Name: Dr. Alyx S. Frantzen
Department: Chemistry
Email: afrantzen@sfasu.edu
Website: www.faculty.sfasu.edu/
Phone: (936) 468-2338
Office: M 119

Student Hours: MR 2:00-3:00pm; TR 9:30-11:00am; W 3:00-4:00pm; Times by appointment
Class Hours: TR 8:00-9:15am 11:00-12:15 pm; W 12:00-2:50 pm, 4:00-6:50 pm

Text and Materials:
Homework Subscription: Mastering Chemistry
Calculator with scientific notation.

**COURSE CALENDAR:**
Material will be covered in the following section order with approximate class time. Exam schedule is tentative.

1 Matter and Measurement (1.5 lecture)
2 Atoms, Elements, Molecules, Ions, and Compounds (2 lectures)
3 Chemical Formulas and Equations (3 lectures)
Exam #1 September 17th (Thursday, lecture time)
4 Chemical Reactions (2.5 lectures)
10 Gases (2.5 lectures)
5 Thermochemistry (2 lectures)
Exam #2 October 8th (Thursday, lecture time)
6 Electronic Structure (1.5 lecture)
7 Periodic Properties of the Elements (1.5 lecture)
8 Basic Concepts of Chemical Bonding (2 lectures)
Exam #3 October 29th (Thursday, lecture time)

9 Molecular Geometry and Bonding Theory (2 lectures)
11 Liquids and Intermolecular Forces (1.5 lecture)
12 Solids and Modern Materials (1 lecture)
13 Properties of Solutions (1.5 lecture)
Exam #4 November 19th (Thursday, lecture time)

**Comprehensive Final** - December 10th, 8:00-10:30 am
**GRADING POLICY:**

*4-semester exams (100 points per exam)*: The exams will be given online through Mastering Chemistry. There will be an in class portion given on Thursdays during the lecture period. I will have the exam portion uploaded on D2L. It will open when class begins and you will take this portion during class time, on ZOOM, with your camera on. When you have completed this portion, you will upload it, in a PDF format, to a dropbox on D2L. If it is not PDF, I will not grade it. The format of the online portion will be multiple choice. The in class portion will be nomenclature and word problems. You must show all work for credit on a problem.

*Final Exam (100 points)*: The final will be on **December 11, 2019, 8:00 am -10:30 am**. The final exam is a comprehensive exam.

*Homework (100 points)*: I will be assigning homework using Mastering Chemistry. You must have a subscription to complete the homework as well as the exams.

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

<table>
<thead>
<tr>
<th>Component</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>exam 1</td>
<td>100 pts</td>
</tr>
<tr>
<td>exam 2</td>
<td>100 pts</td>
</tr>
<tr>
<td>exam 3</td>
<td>100 pts</td>
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<tr>
<td>exam 4</td>
<td>100 pts</td>
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<tr>
<td>final exam</td>
<td>100 pts</td>
</tr>
<tr>
<td>homework</td>
<td>100 pts</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>600 pts</strong></td>
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</tbody>
</table>

*Grading scale* - A= 90 - 100%; B= 80 - 89%; C= 70 - 79%; D= 60 - 69%; F= below 60%

**ATTENDANCE POLICY:**

Chemistry is not a spectator activity. You must actively participate in the class. Even though all of the lectures are posted as videos, you need to watch them and actively take notes as the lecture is presented. You must do the homework. I will be available during lecture times for answering questions, working problems, and clarifying misunderstandings. You must watch the video and do the homework before the scheduled exams. There will be **no make-up** exams.

**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)
Any student found cheating will be subject to the penalties as stated in the Student Code of Conduct handbook; including but not limited to a score of zero on exam, expulsion from the class or expulsion from the University.

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.

SEMESTER WITHDRAWALS: Last day to withdraw from the course without obtaining WP or WF grade is October 23rd.

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:
To ensure a classroom environment conducive to learning, any forms of classroom disruptions will not be tolerated (examples but not limited to – talking, use of cell phones/beepers, sleeping, reading other material, eating/drinking). 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.

FACE MASKS, COVID-19, ETC.:
Masks (cloth face coverings) must be worn over the nose and mouth at all times in this class and appropriate physical distancing must be observed. Students not wearing a mask and/or not observing appropriate physical distancing will be asked to leave the class. All incidents of not wearing a mask and/or not observing appropriate physical distancing will be reported to the Office of Student Rights and Responsibilities. Students who are reported for multiple infractions of not wearing a mask and/or not observing appropriate physical distancing may be subject to disciplinary actions. A student running a fever should attend class via Zoom and should NOT attend a face to face class.

Course Syllabus
Chemistry 133
General Chemistry I

Course Description: Atomic and molecular structures, stoichiometry, gas laws and thermodynamics.

