hours (SCH) (lecture, lab) If applicable</b>	Credit Hours: 4 Lecture Hours: 3 Laboratory Hours: 3
<b>Total Course Contact Hours</b>	96.00
<b>Course Length (number of weeks)</b>	16.00
<b>Type of Instruction</b>	Lecture/Lab Classroom instructions using Power-Points, Information on EAGLE online
<b>Course Description:</b>	Science and engineering majors study atomic structure, chemical reactions, thermodynamics, electronic configuration, chemical bonding, molecular structure, gases, states of matter, and properties of solutions. Core Curriculum course

**Course  
Prerequisite(s)**

**PREREQUISITE(S):**

- College-level reading GUST 0342 (or higher) and
- College-level writing ENGL 0310/0349 (or higher)

**Academic  
Discipline/CTE  
Program Learning  
Outcomes**

1. Demonstrate a mastery of introductory and intermediate level chemistry to promote success in higher level chemistry and other science programs at four-year universities.
2. Demonstrate a basic mastery of chemistry by writing formulas and equations for chemical reactions, performing chemical calculations, and recognizing the application of chemistry in our daily lives.
3. Demonstrate a mastery of General and Organic Chemistry in preparation for professional programs such as Medicine, Dentistry, and Pharmacy.
4. Conduct laboratory experiments by making measurements, performing chemical reactions, and analyzing the results in a group or individual setting.

**Course Student  
Learning  
Outcomes (SLO):  
4 to 7**

1. Give names and formulas of elements, ions, and ionic and molecular compounds.
2. Categorize, complete, and balance chemical reactions.
3. Classify elements according to their location in the periodic table; identify periodic trends of selected properties of atoms; write the electron configuration of atoms and ions.
4. Demonstrate basic chemistry calculations involving reaction stoichiometry.
5. Relate the gas variables using the gas laws and apply Dalton's law of partial pressures to a mixture of gases.
6. Depict chemical bonding with dot structures and predict the molecular shape (geometry) of molecules.
7. Laboratory Course Student Learning Outcomes 1. Use basic apparatus and apply experimental methodologies used in the chemistry laboratory. 2. Demonstrate safe and proper handling of laboratory equipment and chemicals. 3. Conduct basic laboratory experiments with proper laboratory techniques. 4. Make careful and accurate experimental observations. 5. Relate physical observations and measurements to theoretical principles. 6. Interpret laboratory results and experimental data, and reach logical conclusions. 7. Record experimental work completely and accurately in laboratory notebooks and communicate experimental results clearly in written reports. 8. Design fundamental experiments involving principles of chemistry and chemical instrumentation. 9. Identify appropriate sources of information for conducting laboratory experiments involving principles of chemistry.

**Learning  
Objectives  
(Numbering  
system should be  
linked to SLO -  
e.g., 1.1, 1.2, 1.3,  
etc.)**

**Give names and formulas of elements, ions, and ionic and molecular compounds.**

1. Given the name, identify the formula and charge of positive and negative ions, and vice-versa.
2. Given the name, write the formula of ionic compounds, binary molecular compounds, and acids. Given the formulas of these types of compounds, name them.

**Categorize, complete, and balance chemical reactions.**

1. Identify given reactions as combination, decomposition, single displacement, and double displacement.
2. Starting with the reactants, complete the reaction by writing the reaction products.
3. Given the reactants and products, balance the reaction.

**Classify elements according to their location in the periodic table; identify periodic trends of selected properties of atoms; write the electron configuration of atoms and ions.**

1. Based on their location in the periodic table, classify elements by type.
2. State the periodic law and identify the periodic trend of atomic size, metallic character, and ionization energy.
3. Write electron dot formulas of representative elements; write the electron configuration of atoms and ions.

**Demonstrate basic chemistry calculations involving reaction stoichiometry.**

1. Convert amounts in units of mass or volume to moles, and vice-versa.
2. Given the amount of one substance in a reaction, calculate the amount of the other substances that react or form.
3. Identify the limiting reactant and excess reactant in a reaction where more than one reactant amount is given.

**Relate the gas variables using the gas laws and apply Dalton's law of partial pressures to a mixture of gases.**

1. Relate and calculate the pressure, volume, temperature, or amount of gas using Boyle's law, Charles' law, Gay-Lussac's law, Avogadro's law, the combined gas law, and the ideal gas law.
2. Use Dalton's law to perform calculations involving gas mixtures.
3. Explain the assumptions of the kinetic-molecular theory of gases.

