



Sam Houston State University

## CHEM 1411 – General Chemistry I – Fall 2017

<b>INSTRUCTOR:</b>	Dr. Tarek M. Trad	<b>OFFICE:</b>	CFS 317J
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### TIME AND LOCATION

**General Chemistry I – CHEM1411 – 01:** MWF 08:00 am – 08:50 am, Chemistry and Forensic Science Building (CFS), room 121

### OFFICE HOURS

MWF 9:00 am – 10:00 am, and 11:00 am – 12:00 noon

Other times by appointment or on “walk in” basis

### REQUIRED MATERIALS

- Textbook: *Chemistry, the Central Science*, 14E. by Brown, LeMay, Bursten, Murphy, Woodward; published by Pearson/Prentice Hall
- Lab Notebook: *CHEM 1112* Signature Labs Series by CENGAGE Learning.
- Scientific calculator: Texas Instruments model TI-30 or similar.

### COURSE DESCRIPTION

The following topics are studied: chemical changes and laws governing them; nomenclature; introduction to thermodynamics; reactions involving oxygen, hydrogen, acids, bases, and salts; ionization; metathesis; the periodic table, and atomic and molecular structure. This course is for chemistry and other science majors. Three-hour laboratory. Prerequisite: Minimum grade of C in MATH 1410, MATH 1314, MATH 1324 or MATH 2384 or equivalent, or a minimum Math score of 23 on the ACT or 560 on the SAT (or equivalent). Fall, Spring, Summer I. Credit 4.

### LEARNING OUTCOMES

Successful completion of this course is expected to provide students with the following outcomes:

- Provide the student with the critical thinking skills to analyze, set-up and solve chemical problems typically encountered in a first year college chemistry course.
- Enable the student to interpret chemical change as a logical consequence of the correlation between the periodic table of elements and modern concepts of atomic structure and chemical bonding.
- Show that modern chemical theory reflects a reasonable interpretation of natural laws as discovered by the experimental method.
- Relate the science of chemistry to the student's physical environment of work, study, and recreation.
- Prepare the student for advanced study in the area of chemistry and related subjects.

### LEARNING OBJECTIVES FOR CORE CURRICULUM REQUIREMENTS

- The core outcomes addressed in this class are: critical thinking skills, communication skills, empirical and quantitative skills, teamwork, social responsibility, and personal responsibility.

### GRADING SYSTEM

- *Exams:* There will be four major exams plus a comprehensive final. **Your lowest hour exam will be dropped.**
- *Final:* The **Final Exam is comprehensive** and will be given during finals week. **This exam is mandatory and cannot be dropped.**
- *Homework assignments:* The total number of points for all homework assignments will be 100.

Homework assignments will be posted on Blackboard. You must print out the assignment, answer problems and show work only in the provided space (legibly) and turn it in during the first five minutes of class on the due date. You are expected to read the assigned chapters in the textbook and work through the homework problems. Solving problems will help you strengthen your understanding of the material. Reading the textbook and practicing problems are the best ways for building the skills needed to do well on assignments and exams. **If you fail to turn in your assignment on time, you will receive zero points. No late assignments will be accepted.**

- *Attendance:* will be assigned at the discretion of the instructor. Points awarded for class attendance will be considered as “Bonus” points. The number of points could be up to 10 for perfect attendance during the semester.
- *Laboratory:* The laboratory portion of this course counts for 20% of the overall grade. In order to make a C or higher in this course, which is a prerequisite for CHEM 1412, you must earn at least a C in both the lecture portion of the course AND in the laboratory portion of the course. See your **laboratory syllabus** for details regarding the laboratory portion of the course.
- Your overall grade will be determined based on the following point system:
  - Homework assignments (6 @ 10 points each) 60
  - Tests (highest 3 out of 4 @ 80 points each) 240
  - Final 100
  - Laboratory 100

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<b>Total possible points:</b>	<b>500</b>
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<i><b>RANGE</b></i>	<i><b>LETTER GRADE</b></i>
<b>450.0 – 500.0</b>	<b>A</b>
<b>400.0 – 449.5</b>	<b>B</b>
<b>350.0 – 399.5</b>	<b>C</b>
<b>300.0 – 349.5</b>	<b>D</b>
<b>0 – 299.5</b>	<b>F</b>

- I reserve the right to extend the cutoff percentages lower (but I will **NOT** raise them).

