GENERAL CHEMISTRY I LAB
CHE 133.020-025 Chem-101/102/105
Tuesday 5 - 5:50
Wednesday 12:30-3:20 or 4:00-6:50
Fall 2019

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Office Hours: MWF 10:00-11:00 AM; Tues. 4:00 PM- 5:00 PM; Wed. 2:00 PM- 3:00 PM; other times by appointment

CATALOG DESCRIPTION: Laboratory techniques and applications. Spectroscopy, quantitative experiments.

PREREQUISITES: MTH 138  CO-REQUISITES: CHE 133


Chemistry Laboratory Notebook with duplicate pages. Scientific Calculator


COURSE GOALS: The student should learn basic laboratory techniques and be able to apply them in a practical chemistry setting.

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. 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>Stoichiometry, Significant Figures</td>
<td>All Labs</td>
</tr>
<tr>
<td>CO 2 -- Communication Skills</td>
<td>To include effective development, interpretation and expression of ideas though written, oral, and visual communication.</td>
<td>Written Lab Reports</td>
<td>Densities and Project Reports</td>
</tr>
<tr>
<td>CO 3 -- Empirical and Quantitative Skills</td>
<td>To include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions.</td>
<td>Stoichiometry, Significant Figures</td>
<td>All Labs</td>
</tr>
<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>Group Work, all experiments</td>
<td>All Labs are performed in groups. Assessed through Project.</td>
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</tbody>
</table>
**STUDENT OUTCOME OBJECTIVES:**
Upon completion of this course students will:

- Understand and apply method and appropriate technology to the study of natural sciences.
- Recognize scientific and quantitative methods and the differences between these approaches and other methods of inquiry and to communicate findings, analyses, and interpretation both orally and in writing.
- Demonstrate knowledge of the major issues and problems facing modern science, including issues that touch upon ethics, values, and public policies.
- Demonstrate knowledge of the interdependence of science and technology and their influence on, and contribution to, modern culture.

**Hour Justification:** This course is for 1 credits and spans 5 weeks. The course contains extensive content requiring students to prepare pre-laboratory purposes and procedure. Students have to prepare for laboratory by completing weekly pre-laboratory reading assignment and worksheets. Students are tested over the material via a weekly laboratory reports, a comprehensive final exam, and/or weekly quizes. These activities average at a minimum 6 hours of work each week to prepare outside of time spent engaging with the content.

**COURSE REQUIREMENTS:** Grading is on a 210 point scale. Each experiment counts 10 points. The lowest experiment grade will be dropped. Reports will count a total of 40 points. No report grades will be dropped. Each dry lab counts 10 points; no dry labs will be dropped. The final exam is worth 40 points. Failure to take the final will result in a failing grade for the course.

**COURSE CONTENT:** Please see attached schedule

**Grading Policy:**

*Experiments (12 points per report):* Lab reports will be done for each experiment performed. These reports will be due at the beginning of the indicated lab period (generally the next day). Turning in a report late will result in a 20% point deduction. Failure to turn in a report on the day it is due will result in a grade of zero (0). Note: Your lowest experiment lab grade will be dropped.

*Dry Labs (10 points per):* The concepts on these exercises will be covered both in lecture and laboratory. Turning in a report late will results in a 20% point deduction. Failure to turn in a report on the day it is due will result in a grade of zero (0).

*Reports (50 points):* During the semester, you will workup data using excel to perform analysis.

*Quizzes (42 points):* Each quiz will be worth 7 points. Your grade will be based upon the highest 6 grades during the semester.

*Nomenclature Quiz (20 points):* A nomenclature quiz will be given during one recitation during the semester.
Final Exam (40 points): The final exam will be comprehensive for the whole semester and cover nomenclature as well.

Method of Evaluation:

<table>
<thead>
<tr>
<th>ITEM</th>
<th>POINT VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experiments</td>
<td>96</td>
</tr>
<tr>
<td>Dry Labs</td>
<td>30</td>
</tr>
<tr>
<td>Reports</td>
<td>50</td>
</tr>
<tr>
<td>Quizzes</td>
<td>42</td>
</tr>
<tr>
<td>Nomenclature Quiz</td>
<td>20</td>
</tr>
<tr>
<td>Final Exam</td>
<td>40</td>
</tr>
<tr>
<td><strong>TOTAL POINTS</strong></td>
<td><strong>278</strong></td>
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Grading Scale (Based on 200 Total Points Possible)

278-250 = A; 249-217 = B; 216-182 = C; 181-139 = D; 138-0 = F

Attendance Policy:

Attendance of class is mandatory. Two (2) or more absences will result in an ‘F’ for the course. Absences may be assigned to anyone that disrupts class, sleeps in class, or consistently comes in late or leaves early.