**Depict chemical bonding with dot structures and predict the molecular shape (geometry) of molecules.**

1. Draw the Lewis dot structure of molecules containing two to four atoms.
2. Based on the dot structure of the molecule, determine its geometry and molecular shape based on VSEPR theory.

**Laboratory Course Student Learning Outcomes**

1. Use basic apparatus and apply experimental methodologies used in the chemistry laboratory.
2. Demonstrate safe and proper handling of laboratory equipment and chemicals.
3. Conduct basic laboratory experiments with proper laboratory techniques.
4. Make careful and accurate experimental observations.
5. Relate physical observations and measurements to theoretical principles.
6. Interpret laboratory results and experimental data, and reach logical conclusions.
7. Record experimental work completely and accurately in laboratory notebooks and communicate experimental results clearly in written reports.
8. Design fundamental experiments involving principles of chemistry and chemical instrumentation.
9. Identify appropriate sources of information for conducting laboratory experiments involving principles of chemistry.

**SCANS and/or  
Core Curriculum  
Competencies: If  
applicable**

Core Curriculum Competencies:

**Give names and formulas of elements, ions, and ionic and molecular compounds.**

Intellectual - Reading

Intellectual - Critical Thinking

**Categorize, complete, and balance chemical reactions.**

Intellectual - Reading

Intellectual - Critical Thinking

**Classify elements according to their location in the periodic table; identify periodic trends of selected properties of atoms; write the electron configuration of atoms and ions.**

Intellectual - Reading

Intellectual - Critical Thinking

**Demonstrate basic chemistry calculations involving reaction stoichiometry.**

Intellectual - Mathematics

Intellectual - Reading

Intellectual - Critical Thinking

**Relate the gas variables using the gas laws and apply Dalton's law of partial pressures to a mixture of gases.**

Intellectual - Mathematics

Intellectual - Reading

Intellectual - Critical Thinking

**Depict chemical bonding with dot structures and predict the molecular shape (geometry) of molecules.**

Intellectual - Reading

Intellectual - Critical Thinking

#### **Laboratory Course Student Learning Outcomes**

1. Use basic apparatus and apply experimental methodologies used in the chemistry laboratory.

2. Demonstrate safe and proper handling of laboratory equipment and chemicals. 3. Conduct basic laboratory experiments with proper laboratory techniques.

4. Make careful and accurate experimental observations.

5. Relate physical observations and measurements to theoretical principles.

6. Interpret laboratory results and experimental data, and reach logical conclusions.

7. Record experimental work completely and accurately in laboratory notebooks and communicate experimental results clearly in written reports.

8. Design fundamental experiments involving principles of chemistry and chemical instrumentation.

9. Identify appropriate sources of information for conducting laboratory experiments involving principles of chemistry.

Intellectual - Mathematics

Intellectual - Reading

Intellectual - Writing

Intellectual - Speaking

Intellectual - Listening

Intellectual - Critical Thinking

Perspectives - 7. Use logical reasoning in problem solving;

#### **Instructional Methods**

**This is a web enhanced class.** Lecture presentations, homework, assignments, learning objectives, sample tests and other relevant material prepared by the instructor will be available either on Eagle Online or on the instructor's learning web.

## Student Assignments

**Give names and formulas of elements, ions, and ionic and molecular compounds.**

Homework Exercises

**Categorize, complete, and balance chemical reactions.**

Homework Exercises

**Classify elements according to their location in the periodic table; identify periodic trends of selected properties of atoms; write the electron configuration of atoms and ions.**

Homework Exercises

**Demonstrate basic chemistry calculations involving reaction stoichiometry.**

Homework Exercises

**Relate the gas variables using the gas laws and apply Dalton's law of partial pressures to a mixture of gases.**

Homework Exercises

**Depict chemical bonding with dot structures and predict the molecular shape (geometry) of molecules.**

Homework Exercises

### Laboratory Course Student Learning Outcomes

- 1. Use basic apparatus and apply experimental methodologies used in the chemistry laboratory.**
- 2. Demonstrate safe and proper handling of laboratory equipment and chemicals.**
- 3. Conduct basic laboratory experiments with proper laboratory techniques.**
- 4. Make careful and accurate experimental observations.**
- 5. Relate physical observations and measurements to theoretical principles.**
- 6. Interpret laboratory results and experimental data, and reach logical conclusions.**
- 7. Record experimental work completely and accurately in laboratory notebooks and communicate experimental results clearly in written reports.**
- 8. Design fundamental experiments involving principles of chemistry and chemical instrumentation.**
- 9. Identify appropriate sources of information for conducting laboratory experiments involving principles of chemistry.**

Lab Exercises

Written laboratory reports consist of a results sheet plus answers to pre- and post-lab questions.