### **CLASS POLICIES**

- *Cell Phones:* As cell phones are disruptions to the learning environment, these must be silenced during lectures and tests.
- *Attendance:* It is among the minimum requirements. All students are expected to be on time for class. Showing up late will not be tolerated and may result in appropriate actions taken by the professor at his own discretion. Attendance during exams is required, unless prior arrangements are made. No make-up exams will be given. Excused absences on exams must be pre-approved.

### **OTHER COURSE POLICIES**

- *Accommodation for students with disabilities:* It is the policy of Sam Houston State University that individuals otherwise qualified shall not be excluded, solely by reason of their disability, from participation in any academic program of the university. Further, they shall not be denied the benefits of these programs nor shall they be subjected to discrimination. Students with disabilities that might affect their academic performance should register with the Office of Services for Students with Disabilities located in the Lee Drain Annex (telephone 936-294-3512, TDD 936-294-3786, and e-mail [disability@shsu.edu](mailto:disability@shsu.edu)). They should then make arrangements with their individual instructors so that appropriate strategies can be considered and helpful procedures can be developed to ensure that participation and achievement opportunities are not impaired.

- SHSU adheres to all applicable federal, state, and local laws, regulations, and guidelines with respect to providing reasonable accommodations for students with disabilities. If you have a disability that may affect adversely your work in this class, then I encourage you to register with the SHSU Services for Students with Disabilities and to talk with me about how I can best help you. All disclosures of disabilities will be kept strictly confidential. NOTE: No accommodation can be made until you register with the Services for Students with Disabilities.
- *Collaboration:* In general I encourage you to work with others. Collaboration will enable you to get much more out of the class than if you work alone. Specifically I would encourage you to work with others to prepare for exams and assignments and lectures. However, your work must be your own. It is a violation of class policy to use somebody else's answers as your own. No collaboration is allowed during exams.
- *Policy on cell phones and electronic devices:*  
Lectures: With the exception of approved graphing calculators and wrist watches, no other electronics (for example cell phones and computers) are allowed during lecture, unless the user has requested and received permission from the instructor to use a specific device. The first violation of this policy will be met with a warning. If there are subsequent violations, The student may be asked to move the back row of the classroom, or to leave; the lecture will pause until this has been accomplished.
- *Exams:* On exams the visible presence of a cell phone, earbuds or other electronic device (excepting approved calculators and watches) during the exam is not allowed and will be penalized. Exceptions will be granted to individuals who have requested and received permission to use a specific device from the instructor.

### **SHSU POLICY STATEMENTS**

The **Sam Houston State University Policies** on (1) Academic Dishonesty, (2) **Student Absences on Religious Holy Days**, (3) **Students with Disabilities**, and (4) **Classroom Visitors** are each designed to strengthen community and learning and are fully applicable in this course. You are encouraged to review a summary of these important policies online at <http://www.shsu.edu/syllabus/>

**Additional context and details on all of these policies are available on the following web page:**

<http://www.shsu.edu/dept/academic-affairs/aps/aps-students.html>

**TENTATIVE COURSE OUTLINE AND ACTIVITIES:**

- Chapter numbers are taken from Brown and LeMay's "Chemistry, The Central Science" textbook, 14<sup>th</sup> edition.
- Instructor may alter the schedule as the course proceeds.

<b>CHAPTER 1</b> <b>CHAPTER 2</b>	Introduction: Matter, Energy, and Measurement Atoms, Molecules, and Ions <b>EXAM I – Friday, September 15</b>
<b>CHAPTER 3</b> <b>CHAPTER 4</b> <b>CHAPTER 6</b>	Chemical Reactions and Reaction Stoichiometry Reactions in Aqueous Solution Electronic Structure of Atoms <b>EXAM II – Friday, October 13</b>
<b>CHAPTER 7</b> <b>CHAPTER 8</b>	Periodic Properties of the Elements Basic Concepts of Chemical Bonding <b>EXAM III – Friday, November 3</b>
<b>CHAPTER 9</b> <b>CHAPTER 10</b>	Molecular Geometry and Bonding Theories Gases <b>EXAM IV – Wednesday, November 29</b>
<b>FINAL</b>	<b>Monday, December 04, 8:00 am – 10:00 am</b>

**For information on drop/register dates, and other important dates, please visit the Academic Calendar page on the SHSU website.**