Course Syllabus

Introductory Chemistry Laboratory
CHEM 1105 Section: 520 Time of Meeting: Online
Semester: Spring 2024 Course

Description: Introductory laboratory experiments

Number of Credit Hours: 1 semester hour

Course Prerequisites and Corequisites: Corequisite: CHE 1305

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.

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: The student will develop an understanding of the basic concepts, laws and theories of chemistry and apply them to chemistry problems through a laboratory setting. The student should learn the skills needed to demonstrate competency in introductory chemistry laboratory techniques.

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. (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)

(Students must be enrolled in CHE 1305 Lecture)

<table>
<thead>
<tr>
<th>Instructor Name</th>
<th>Dr. Bidisha Sengupta</th>
</tr>
</thead>
<tbody>
<tr>
<td>Department</td>
<td>Chemistry and Biochemistry</td>
</tr>
<tr>
<td>Email</td>
<td><a href="mailto:Bidisha.sengupta@sfasu.edu">Bidisha.sengupta@sfasu.edu</a></td>
</tr>
<tr>
<td>Office</td>
<td>Math 112</td>
</tr>
<tr>
<td>M 4-5 pm, T 9:30-11:30 am, W 1-2pm</td>
<td>Zoom Link: <a href="https://sfasu.zoom.us/j/92951289948?pwd=L2N0RWZuZDFuMFJQUEJVa3NBYzIzNz09">https://sfasu.zoom.us/j/92951289948?pwd=L2N0RWZuZDFuMFJQUEJVa3NBYzIzNz09</a></td>
</tr>
<tr>
<td>Meeting ID</td>
<td>929 5128 9948, Passcode: Chem</td>
</tr>
</tbody>
</table>

Email to make an appointment.
Required Text and Materials:
Stephen F. Austin State University CHEM 1105 Online Lab Manual is available at Math 110 with Professor Ms. Catherine Kwiatkowski.

Internet access to conduct virtual lab simulations using free software by following CHEM 1105 lab manual.

This lab course requires buying the online lab manual as well as VCL access.

You need: A scientific calculator, pencil, eraser, lab manual. This lab course requires buying the online lab manual as well as VCL access. Submit your online access code in D2L.

Course Requirements:
Prelab quizzes (100 pts per lab) over the material for each lab. **These quizzes will be due each Friday (see calendar below)** by 11:59 pm in D2L.
Postlab quizzes (50 pts per lab) over the material for each lab. **These quizzes will be due each Sunday (see calendar below)** by 11:59 pm in D2L.
Postlab dropbox (50 pts per lab) of data and questions over the lab as indicated in lab manual. This data Tables will be due each Sunday (see calendar below) by 11:59pm in D2L.

Mid-term Exam – comprehensive exam over lab experiments 1 through 6 worth 100 pts. Mid-term exam will be available in D2L between Mar 4 to Mar 10 at 11:59pm. Exam must be completed within 2 hours of opening the exam between the open dates. Sp break will be from Mar 11 till Mar 17.

Final Exam – comprehensive exam over lab experiments 7 through 11 worth 100 pts. Final exam will be available in D2L between Apr 29 to May 01 at 11:59pm. Exam must be completed within 2 hours of opening the exam between the open dates.

Course drop date: https://www.sfasu.edu/registrar/registration-information/dates-deadlines

Method of Evaluation: The final grade will be based on a weighted average.

<table>
<thead>
<tr>
<th>Component</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prelab quizzes</td>
<td>45%</td>
</tr>
<tr>
<td>Lab Reports</td>
<td>23%</td>
</tr>
<tr>
<td>Postlab Quizzes</td>
<td>23%</td>
</tr>
<tr>
<td>Mid-term</td>
<td>4.5%</td>
</tr>
<tr>
<td>Final</td>
<td>4.5%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
</tr>
</tbody>
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Grading scale - A= 90 - 100%; B= 80 - 89%; C= 70 - 79%; D= 60 - 69%; F= below 60%

There will be a 20% point deduction for every 24 hour/1 day late submission of any assignment. Any assignment for labs 1-6 won’t be accepted after midterm.

Course Calendar:
This lab course is for 1 credit and typically requires 120 minutes a week for 15 weeks. Students have weekly reading and videos 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 (pre-lab assessments, quizzes, and lab reports). These activities, inclusive of the lab expectations and academic components, average a minimum of 4 hours of work each week.