**Student  
Assessment(s)**

**Give names and formulas of elements, ions, and ionic and molecular compounds.**

Quizzes/Tests which may include: definitions, matching, multiple choice, true/false, short answer, brief essay

**Categorize, complete, and balance chemical reactions.**

Quizzes/Tests which may include: definitions, matching, multiple choice, true/false, short answer, brief essay

**Classify elements according to their location in the periodic table; identify periodic trends of selected properties of atoms; write the electron configuration of atoms and ions.**

Quizzes/Tests which may include: definitions, matching, multiple choice, true/false, short answer, brief essay

**Demonstrate basic chemistry calculations involving reaction stoichiometry.**

Quizzes/Tests which may include: definitions, matching, multiple choice, true/false, short answer, brief essay

**Relate the gas variables using the gas laws and apply Dalton's law of partial pressures to a mixture of gases.**

Quizzes/Tests which may include: definitions, matching, multiple choice, true/false, short answer, brief essay

**Depict chemical bonding with dot structures and predict the molecular shape (geometry) of molecules.**

Quizzes/Tests which may include: definitions, matching, multiple choice, true/false, short answer, brief essay

**Laboratory Course Student Learning Outcomes 1. Use basic apparatus and apply experimental methodologies used in the chemistry laboratory. 2. Demonstrate safe and proper handling of laboratory equipment and chemicals. 3. Conduct basic laboratory experiments with proper laboratory techniques. 4. Make careful and accurate experimental observations. 5. Relate physical observations and measurements to theoretical principles. 6. Interpret laboratory results and experimental data, and reach logical conclusions. 7. Record experimental work completely and accurately in laboratory notebooks and communicate experimental results clearly in written reports. 8. Design fundamental experiments involving principles of chemistry and chemical instrumentation. 9. Identify appropriate sources of information for conducting laboratory experiments involving principles of chemistry.**

Quizzes/Tests which may include: definitions, matching, multiple choice, true/false, short answer, brief essay. Laboratory experiments are graded based on results and answers to pre- and post-lab questions.

## Instructional Material

**Textbook:** Corwin, Introductory Chemistry: Concepts and Critical Thinking, Custom Seventh Edition for HCC with MasteringChemistry. Pearson Prentice Hall 2012 with MasteringChemistry Pkg. ISBN-13: 978-1-269-32472-4, ISBN-10:1-269-32472-1 (Student may use additional e-resources)

### Lab Manual:

The laboratory experiments for this course are provided online from your instructor's Learning Web site (<http://learning.hccs.edu>). Other materials, such as class notes, practice problems and practice exams, are also provided on your instructor's Learning Web site (<http://learning.hccs.edu>).

## Instructor's Requirements

### Classroom Policies:

**1: Student Attendance and Absences:** Class attendance is mandatory. Students are expected to attend classes (lectures and labs) regularly. A student may be withdrawn if the absences exceed 12.5% of the hours of instruction (including lecture and laboratory time). The course cannot be completed if the absences exceed more than 2 weeks in a 16-week of instructional period.

2: If a student needs to drop the course, it is the responsibility of the student to follow the correct procedure and deadline(s) to officially drop or withdraw from the course (details are available in the HCCS schedule handbook). A student will receive an "F" in the course if fails to officially drop or withdraw from the course. A 'W' cannot be awarded after the official drop or withdrawal date.

**The last date for Administrative or Student withdrawal is, March 31<sup>st</sup> till 4:30pm.**

**3: Students with Disabilities:** "Any student with a documented disability (e.g. physical, learning, psychiatric, vision, hearing, etc.) who needs to arrange reasonable accommodations and/or modifications must contact the **Disability Service Office (713-718-5422)** at the beginning of each semester. Faculty members are authorized to provide only accommodations and /or modification requested by the Disability Support Services Office."