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

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

**Course Calendar:**

<table>
<thead>
<tr>
<th>Month</th>
<th>Date</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>August</td>
<td>27</td>
<td>No Recitation</td>
</tr>
</tbody>
</table>
| | 28 | Significant Figures Dry Lab  
Meet in Chemistry Building Room 106 |
| September | 3 | Recitation  
Miller Science Building room 137 |
| | 4 | Dimensional Analysis Dry Lab  
Meet in Chemistry Building room 106  
Check-In, Chemistry Building room 101, 102, or 105 |
| | 10 | Recitation Experiment #1, Identification of an Unknown Solid  
Miller Science Building room 137 |
| | 11 | Experiment #1, Identification of an Unknown Solid |
| | 17 | Recitation Experiment #2, Chromatography of M&M Candies  
Miller Science Building room 137  
Purpose statement for experiment 2 must be written in Lab Notebook |
| | 18 | Experiment #2, Chromatography of M&M Candies  
Written Report #1, DUE |
| | 24 | Recitation Experiment #3, Measuring Liquid Volumes  
Purpose statement for experiment 3 must be in Lab Notebook |
| | 25 | Experiment #3, Measuring Liquid Volumes |
| October | 1 | Recitation Experiment #4, Formula of a Hydrate and #5A, Preparation of Sodium Hydroxide  
Purpose statement for experiment 4 must be written in Lab Notebook  
Procedure for experiment 4 must be written in Lab Notebook  
Purpose statement for experiment 5A (Preparation only) must be written in Lab Notebook  
Procedure for experiment 5A (Preparation only) must be written in Lab Notebook |
| | 2 | Experiment #4, Formula of a Hydrate  
Experiment #5A, Preparation of Sodium Hydroxide  
Written Report #2, DUE |
<table>
<thead>
<tr>
<th>Week</th>
<th>Activity</th>
</tr>
</thead>
</table>
| 8     | Recitation for Experiment #5A, Standardization of Sodium Hydroxide  
Purpose statement for experiment 5A must be written in Lab Notebook  
Procedure for experiment 5A must be written in Lab Notebook  
This will utilize a Macroscopic Technique for the Standardization |
| 9     | Experiment #5A, Standardization of NaOH Solution, Macroscopic Technique |
| 15    | Recitation for Experiment #5B, Standardization of Sodium Hydroxide  
Purpose statement for experiment 5B must be written in Lab Notebook  
Procedure for experiment 5B must be written in Lab Notebook.  
This will utilize a Microscopic Technique for the Standardization. |
| 16    | Experiment #5B, Standardization of NaOH Solution, Microscopic Technique |
| 22    | Recitation Nomenclature                      |
| 23    | Nomenclature Dry Lab                         |
| 29    | Recitation for Project, Analysis of Juices  
Experiment #6, Sugar Content of Juices  
Purpose statement must be written in Lab Notebook  
Procedure must be written in Lab Notebook |
| 30    | Experiment #6 Sugar Content of Fruit Juices  |
| November 5 | Experiment #7 Total Acid Content of Fruit Juice  
Purpose statement must be written in Lab Notebook  
Procedure must be written in Lab Notebook  
Nomenclature Quiz |
| 6     | Experiment #7 Total Acid Content of Fruit Juice |
| 12    | Recitation for Project, Experiment #8, Vitamin C Content of Juice  
Purpose statement must be written in Lab Notebook  
Procedure must be written in Lab Notebook |
| 13    | Experiment #8, Vitamin C Content of Juice   |
| 19    | Review                                       |
| 20    | Check out  
Written Report #3 Due                      |
| 26-27 | Thanksgiving Break – NO LAB                  |
| December 3 | NO Recitation                              |
| 4     | Final Exam                                   |
| 10-11 | NO LAB                                       
Final Exam Week |