COURSE DESCRIPTION:
Introductory Chemistry. Introduction to the principles and concepts of chemical thought. Co-requisite: CHE 111L. Prerequisite: eligibility for MTH 138. (Algebra)

TEXT AND MATERIALS:
Introductory Chemistry 6th ed., by Nivaldo J. Tro (Loose-leaf versions and hard cover copies of the book are available at the local bookstores that contain access codes to Mastering Chemistry, the required on-line homework). An ebook option is available to you when you sign up for your Mastering Chemistry account. (Cheapest option, but the ebook won’t be accessible to you after a year.) If you buy an older edition of the book, you may buy the access code independently online. The course identification in Mastering Chemistry is CHEM111CRKWAT003.
*PLEASE HAVE YOUR MASTERING CHEMISTRY ACCOUNT AVAILABLE DURING THE FIRST WEEK OF THE COURSE.

GRADING POLICY:

4 exams (100 pts each). The dates of exams are shown on the course calendar. The exams will be given during class time and are multiple choice. Test 1-3 may end at 12:15, according to individual needs. The final exam is half new material and half cumulative.

Quizzes - Quizzes will be assigned either in D2L or given in class, announced or unannounced. Lowest quiz will be dropped. (Quiz average = 100 points toward final grade.)

On-line homework – Students are required to get access to the Mastering Chemistry web site (masteringchemistry.com). The course identification is CHEM111CRKWAT003. Instructions on how to navigate the Mastering Chemistry web site are provided at the website and on D2L. (Homework average = 100 pts total). In the gradebook, the average from Mastering Chemistry will be updated before every exam. Individual chapter homework assignments will not be posted in D2L gradebook.
**Gradebook and Class Material:**

Grades are kept in D2L and are always available for students to see. Announcements are always being posted, so please check D2L frequently. I try to help you out with as many resources as possible, so if a study guide is posted, I want you to know about it. All Powerpoints that we cover in class are posted beforehand. You have the opportunity to print these out and bring them to class. Problems are not solved on the posted Powerpoints; they are solved in class, so keep a pen out and keep your participation active.

**Method of Evaluation:** The final grade will be based upon percentage of points obtained in the following:

<table>
<thead>
<tr>
<th>item</th>
<th>point value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exam I</td>
<td>100</td>
</tr>
<tr>
<td>Exam II</td>
<td>100</td>
</tr>
<tr>
<td>Exam III</td>
<td>100</td>
</tr>
<tr>
<td>Final Exam</td>
<td>100</td>
</tr>
<tr>
<td>Quizzes</td>
<td>100</td>
</tr>
<tr>
<td>On-line homework</td>
<td>100</td>
</tr>
<tr>
<td><strong>TOTAL POINTS</strong></td>
<td><strong>600</strong></td>
</tr>
</tbody>
</table>

**Attendance Policy:**

Attendance in class is mandatory. Seven (7) or more unexcused absences will result in an ‘F’ for the course. Absences may be assigned to anyone who disrupts class, sleeps in class, or consistently comes in late or leaves early. If you arrive late and do not see the roll sheet, please contact the instructor immediately after class; otherwise it will be an absence. Anyone with three absences or fewer (excused and unexcused) will have the option of the percentage of their final exam grade replacing their lowest exam grade. For a *proven, excused absence* for an exam (ie: doctor’s note), students must arrange to take a makeup exams as soon as possible.

*Out of politeness,* tell instructor if there are circumstances in which you may arrive late or leave early.