**4: Academic Honesty:** Students should work independently on all the assignments, lab reports and exams delivered in the class (unless instructed to work in-groups). In case of scholastic dishonesty (any type of cheating, copying, stealing, bribing another person to obtain a test that is to be administered etc.), no credit will be given for the particular assignment and the student may receive an "F" in the course.

**5: Dress Code:** Dress appropriately for the lectures and labs. Open toed shoes, sandals, flip-flops and any similar style shoes are not permitted in lab. Please be sure to wear footwear to cover your feet and secure long hair in order to prevent hair from falling on the face. Long pants and long sleeved top is recommended for safety reasons during the lab sessions. **Wearing safety goggles while doing an experiment is mandatory.**

**6: Student Discipline:** Adult and responsible behavior is expected. Disruptive behavior/ activities which interfere with teaching and/or learning will not be tolerated. Student Conduct Report form will be completed by the instructor after one warning and may result in dismissal from class and administrative withdrawal without refund.

**7: Electronics in the Classroom:** In HCC-NW the default policy is that devices are to be turned off completely (see signs in the classroom). All cell phones and other electronic devices must be turned off unless I specifically approve of them. Note that 'off' does not mean on vibrate or mute.

Laptops may be used for the class related activity only. Use of laptops and other electronic devices is not permitted during theory examination and will result in getting a zero grade

in that exam. Recording devices during lecture/lab session is not allowed, unless it is preapproved by the instructor.

**8: Tutoring:** Free tutoring is available to students for all the chemistry courses. Details can be obtained from the chemistry department.

### **Lab Details:**

Lab work is mandatory. Students are expected to attend labs regularly. The experiments have been designed to help you relate theory to real 'things' that you can observe. The lab work will help you prepare for exams. In addition, the lab work will provide a skill foundation for anyone who will be doing further lab work academically or professionally.

Experiments are performed in a group of three. More than one absence from laboratory requires a valid letter of excuse. No make-up labs will be given. Student is not allowed to copy lab-data from the lab partners. Absent lab will get a zero and will not be dropped from the final grading.

1: Students must complete all laboratory assignments independently. If student attends the lab and does not submit lab reports, will get zero, despite of attending the lab. If a student fails to complete all lab requirements, they will receive grade of 'I' for the course, irrespective of their lecture average.

2: The lab work, the lab assignments and home work are together are 20% of the overall grade. You will turn in your answers to pre lab questions, experimental data sheets and answers to post lab questions for grading either same day of the lab completion or at the subsequent class meeting. You will not be graded on experimental results but on how you use the results to answer the questions.

3: Late assignments may not be accepted and a grade of zero may be awarded for the experiment.

- Complete lab report has 3 parts: (100 pts)
- Pre-lab report: Read procedure for the experiments to be performed in advance and answer any assigned lab questions. It needs to be completed before starting the labs. (~10 to 25 points)
- In-Lab report: Write all the observations, calculations, results, and discussion. It needs to be completed in lab. (~ 50 to 80 points)
- Post-lab report: This includes answering assigned lab questions, if any, after the completion of the experiment. (~10 to 25 points)
- Lab grades will be assigned on punctuality, attendance, work ethics, completion of the experiment, and the lab report.

4: Each student is required to follow all the safety procedures in the lab. Detailed orientation for safety will be given on the first day of lab. **Wearing safety goggles while doing an experiment is mandatory.** Community safety goggles are available in lab for individual use, but you may buy your own safety goggles. Students should buy gloves and lab coats to wear if needed.

5: All students working in chemistry labs should be aware of the inherent dangers, which exist even though the instructor has taken utmost precautions. It is therefore important for each student to behave responsibly and report any irresponsible behavior to the instructor. Students guilty of irresponsible behavior may receive an 'F' or withdrawn from the class.

6: Only experiments that are assigned by the instructor are to be performed. All other experiments are prohibited.

7: Any accident in lab, no matter how slight, must be reported to the instructor immediately.

