Course Syllabus  
CHEM 1112  
General Chemistry II Laboratory

Course Description:  Kinetics, spectrophotometry, quantitative/qualitative experiments.

Number of Credit Hours:  1 semester hour

Course Prerequisites and Corequisites:  Prerequisites: CHEM 1311/1111. Co-requisite: CHEM 1312.

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 Objectives:  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. Chemistry core courses only develop the first four core learning objectives: critical thinking, communication, empirical and quantitative, teamwork.

Course Objective:  To provide students with an explanation of the basic concepts, laws and theories of chemistry and to apply them to chemistry problems through a laboratory setting. The student will demonstrate basic laboratory techniques and be able to apply them in a practical chemistry setting.

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)

Outline of Topics (approximate course time):
Lab Safety (10%)  
Chemical Safety (10%)  
Solution Preparation (10%)  
Reaction Kinetics (10%)  
Equilibrium (10%)  
Acids and Bases (10%)  
Advanced Acids and Bases (10%)  
Titration (10%)  
Thermodynamics (10%)  
Redox Reaction (10%)
Class Syllabus  
Fall 2021  
CHEM 1112  
General Chemistry II Laboratory

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Office: M-122

**Student Hours:** T 12:30-4pm, R 8:30-11am, appointment  
Available in office or through Zoom  
Zoom Link: [https://sfasu.zoom.us/my/janusa](https://sfasu.zoom.us/my/janusa)  
Meeting ID: 333 463 6278  
Password: chem

**TEXT AND MATERIALS:**

_Students are expected to register with Labster and pay for the labs._ You will purchase access to Labster by using a Credit or Debit card. A non-programmable, scientific calculator is required for the course. Communication for lab will be sent through SFA email.

**Useful information:**
1. Labster 101: Getting started with Labster  
2. How do I pay for Labster labs?  

It is recommended that students go through the Brightspace by D2L to access the labs. During your first attempt to access the lab simulations in D2L, you will be prompted to purchase a license. The labs are placed in a “Simulation” folder in D2L within the “Content” tab.

**COURSE REQUIREMENTS:**

_Simulations_ – There will be 10 experiment simulations to be completed.  
_Quizzes_ – There will be 5 quizzes in D2L over 5 experiment simulations.  
_Lab reports_ – There will be a lab report required for 5 simulations conducted in Labster following the lab report format at the end of this syllabus.  
_Final Exam_ – There will be a comprehensive final given in D2L.

**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>10 simulations</td>
<td>100 pts</td>
</tr>
<tr>
<td>5 quizzes</td>
<td>50 pts</td>
</tr>
<tr>
<td>5 lab reports</td>
<td>50 pts</td>
</tr>
<tr>
<td>Final Exam</td>
<td>100 pts</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>300 pts</td>
</tr>
</tbody>
</table>

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

This lab course is for 1 credit and typically requires 150 minutes a week for 15 weeks. Students have weekly reading and simulations to prepare for lab each week and lab reports involving critical thinking and quantitative reasoning. Students are tested over the material via quizzes and exams. Students are expected to prepare prior to each lab (literature and concepts), conduct experiments, and report results (lab reports). Students have required academic components and deliverables: written work (quizzes and lab reports). These activities, inclusive of the lab expectations and academic components, average a minimum of 6 hours of work each week.

<table>
<thead>
<tr>
<th>Week start date</th>
<th>Lab Content</th>
<th>Due Date (simulation, D2L quiz, lab report dropbox)</th>
</tr>
</thead>
</table>
| Week 1 Oct 18   | Lab 1: Lab Safety  
 Lab 2: Chemical Safety | Oct 22 Simulation, D2L Quiz  
 Oct 25 Simulation, D2L Quiz |
| Week 2 Oct 25   | Lab 3: Solution Preparation  
 Lab 4: Reaction Kinetics | Oct 29 Simulation, D2L Quiz  
 Nov 1 Simulation, Report |
| Week 3 Nov 1    | Lab 5: Equilibrium  
 Lab 6: Acids and Bases | Nov 5 Simulation, Report  
 Nov 8 Simulation, D2L Quiz |
| Week 4 Nov 8    | Lab 7: Advanced Acids and Bases  
 Lab 8: Titration | Nov 12 Simulation, D2L Quiz  
 Nov 15 Simulation, Report |
| Week 5 Nov 15   | Lab 9: Thermodynamics  
 Lab 10: Redox Reaction | Nov 19 Simulation, Report  
 Nov 29 Simulation, Report  
 (Monday after Thanksgiving break) |
| Week 6 Nov 22   | Thanksgiving | |
| Week 7 Nov 29   | **FINAL EXAM in D2L** | Dec 3 – final opens  
 Dec 6 – final closes |

**ATTENDANCE POLICY:**

This course is online meaning there are no required face-to-face meetings. The assignments and exams will be due during the assigned times unless other arrangements are approved by the instructor prior to the due date. There are no make-up activities for notifications given the day of the activity.

**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.

Any student found cheating will be subject to the penalties as stated in the Student Code of Conduct handbook (http://www.sfasu.edu/policies/student-code-of-conduct-10.4.pdf); including but not limited to a score of zero on exam, expulsion from the class or expulsion from the University. Please read the complete policy at http://www.sfasu.edu/policies/4.1-student-academic-dishonesty.pdf.

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/.

MENTAL HEALTH:
SFASU values students’ mental health and the role it plays in academic and overall student success. SFA provides a variety of resources to support students' mental health and wellness. Many of these resources are free, and all of them are confidential.

On-campus Resources:
SFASU Counseling Services
www.sfasu.edu/counselingservices
3rd Floor Rusk Building: 936-468-2401

SFASU Human Services Counseling Clinic
www.sfasu.edu/humanservices/139.asp
Human Services Room 202: 936-468-1041

Crisis Resources:
Burke 24-hour crisis line 1(800) 392-8343
Suicide Prevention Lifeline 1(800) 273-TALK (8255)
Crisis Text Line: Text HELLO to 741-741
**Lab Report Format**

The lab report is for you to reflect on what you completed and learned in this simulation and to practice your written scientific communication skills.

1.) **Title and Introduction**
Give the title of the experiment and a 1 or 2 sentence description of the overall objective of the experiment. This should be done in your own words -- do not copy from Labster. What is the overall purpose of the experiments or activities? Note: the purpose is often stated in the welcome message of the simulation.

2.) **Background Knowledge**
Provide a summary of the background knowledge associated with this experiment or activity. Read the “Theory” tab of the simulations (https://theory.labster.com), the Labster lab manual section in D2L, or a chemistry textbook to help you describe the concepts being covered in the simulations.

3.) **Procedure**
Summarize the steps taken in the simulation. Explain each step you completed including the equipment and techniques used. This section is the laboratory "diary" in which you write a step-by-step description of what you do in the lab. Note: the “Mission” tab in the LabPad can be helpful.

4.) **Results**
Explain any obtained results. Be sure to include all data collected and calculations done during the simulation. I suggest you write down all information obtained (amount of reagents, colors, temperature, apparatus used, chemicals, results, calculations, etc.) during the simulation into a notebook for writing this section of the report. Draw pictures if appropriate, use tables, graphs, equations, etc. Note: the “Media” tab in the LabPad can be helpful, and you can take screenshots while performing the simulation for submitting into the report.

5.) **Discussion and Conclusions**
How do your results relate back to the original purpose of the simulation? This section includes all relevant results (discuss results) and supporting chemical theories and concepts pertaining to the experiment (state theory and how related to this experiment). You must be able to convey your understanding of what went on in the experiment.