**Classroom Behavior Expectations:**

- Come to class prepared (spend at least 2 hours working problems and reviewing previous material before each class period) and **be on time** and in your seat.
- **Computer Use:** If you want to view the Powerpoint on a closer screen using your computer, that’s acceptable. For many, it’s easier to take notes than looking back and forth between the big screen and your paper. **If you browse websites, you are a distraction to everyone behind you.** They have paid almost $1000 for this course; let them get the most out of it.
- **No headphones** in your ears during lecture.
- Absences may be assigned to anyone that disrupts class, sleeps in class, or consistently comes in late or leaves early. Read Attendance Policy Section for how this can affect grades.
- Bring a scientific calculator to class. Cell phones may NOT be used on quizzes or exams. A cleared programmable calculator must be shown to the instructor before you leave a test or quiz. If you have to use the facilities during a test, turn in your cell phone while away.
- Turn off and put away cell phones; **NO** text messaging during class. Anyone caught using a cell phone during class can have an absence assigned to them.
- Be courteous and respectful of other students, SI leader, and instructor.
- Learn your section number. Place section number on **all** items turned in.
Significant figures are required on all answers given on quizzes, assignments and exams.

Make-up quizzes and tests are only given to students with an excused absence. If there are computer issues with D2L quizzes, an alternative on-paper quiz can be taken during my office hours.

Cheating…not allowed or respected.

Students who violate these rules will be asked to leave. Repeat offenders will be subject to disciplinary action in accordance with University policies as described in the Code of Student Conduct.

**ACADEMIC INTEGRITY (A-9.1):**

Academic integrity is a responsibility of all university faculty and students. Faculty members promote academic integrity in multiple ways including instruction on the components of academic honesty, as well as abiding by university policy on penalties for cheating and plagiarism.

**Definition of Academic Dishonesty**

Academic dishonesty includes both cheating and plagiarism. Cheating includes but is not limited to (1) using or attempting to use unauthorized materials to aid in achieving a better grade on a component of a class; (2) the falsification or invention of any information, including citations, on an assigned exercise; and/or (3) helping or attempting to help another in an act of cheating or plagiarism. Plagiarism is presenting the words or ideas of another person as if they were your own. Examples of plagiarism are (1) submitting an assignment as if it were one's own work when, in fact, it is at least partly the work of another; (2) submitting a work that has been purchased or otherwise obtained from an Internet source or another source; and (3) incorporating the words or ideas of an author into one's paper without giving the author due credit.

Please read the complete policy at [http://www.sfasu.edu/policies/academic_integrity.asp](http://www.sfasu.edu/policies/academic_integrity.asp)

**WITHHELD GRADES SEMESTER GRADES POLICY (A-54):**

Ordinarily, at the discretion of the instructor of record and with the approval of the academic chair/director, a grade of WH will be assigned only if the student cannot complete the course work because of unavoidable circumstances. Students must complete the work within one calendar year from the end of the semester in which they receive a WH, or the grade automatically becomes an F. If students register for the same course in future terms the WH will automatically become an F and will be counted as a repeated course for the purpose of computing the grade point average.

The circumstances precipitating the request must have occurred after the last day in which a student could withdraw from a course. Students requesting a WH must be passing the course with a minimum projected grade of C.

**STUDENTS WITH DISABILITIES:**

To obtain disability related accommodations, alternate formats and/or auxiliary aids, students with disabilities must contact the Office of Disability Services (ODS), Human Services Building, and Room 325, 468-3004 / 468-1004 (TDD) as early as possible in the semester. Once verified, ODS will notify the course instructor and outline the accommodation and/or auxiliary aids to be
provided. Failure to request services in a timely manner may delay your accommodations. For additional information, go to http://www.sfasu.edu/disabilityservices/.

CLASSROOM BEHAVIOR POLICY:
Acceptable Student Behavior: Classroom behavior should not interfere with the instructor’s ability to conduct the class or the ability of other students to learn from the instructional program (see the Student Conduct Code, policy D-34.1). Unacceptable or disruptive behavior will not be tolerated. Students who disrupt the learning environment may be asked to leave class and may be subject to judicial, academic or other penalties. This prohibition applies to all instructional forums, including electronic, classroom, labs, discussion groups, field trips, etc. The instructor shall have full discretion over what behavior is appropriate/inappropriate in the classroom. Students who do not attend class regularly or who perform poorly on exams may be referred to the Early Alert Program. This program provides students with recommendations for resources or other assistance that is available to help SFA students succeed.

