CHEM 1105-520
Introductory Chemistry Laboratory, Fall 2020, **Fully online**
(Students must be enrolled in CHE 1305 class as well)

<table>
<thead>
<tr>
<th>Name</th>
<th>Dr. Matibur Zamadar</th>
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<tbody>
<tr>
<td>Department</td>
<td>Chemistry &amp; Biochemistry</td>
</tr>
<tr>
<td>Email</td>
<td><a href="mailto:zamadarmr@sfasu.edu">zamadarmr@sfasu.edu</a></td>
</tr>
<tr>
<td>website</td>
<td>course information on D2L</td>
</tr>
<tr>
<td>Phone</td>
<td>936-468-2243</td>
</tr>
<tr>
<td>Office</td>
<td>Chemistry 104A</td>
</tr>
<tr>
<td>Student Hours</td>
<td>MWF, 10.00 am-11.30 am, and R 1:00 am-2.30 pm (via Zoom)</td>
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</table>

**TEXT AND OTHER MATERIALS:**

**Labster labs with due dates per the syllabus. Students will be expected to register to labster and pay for the labs. You will purchase p access to Labster by using a Credit or Debit card.** A non-programmable, scientific calculator is required for all exams and quizzes. Communication for lab will be sent through SFA email.

**Useful resources and questions:**


It is recommended that students go through the Brightspace by D2L to access the labs.

**Laboratories:** Students taking the laboratory are directed to purchase the virtual laboratory software listed below. Students are to order the laboratory components directly from **Labster Software.** Students can access the lab simulations after purchase.

**COURSE CALENDAR:** ON SEPARATE PAGE

**GRADING POLICY:** The point total for the requirements shown in the Course Requirements is 1000. Grades are based on the total number of points earned out of 1000.

**METHOD OF EVALUATION:** The grade is a percent of a total point composed of labs, quizzes, and two exams. The grade composition is as follows:

<table>
<thead>
<tr>
<th></th>
<th>Points</th>
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<tbody>
<tr>
<td>8 Labs</td>
<td>800</td>
</tr>
<tr>
<td>Exams (Comprehensive Final Exam)</td>
<td>200</td>
</tr>
<tr>
<td>TOTAL</td>
<td>1000</td>
</tr>
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</table>

*Grading scale as a %: A= 100 – 90, B= 89 – 80, C= 79 – 70; D= 69 – 60; F= 59 and below

*Grading scale as Total points: [A ≥ 900; B ≥800; C ≥ 700; D ≥ 600; F < 600]*
You need:
- A scientific calculator, pencil, eraser.

Course Description: Introductory laboratory experiments.
This lab course is for 1 credit and typically meets for 120 minutes a week for 15 weeks plus meets for a 2-hour final examination. Students have significant weekly reading to prepare for lab each week and lab reports involving critical thinking and quantitative reasoning. Students are tested over the material via quizzes and a comprehensive final exam. These activities, inclusive of the lab expectations and academic components, average a minimum of 2 hours of work each week.

Number of Credit Hours: 1 credit hour – 2 labs per week
Course Prerequisites and Co-requisites: Co-requisite: CHE 1305. Instead of Lab fee, you have to buy access to labster.com
Program Learning Outcomes: This course is a general education core curriculum course and a service course.

Course Objective: To provide students with an explanation of the basic principles of chemistry as illustrated through laboratory simulations and to apply these principles to respond to the quizzes in labster involving critical thinking.

Student Learning Outcomes: The student is expected to recognize and apply the following concepts to problem solving in a laboratory setting.
- Units of measure and significant figures, unit conversion, density and definitions of matter.
- Basics of atomic theory applied to the atom, basics of the periodic table, correct use of terms.
- Writing correct formulas of compounds and inorganic nomenclature as well as Lewis structure and VSEPR theory.
- Determination of mass calculations in chemical formulas and chemical reactions, writing balanced chemical reactions
- Principles of acid/base theories, pH, buffers, acid-base indicators, and titration

COVID-19 Safety Guidelines
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.

Table below provide the weekly assignments and deadline (11:30pm CST).