**8: There will not be a formal lab exam.**



**HCC Grading  
Scale:**

A = 100- 90	4 points per semester hour
B = 89 - 80	3 points per semester hour
C = 79 - 70	2 points per semester hour
D = 69 - 60	1 point per semester hour
59 and below = F	0 points per semester hour
FX (Failure due to non-attendance)	0 points per semester hour
IP (In Progress)	0 points per semester hour
W (Withdrawn)	0 points per semester hour
I (Incomplete)	0 points per semester hour
AUD (Audit)	0 points per semester hour

IP (In Progress) is given only in certain developmental courses. The student must re-enroll to receive credit. COM (Completed) is given in non-credit and continuing education courses.

**FINAL GRADE OF FX:** Students who stop attending class and do not withdraw themselves prior to the withdrawal deadline may either be dropped by their professor for excessive absences or be assigned the final grade of "FX" at the end of the semester. Students who stop attending classes will receive a grade of "FX", compared to an earned grade of "F" which is due to poor performance. Logging into a DE course without active participation is seen as non-attending. Please note that HCC will not disperse financial aid funding for students who have never attended class.

Students who receive financial aid but fail to attend class will be reported to the Department of Education and may have to pay back their aid. A grade of "FX" is treated exactly the same as a grade of "F" in terms of GPA, probation, suspension, and satisfactory academic progress.

**Incomplete Grade (I):** An incomplete grade can be awarded under extraordinary circumstances, only when 90% of the course has been completed. For example, at the end of the semester, if you miss one exam, one lab or the final exam due to sudden illness, family emergency, catastrophic accident etc., you can request for incomplete grade with proper documentation. The student must sign a written contract prior to the 'I' is given. Without paperwork no Incomplete will be given. If the missing work is not completed within the specified time, a grade of 'F' will be awarded. An Incomplete grade does not allow a student to retake the entire course to improve their grades.

To compute grade point average (GPA), divide the total grade points by the total number of semester hours attempted. The grades "IP," "COM" and "I" do not affect GPA.

*Health Sciences Programs Grading Scales may differ from the approved HCC Grading Scale. For Health Sciences Programs Grading Scales, see the "Program Discipline Requirements" section of the Program's syllabi.*

**Instructor  
Grading Criteria**

**Homework:** Homework problems are assigned in the syllabus as well as in the end of lecture PowerPoints. Students should complete and check answers at the back of the book before turning in homework.

**Quizzes:** Quizzes will be conducted at the end of each chapter (Dates will be announced in the class).

**Exams and Grading:** There will be total of 5 exams (4 inter-session exams, 1 final exam and a lab exam). Out of 4 inter-session exams, lowest grade will be dropped and only 3 exams will be counted towards the final grade.

**Make-up Exam Policy:** If you miss an exam for any reason (lame or valid), no make-up exam will be given and that **exam grade will count as dropped exam.**

**Final Exam is cumulative and mandatory.** You must notify instructor two weeks before the Final exam day if you have any conflict with the final exam date. No excuses will be accepted after that week.

**Grading Scheme:**

Exam #1-3	55 %*
Exam #2	
Exam #3	
Exam #4	
Final Exam	25%
Homework & Quizzes	10% to one of the 3 Ex
Lab Work	20%

\*The lowest grade will be dropped.

**Final exam will be held on Wednesday, 7<sup>th</sup> May 2014 in room no C220 from 2:00 PM-4:30am. Final exam is cumulative and attendance at final exam is mandatory. An absence at final exam will result in 'F' grade in the course.**

**HCC Policy Statement:**

**Access Student Services Policies on their Web site:** <http://hccs.edu/student-rights>

**EGLS3 -- Evaluation for Greater Learning Student Survey System**

At Houston Community College, professors believe that thoughtful student feedback is necessary to improve teaching and learning. During a designated time near the end of the term, you will be asked to answer a short online survey of research-based questions related to instruction. The anonymous results of the survey will be made available to your professors and department chairs for continual improvement of instruction. Look for the survey as part of the Houston Community College Student System online near the end of the term.