CORE OBJECTIVES AND RESOURCES
NOTE: Assignments for assignment will be completed in the laboratory portion of the class.

Core Objective 1: Critical Thinking: to include creative thinking, innovation, inquiry and analysis, evaluation and synthesis of information.

Definition of CRITICAL THINKING: disciplined thinking that is clear, rational, open-minded, and informed by evidence.


Critical thinking involves the use of a group of interconnected skills. The skills needed can be broken down into six steps.
Six Steps of CRITICAL THINKING

1. Knowledge means a student must have basic knowledge about the subject.

2. Comprehension requires understanding of the subject. Students that comprehend the new knowledge are able to relate the new knowledge to what they already know. Comprehending goes beyond simply parroting material back.

3. Application requires both knowledge and comprehension. Students must be able to carry out a task or apply their knowledge and comprehension to an assigned task.

4. Analysis involves breaking the knowledge down into smaller parts so it become clear how the smaller parts are related to other ideas.

5. Synthesis involves the ability to put together the parts you analyzed with other information to create something original
6. **Evaluation** occurs once we have understood and analyzed what is said or written and the reasons offered to support it. Then we can appraise this information in order to decide whether you can give or withhold belief, and whether or not to take a particular action.

Adapted from: [http://www.mhhe.com/socsience/philosophy/reichenbach/m1_chap02studyguide.html](http://www.mhhe.com/socsience/philosophy/reichenbach/m1_chap02studyguide.html)  
(*accessed May 23, 2013*)

**Core Objective 2: Communication Skills: to include effective development, interpretation and expression of ideas through written, oral, and visual communication.**

**COMMUNICATION SKILLS in the sciences**

For an excellent resource in scientific communication from a highly reputable source see the information provided on the Nature website link shown below.

[http://www.nature.com/scitable/topic/scientific-communication-14121566](http://www.nature.com/scitable/topic/scientific-communication-14121566)  
(*accessed May 31, 2013*)

Three especially informative links within the link shown above are:

- Effective Communication
- Effective Writing
- Audience/Purpose

**Core Objective 3: Empirical and Quantitative Skills: to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions.**

**EMPIRICAL AND QUANTITATIVE SKILLS**

Chemists rely on observations to explain the nature of the substances they study. There are two types of observations exist: qualitative and quantitative. A **qualitative observation** is an observation made with the senses and is usually expressed using words instead of numbers. Qualitative observations about a person sick in the hospital might include that the person is breathing rapidly, has a high temperature, and is very thin.

A **quantitative observation** is an observation that requires a numerical measurement and describes something in terms of "how much". The quantitative observation that a person has a temperature of 103.6 °F is much more useful information than just knowing that the person has a fever. Quantitative observations are preferred by scientists. Often quantitative data is acquired in lab.

One or more measurement is always a part of any quantitative observation. A **measurement** determines the dimensions, capacity, quantity, or extent of something. The most common types of measurements made in chemical laboratories are those of mass, volume, length, temperature, pressure, and concentration. Measurements always consist of two parts: a **number**, which tells the amount of the quantity measured, and a **unit**, which tells the nature or kind of quantity measured. A measured number without a unit is meaningless.

Once quantitative data is obtained, chemists then mathematically manipulate and analyze data.

Adapted from saplinglearning.com; accessed May 31, 2013
Core Objective 4: Teamwork: to include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal.

Definition of **TEAMWORK**: work done by several associates with each doing a part but all subordinating personal prominence to the efficiency of the whole.