Number of Credit Hours: 3 semester hours - 3 hours lecture per week

Course Prerequisites and Corequisites: Prerequisite: MTH 138. Corequisite: CHE 133L.

Program Learning Outcomes: There are no specific program learning outcomes for this major addressed in this course. This course is a general education core curriculum course and a service course.

General Education Core Curriculum

The Texas Higher Education Coordinating Board has identified six core learning objectives: Critical Thinking Skills, Communication Skills, Empirical and Quantitative Skills, Teamwork, Personal Responsibility, and Social Responsibility. SFA is committed to the improvement of its general education core curriculum by regular assessment of student performance on these six objectives. General Chemistry is a general education core curriculum course and fulfills the Teamwork general education core curriculum requirement. Another, “shell” course has been created to collect student artifacts to meet this state requirement. You will see this course on your D2L list. During this semester, you will receive an assignment in the laboratory portion of the course that fulfills both the requirements of the lab and the needs of Stephen F. Austin State University’s Core Curriculum Assessment Plan with the Texas Higher Education Coordinating Board. When you complete this one assignment, you need to upload the assignment to both the General Chemistry dropbox and the Teamwork dropbox. Please note that this only applies to the specific assignment listed in the matrix below. All other assignments should be submitted according to regular class operations. If you have any questions, please see your instructor or contact the University Assessment Specialist at (936) 468-1267 or jstringfield@sfasu.edu.

The chart below indicates the core objectives addressed by this course, the assignment(s) that will be used to assess the objectives in this course and uploaded to the D2L Teamwork dropbox this semester, and the date the assignment(s) should be uploaded to the D2L Teamwork dropbox. Not every assignment will be submitted for core assessment every semester. Your instructor will notify you which assignment(s) must be submitted for assessment in the D2L Teamwork dropbox.

<table>
<thead>
<tr>
<th>Core Objective</th>
<th>Definition</th>
<th>Course Assignment Topics</th>
<th>Chapters</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO 1 -- Critical Thinking Skills</td>
<td>To include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information.</td>
<td>Classification of Reactions, Solubility Rules, Limiting Reactant, Lewis Diagrams, Valence Shell Electron Pair Repulsion Theory</td>
<td>3, 4, 8, 9</td>
</tr>
<tr>
<td>CO 2 -- Communication Skills</td>
<td>To include effective development, interpretation and expression of ideas though</td>
<td>Developed in Laboratory, recitation</td>
<td></td>
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</table>
Course Objective: To provide students with an explanation of the basic concepts of chemistry and to apply these concepts to problem solving involving critical thinking.

Student Learning Outcomes: Upon completion of this course, the students are expected to:
- apply chemistry concepts using critical thinking skills and the scientific method to analyze and evaluate information to reach conclusions within problem sets and lab experiments. (COs 1 & 3)
- use communication skills to demonstrate their interpretation and analysis of scientific data and express their ideas and thoughts to team members. (CO 2)
- apply logic, quantitative reasoning, and pattern recognition to analyze and evaluate numerical data/observable facts to reach conclusions within problem sets and lab experiments. (COs 1 & 3)
- demonstrate the ability to cooperate within groups to gather results of an experiment, analyze data, and draw conclusions using communication skills. (COs 2 & 4)

Hour Justification: This course is for 3 credits and spans 15 weeks. The course contains extensive content requiring students to prepare by completing the assigned weekly reading, homework, online content, etc. Students have significant weekly reading and homework assignments involving critical thinking and quantitative reasoning. Students are tested over the material via several exams during the semester including a comprehensive final exam. These activities average at a minimum 6 hours of work each week to prepare outside of time spent engaging with the content.

Outline of Topics (approximate course time):
Chemistry and Measurement (5-15%)
Atoms, Elements, Molecules, Ions, and Compounds (5-15%)
Chemical Formulas and Equations (5-15%)
Chemical Reactions (5-15%)
Gases (5-15%)
Thermochemistry (5-15%)
Quantum Theory of the Atom (5-15%)
Periodic Properties of the Elements (5-15%)
Chemical Bonding – Lewis Structures (5-15%)
Molecular Geometry and Bonding Theory (5-15%)
Liquids, Solids, and Intermolecular Forces (5-15%)
Solutions (5-15%)

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<tr>
<th>CO 3 -- Empirical and Quantitative Skills</th>
<th>To include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions.</th>
<th>Stoichiometry, Significant Figures, Thermodynamics, Gas Laws</th>
<th>1, 3, 5, 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO 4 -- Teamwork</td>
<td>To include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal.</td>
<td>Developed in Laboratory</td>
<td>See lab syllabus</td>
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