**Distance Education and/or Continuing Education Policies:**

**Access DE  
Policies on their  
Web site:**

[http://de.hccs.edu/Distance\\_Ed/DE\\_Home/faculty\\_resources/PDFs/DE\\_Syllabus.pdf](http://de.hccs.edu/Distance_Ed/DE_Home/faculty_resources/PDFs/DE_Syllabus.pdf)

**Access CE  
Policies on their  
Web site:**

<http://hccs.edu/CE-student-guidelines>

**CHEM 1405 (Spring2014) CRN 80454: Tentative Course Schedule**

<b>Week</b>	<b>Date</b>	<b>Activities</b>
Week # 1	Jan 13 <sup>th</sup> (Mon)	Introduction and Syllabus, Safety Video, Lab Orientation <b>Laboratory Safety</b>
	Jan 15 <sup>th</sup> (Wed)	Chapter 1: Introduction to Chemistry Prerequisite Science Skills -Scientific Measurement
Week # 2	Jan 22 <sup>nd</sup> (Wed)	Prerequisite Science Skills -Scientific Measurement Chapter 2: The Metric System
	Jan 27 <sup>th</sup> (Mon)	<b>Lab 1: Measurements</b> Chapter 2: The Metric System
E	Jan 29 <sup>th</sup> (Wed)	Chapter 2: The Metric System Chapter 3: Matter and Energy
	Feb 3 <sup>rd</sup> (Mon)	<b>Lab 2: Separation of the Components of a Mixture</b> Chapter 3: Matter and Energy
Week # 4	Feb 5 <sup>th</sup> (Wed)	Chapter 4: Models of Atom
	Feb 10 <sup>th</sup> (Mon)	<b>Lab 3: Periodic Table of Elements</b> Chapter 5: The Periodic Table
Week # 5	Feb 12 <sup>th</sup> (Wed)	<b>Test # 1: Chapters 1, 2, 3 &amp; Prerequisite Science Skills (2:00 PM-4:30 PM)</b>
	Feb 17 <sup>th</sup> (Mon)	<b>Lab 4: Flame Test and Electronic Configuration</b> Chapter 5: The Periodic Table
Week # 6	Feb 19 <sup>th</sup> (Wed)	Chapter 6: Language of Chemistry
	Feb 24 <sup>th</sup> (Mon)	Chapter 6: Language of Chemistry <b>Lab 5: Determine the Physical Properties of Substances</b>
Week # 7	Feb 26 <sup>th</sup> (Wed)	Chapter 7: Chemical Reactions
	Mar 3 <sup>rd</sup> (Mon)	<b>Lab 6: Empirical Formula of Magnesium Chloride</b> Chapter 7: Chemical Reactions
Week # 8	Mar 5 <sup>th</sup> (Wed)	<b>Test # 2: Chapters 4, 5 and 6 (2:00 PM-4:30 PM)</b>
	Mar 17 <sup>th</sup> (Mon)	Chapter 8: The Mole Concept
Week # 9	Mar 19 <sup>th</sup> (Wed)	Chapter 8: The Mole Concept Chapter 9: Chemical Equation Calculations
	Mar 24 <sup>th</sup> (Mon)	Chapter 9: Chemical Equation Calculations

Week#10	Mar 26 <sup>th</sup> (Wed)	Chapter 10: Gases
	Mar 31 <sup>st</sup> (Mon)	<b>Lab 7: Activity Series-Reactions of Common Metals</b>
	<b>Mar 31<sup>st</sup> (Mon)</b>	<b>Last Day for Administrative/ Student Withdrawals- 4:30pm</b>
Week # 11	Apr 2 <sup>nd</sup> (Wed)	<b>Test # 3: Chapters 7, 8 &amp; 9 (2:00 - 4:30 PM)</b>
	Apr 7 <sup>th</sup> (Mon)	<b>Lab 8: Double Replacement Reaction</b> Chapter 10: Gases
Week#12	Apr 9 <sup>th</sup> (Wed)	Chapter 12: Chemical Bonding
	Apr 14 <sup>th</sup> (Mon)	Chapter 12: Chemical Bonding <b>Lab 9: Geometry of Molecules</b>
Week#13	Apr 16 <sup>th</sup> (Wed)	Chapter 14: Acids and Bases
	Apr 21 <sup>st</sup> (Mon)	Chapter 14: Acids and Bases
Week#14	Apr 23 <sup>rd</sup> (Wed)	Chapter 14: Acids and Bases
	Apr 28 <sup>th</sup> (Mon)	<b>Test # 4: Chapters 10, 12 &amp; 14 (2:00 - 4:30 PM)</b>
Week#15	Apr 30 <sup>th</sup> (Wed)	Revision for the Final Exam (Chapters 1 to10, 12 &14)
	May 5 <sup>th</sup> (Mon)	Revision for the Final Exam (Chapters 1 to10, 12 &14)
Week#16	<b>May 5<sup>th</sup> (Mon) – May 11<sup>th</sup> (Sun): Final Examination Week</b> <b>Final Examinations: Wednesday, May 7<sup>th</sup> 2:00 - 4:30 PM in Room No C220</b> <b>(All Chapters: 1 to 10, 12 &amp;14)</b>	