Outline of Topics (approximate course time):
- Safety and Introduction to Chemistry Lab (9%)
- Significant Figures (9%)
- Endothermic, Exothermic, Heat of Reaction (9%)
- Specific Heat, Heat of Combustion (9%)
- Counting Atoms and Molecules (9%)
- Gas Evolution, Precipitation (9%)
- Atomic Emission Spectra (9%)

2
PhET lab: Lewis Dot Structures and VSEPR Theory (9%)  
Creating a Solution of Known Molarity, Acid-base Standardization (10%)  
Boyle, Charles, Avogadro’s Laws (9%)  
Ideal Gas Law (9%)  

Note: All prelab (quiz) and post lab (dropbox: data & questions) are due by 11:59 pm of due date. Exams must be completed within 2 hrs of opening the exam between the open dates.

Tentative Class Calendar for CHEM 1105 Spring 2024

(All the due date times on the timeline are based on Central Standard Time)

<table>
<thead>
<tr>
<th>Lab</th>
<th>Video (copy the link and paste to watch)</th>
<th>Prelab Quiz Due</th>
<th>Postlab Quiz &amp; Lab Report Due</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Safety and an Introduction to Chemistry Lab</td>
<td><a href="https://www.youtube.com/watch?v=9o77QEeM-68&amp;t=1704s">https://www.youtube.com/watch?v=9o77QEeM-68&amp;t=1704s</a></td>
<td>Jan 26</td>
<td>Jan 28</td>
</tr>
<tr>
<td>2. Significant Figures</td>
<td>No video</td>
<td>Feb 2</td>
<td>Feb 4</td>
</tr>
<tr>
<td>3. VCL 3-1 and 3-10</td>
<td>3-1 and 3-10 with Introduction <a href="https://youtu.be/PSKAUoBiUgs">https://youtu.be/PSKAUoBiUgs</a></td>
<td>Feb 9</td>
<td>Feb 11</td>
</tr>
<tr>
<td>4. VCL 3-3 and 3-7</td>
<td>3-3 and 3-7 with introduction <a href="https://youtu.be/9RC_LKAMVY">https://youtu.be/9RC_LKAMVY</a></td>
<td>Feb 16</td>
<td>Feb 18</td>
</tr>
<tr>
<td>5. VCL 2-7 and 2-9</td>
<td>2-7 and 2-9 with Introduction <a href="https://youtu.be/qC7P-1-UVCQ">https://youtu.be/qC7P-1-UVCQ</a></td>
<td>Feb 23</td>
<td>Feb 25</td>
</tr>
<tr>
<td><strong>Midterm</strong>&lt;br&gt;Opens Mar 4&lt;br&gt;Closes Mar 10</td>
<td><strong>Good luck!</strong></td>
<td>Mar 4-Mar 10</td>
<td></td>
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<tr>
<td><strong>Sp break</strong></td>
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<tr>
<td>7. VCL 1-8</td>
<td>1-8 with Introduction <a href="https://youtu.be/QSGeIeq4QYI">https://youtu.be/QSGeIeq4QYI</a></td>
<td>Mar 22</td>
<td>Mar 24</td>
</tr>
<tr>
<td>8. PhET Lab</td>
<td>PhET Lab with Introduction: <a href="https://youtu.be/hJtbfTDTANs">https://youtu.be/hJtbfTDTANs</a></td>
<td>Apr 5</td>
<td>Apr 7</td>
</tr>
<tr>
<td>9. VCL 2-13 and 6-15</td>
<td>2-13 and 6-15 with Introduction: <a href="https://www.youtube.com/watch?v=sg94nCn3iEY">https://www.youtube.com/watch?v=sg94nCn3iEY</a></td>
<td>Apr 12</td>
<td>Apr 14</td>
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<tr>
<td>10. VCL 5-1, 5-2, 5-3</td>
<td>5-1, 5-2, 5-3 Tour (no introduction) <a href="https://youtu.be/eSzkchisqU">https://youtu.be/eSzkchisqU</a></td>
<td>Apr 19</td>
<td>Apr 21</td>
</tr>
<tr>
<td>11. Hands-on Activity Ideal Gas Law</td>
<td>No video</td>
<td>Apr 26</td>
<td>Apr 28</td>
</tr>
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</table>
Getting started module, Introduce Yourself and share your thoughts with peers in Discussions. This will make a connection between us.

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.

Please read the complete policy at http://www.sfasu.edu/policies/4.1-student-academic-dishonesty.pdf.

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.

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

Disclaimer: This syllabus is subject to change at the Instructor's discretion which will be notified to students via email and D2L announcements.

**Syllabus Acknowledgement Statement**
I have read and understood the policies outlined in the course syllabus. I agree to abide by and follow the policies. I have been advised that if I can’t agree to follow the policies outlined in the course syllabus, I should withdraw from the course.

_________________________________________  ____________
Signature                                      Date

PRINT NAME ___________________________________

READ the syllabus thoroughly. Print this page, sign and save as a pdf. Then upload the pdf in dropbox by Jan 28, 2024.

Dr. Bidisha Sengupta, Jan 18, 2024