### CHE1105 Lab schedule – 2020 Fall

<table>
<thead>
<tr>
<th>Date</th>
<th>Lab topic</th>
<th>Assignment</th>
</tr>
</thead>
<tbody>
<tr>
<td>08/31</td>
<td>Go over the syllabus</td>
<td>Check the syllabus and timeline. Keep these handy, so you can go back anytime to check the assignments. Read through the module <a href="https://help.labster.com/en/articles/3016151-labster-101-getting-started-with-labster#option-1-through-your-schools-learning-management-system-blackboard-brightspace-canva">https://help.labster.com/en/articles/3016151-labster-101-getting-started-with-labster#option-1-through-your-schools-learning-management-system-blackboard-brightspace-canva</a>...</td>
</tr>
<tr>
<td>08/31</td>
<td>ACS Safety</td>
<td>Watch the following Safety Video by the American Chemical Society. Take notes on the video, study the notes, and be prepared to take a quiz on D2L. The link to the safety video is: <a href="https://www.youtube.com/watch?v=MARP5Ti33II">https://www.youtube.com/watch?v=MARP5Ti33II</a></td>
</tr>
<tr>
<td>09/7</td>
<td>#1: Labster: Lab safety</td>
<td>Describe the do’s and don’ts in a laboratory Do the simulations and finish the work in labster</td>
</tr>
<tr>
<td>09/7</td>
<td>#2: Labster: Matter and phase change</td>
<td>Get ready to encounter all three states of matter.</td>
</tr>
<tr>
<td>09/7</td>
<td>#3: Labster: Periodic table (principles)</td>
<td>Light up the elements!</td>
</tr>
<tr>
<td>09/14</td>
<td>#4: Labster: Atomic structure</td>
<td>Describe how the electron configuration relates to the orbitals of an atom</td>
</tr>
<tr>
<td>09/21</td>
<td>#5: Labster: Ionic and covalent bonds</td>
<td>Have you ever wondered how atoms are held together?</td>
</tr>
<tr>
<td>09/21</td>
<td>#6: Labster: Stoichiometry</td>
<td>Did you know that there are more water molecules in a glass of water than there are sand grains in the Sahara desert</td>
</tr>
<tr>
<td>9/28</td>
<td>#7: Labster: Acids and bases</td>
<td>Acids and bases are found all around us: In the food we eat, the beverages we drink, many of the everyday household products at home and even inside us!</td>
</tr>
</tbody>
</table>
#8: Labster: Titration

Counting potatoes in a bag would be pretty easy. You can feel, see, and touch the potatoes. Now imagine counting the amount of acid in a water sample.

### Late Policy:
The deadline for each lab including quiz on D2L is 11:30 pm CST. Any assignment turned in late by 1 day (calendar date) will lose 20%, 2 day (calendar date) will lose 50%, 3 or more day late will earn ‘0’.

### PARTICIPATION POLICY:
Participation of all lab simulations is mandatory.

### 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.

### 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/](http://www.sfasu.edu/disabilityservices/).

**General Education Core Curriculum**
• This course has been selected to be part of Stephen F. Austin State University’s core curriculum. The Texas Higher Education Coordinating Board has identified six objectives for all core courses: 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.

• Assessment of these objectives at SFA will be based on student work from all core curriculum courses. This student work will be collected in D2L through LiveText. LiveText accounts will be provided to all students enrolled in core courses through the university technology fee. You will be required to register your LiveText account, and you will be notified how to register your account through your SFA e-mail account. If you forward your SFA e-mail to another account and do not receive an e-mail concerning LiveText registration, please be sure to check your junk mail folder and your spam filter for these e-mails. If you have questions about LiveText call Ext. 1267 or e-mail SFALiveText@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 LiveText this semester, and the date the assignment(s) should be uploaded to LiveText. Not every assignment will be collected for assessment every semester. Your instructor will notify you which assignment(s) must be submitted for assessment in LiveText this semester.

<table>
<thead>
<tr>
<th>Core Objective</th>
<th>Definition</th>
<th>Course Assignment Title</th>
<th>Date Due in LiveText</th>
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<tbody>
<tr>
<td>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>Team work rubrics</td>
<td>Tuesday, Nov. 28 at the beginning of lab.</td>
</tr>
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**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 *(accessed May 31, 2013)*

Three especially informative links within the link shown above are:

• Effective Communication
• Effective Writing
• Audience/Purpose

Scientific communication traditionally includes writing in third person, past tense, passive voice. In formal, scientific writing slang terms and contractions are avoided.

**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

*Every laboratory activity meets all 4 Core Objectives:*

<table>
<thead>
<tr>
<th>Core Objective 1: Critical Thinking Skills</th>
<th>Every lab will require a collection of data in which you must analyze the information. Each lab has objectives that are achieved by manipulating chemicals and equipment which involves inquiry skills.</th>
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<tbody>
<tr>
<td>Core Objective 2: Communication Skills</td>
<td>Communication with your lab partner is absolutely essential in order to perform the experiment, take data, and analyze the results.</td>
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<tr>
<td>Core Objective 3: Empirical and Quantitative Skills</td>
<td>Each lab will include the manipulation and analysis of numerical data or observable facts from which an informed conclusion will be drawn.</td>
</tr>
<tr>
<td>Core Objective 4: Teamwork</td>
<td>When working with a partner in a lab setting, it is important to work as a team, considering different points of view and working effectively to meet the objectives set forth in the lab manual.</td>
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</tbody>
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*This Core Objective is Strongly Emphasized in Lab.*