This is the link to the final exam schedule:

[http://www.hccs.edu/hcc/System%20Home/Departments/Admissions\\_and\\_Registration/Calendars/2113%20Exam%20Schedule/Fall%2013%20Final%20Exam%20Schedule.pdf](http://www.hccs.edu/hcc/System%20Home/Departments/Admissions_and_Registration/Calendars/2113%20Exam%20Schedule/Fall%2013%20Final%20Exam%20Schedule.pdf)

*Please note that this is a tentative schedule and the instructor will notify any changes in the class.*

**CHEM 1405: Introductory Chemistry Home Work Problems**

**Text Book: Introductory Chemistry by Charles H. Corwin, 7<sup>th</sup> Edition**

**Chapter 1: Introduction to Chemistry- 3, 7, 9, 11, 13, 15, 17**

**Prerequisite Science Skills -Scientific Measurement- 5, 11, 12, 13, 17, 21, 23, 25, 27, 31, 33, 35, 37, 39**

**Chapter 2: The Metric System- 1, 3, 4, 9, 11, 13, 15, 17, 19, 23, 25, 31, 35, 39, 41, 45, 47, 53, 55, 57, 59, 61, 63, 69, 71**

**Chapter 3: Matter and Energy -7, 9, 11, 13, 15, 19, 21, 23, 25, 27, 33, 37, 39, 41, 45, 49, 57, 61, 67, 69, 71, 73, 77**

**Chapter 4: Models of Atom – 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 25, 29, 33, 35, 37, 39,41, 47, 49, 53, 61, 67, 69, 71, 75, 77, 81, 83, 85**

**Chapter 5: The Periodic Table- 3, 7, 9, 11, 13, 15, 17, 19, 21, 25, 27, 29, 31, 33, 35, 37, 39, 41, 49, 53, 55, 57, 59, 61, 67, 69, 71, 73, 75, 77, 79**

**Chapter 6: Language of Chemistry - 1, 3, 5, 11, 13, 15, 19, 21, 23, 27, 29, 33, 35, 37, 39, 43, 45,47, 49, 51, 53, 55, 57, 63, 65, 71**

**Chapter 7: Chemical Reactions- 1, 3, 5, 9, 11, 17, 19, 21, 25, 27, 29, 35,37, 45, 49, 51, 55, 57, 61, 63, 67, 69, 71, 73, 75, 83**

**Chapter 8: The Mole Concept – 1, 3, 7, 9 ,11, 15, 19, 21, 25, 27, 33, 35, 41, 45, 47, 51, 55, 61, 65, 67**

**Chapter 9: Chemical Equation Calculations - 1, 5, 7, 11, 17, 19, 21, 23, 29, 33, 35, 37, 43, 45, 49, 55, 61, 65,73, 75, 77**

**Chapter 10: Gases – 1, 3, 5, 7, 11, 13, 17, 19, 23, 25, 29, 31, 35, 37,41, 43, 49, 53, 55, 59, 61, 63, 65**

**Chapter 12: Chemical Bonding - 1, 3, 5, 7, 11, 13, 15, 17,19, 23, 25, 29, 33, 35, 41,43, 49, 51, 53, 55, 57, 59, 63, 65, 67, 69, 71,75**

**Chapter 14: Acids and Bases – 1, 3, 5, 7 11, 13, 15, 19, 23, 27, 29, 31, 35, 39, 43, 47**

**49, 51, 53, 59, 61, 65, 67, 69, 71, 75**

**Homework Problems:** I encourage you all to work on homework problems on the same day. This will help some of the labs. These problems are to help you understand the material presented in class and prepare you for exams. Odd numbered problems are assigned. The answers to the odd problems are in the back of the book. I expect you to check your work against the answers in the back of the book. If you do the problem incorrectly use the answer to work through the problem, see if you can figure out your error. The even problem will be similar to the odd problem.