**TEAMWORK** General Rules

Each team member needs:

- all ideas evaluated critically;
- treat others in the group with respect
- everyone needs to pull their weight, meet deadlines, and contribute equally;
- actions need to be followed through;
- reporting needs to be accurate and comprehensive;
- problems with under-performing team members need to be discussed openly and resolved quickly; and
- peer assessment should be given fairly

**TEAMWORK WILL BE EVAULATED IN LAB AND ANALYZED AT THE UNIVERSITY LEVEL.**

Course Calendar on Following Page:
<table>
<thead>
<tr>
<th>Monday</th>
<th>Wednesday</th>
<th>Friday</th>
<th>homework due dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>01/17 Welcome, Introduction to class &amp; online homework CH 1</td>
<td>01/19 CH 2: Measurement &amp; Problem Solving (Last day to change schedule)</td>
<td>Intro to Mastering – 1/27</td>
<td></td>
</tr>
<tr>
<td>01/22 CH 2: Measurement &amp; Problem Solving</td>
<td>01/24 CH 2: Measurement &amp; Problem Solving; CH 3: Matter &amp; Energy</td>
<td>01/26 CH 3: Matter &amp; Energy</td>
<td></td>
</tr>
</tbody>
</table>
| 01/29 CH 4: Atoms and Elements | 01/31 CH 4: Atoms and Elements | 02/02 CH 4: Atoms and Elements | CH 1 – 1/27  
CH 2a – 1/28  
CH 2b – 1/28  
Math Review – 1/28  
CH 3 – 2/4  
CH 4 – 2/4 |
| 02/05 EXAM I (CH 1-4) | 02/07 CH 5: Molecules & Compounds | 02/09 CH 5: Molecules & Compounds | CH 5 – 2/18  
CH 6 – 2/25  
CH 7 – 2/28 |
| 02/12 CH 5: Molecules & Compounds | 02/14 CH 5: Molecules & Compounds; CH 6: Chemical Composition | 02/16 CH 6: Chemical Composition | |
| 2/19 CH 6: Chemical Composition | 2/21 CH 6: Chemical Composition; CH 7: Chemical Reactions | 2/23 CH 7: Chemical Reactions | |
| 2/26 CH 7: Chemical Reactions | 2/28 CH 7: Chemical Reactions | 3/2 EXAM II (CH 5-7) | |
CH 9 – 3/31  
CH 10 – 4/8 |
| Spring Break | Spring Break | Spring Break | |
| 3/19 CH 8: Quantities in Chemical rxns | 3/21 CH 9: Electrons in Atoms and the Periodic Table | 3/23 CH 9: Electrons in Atoms and the Periodic Table | |
| 3/26 CH 9: Electrons in Atoms and the Periodic Table | 3/28 CH 9: Electrons in Atoms and the Periodic Table; CH 10: Chemical Bonding | 3/30 Easter Holiday | |
| 4/2 CH 10: Chemical Bonding | 4/4 CH 10: Chemical Bonding | 4/6 CH 10: Chemical Bonding | |
| 4/16 CH 13: Solutions; CH 14: Acids and Bases | 4/18 CH 14: Acids and Bases (+Equilibrium) | 4/20 CH 14: Acids and Bases | CH 13 - 4/21  
CH 14 – 4/28 |
<table>
<thead>
<tr>
<th>(+ Equilibrium)</th>
<th>(+Equilibrium)</th>
<th>CH 11 – 4/28</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>4/23</strong> CH 11 Gases</td>
<td><strong>4/25</strong> CH 11 Gases</td>
<td><strong>4/27</strong> CH 11: Gases</td>
</tr>
<tr>
<td><strong>4/30</strong> CH 12 Intermolecular Forces &amp; Thermodynamics</td>
<td><strong>5/2</strong> CH 17 Radioactivity &amp; Nuclear Chemistry; Start Final Exam Review.</td>
<td><strong>5/4</strong> Review for final exam</td>
</tr>
</tbody>
</table>

**Section 111-003 Final Exam, Wed, May 9, 10:30-12:30.**