Class Syllabus  
Spring 2018  
CHE 111L  
Introductory Chemistry I Laboratory  
Sections 023 & 024

<table>
<thead>
<tr>
<th>Instructor’s Name</th>
<th>Dr. ‘Tayo Odunuga</th>
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</thead>
<tbody>
<tr>
<td>Department</td>
<td>Chemistry &amp; Biochemistry</td>
</tr>
<tr>
<td>Email</td>
<td><a href="mailto:odunugao@sfasu.edu">odunugao@sfasu.edu</a></td>
</tr>
<tr>
<td>Phone</td>
<td>936-468-6468</td>
</tr>
<tr>
<td>Office</td>
<td>Math 122</td>
</tr>
<tr>
<td>Office Hours</td>
<td>M, 9-10 a.m. &amp; 1-2 p.m., T – F, 9-10 a.m.</td>
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<tr>
<td>Class Time</td>
<td>M, 3:30 – 5:20 p.m.</td>
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<tr>
<td>Classroom</td>
<td>Room 106, Chem. Bldg.</td>
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Text and Other Materials:  
- A scientific calculator.  
- Pencil, eraser and ruler for graphing

Course Description: Introductory laboratory experiments.

Number of Credit Hours: 1 semester hour – 2 hours lab per week

Course Prerequisites and Co-requisites: Co-requisite: CHE 111. Lab fee required.

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.

Course Objective: To provide students with an explanation of the basic principles of chemistry as illustrated through laboratory experiments and to apply these principles to laboratory work 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 the gaseous state, gas laws (Boyles, Charles, Gay-Lussac, Ideal, Dalton’s) as well as intermolecular forces in liquids and properties of solutions.
- Principles of acid/base theories, pH, buffers, acid-base indicators, and titration

Outline of Topics (approximate course time):
Safety and Significant Figures (Entire Lab)

- Density (2 lab days)
- Beer’s Law/Concentration and Dilution (1 lab day)
- Chemical Reactions (1 lab day)
- Titration of Antacid (3 lab days)
- Solutions, Concentration, Buffers, pH (1 lab day)
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.

- **Introductory Chemistry Lab** 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 that fulfills both the requirements of this course 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 **Introductory Chemistry Lab** 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 Title</th>
<th>Date Due in D2L</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>Monday, Apr. 23 at beginning of lab 3:30 p.m.</td>
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</table>
**COURSE REQUIREMENTS AND DESCRIPTION:**
The course evaluation consists of weekly experiments or dry-labs, pre-labs, quizzes, a mid-term and a final exam. Attendance is mandatory. The quizzes will cover materials from previous lab and current pre-lab. Laboratory Report Sheets are due at the end of each laboratory unless otherwise stated by the Instructor. A grade of “0” will be given if Report Sheets are not submitted when due.

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

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<tr>
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<th>Points</th>
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<tbody>
<tr>
<td>8 Labs</td>
<td>80</td>
</tr>
<tr>
<td>Assignments, Pre-labs &amp; Quizzes</td>
<td>70</td>
</tr>
<tr>
<td>Exams (1 Midterm &amp; 1 Final Exam)</td>
<td>100</td>
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<tr>
<td><strong>TOTAL</strong></td>
<td><strong>250</strong></td>
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*Grading scale* as a % - A= 100 – 90, B= 89 – 80, C= 79 – 70; D= 69 – 60; F= 59 and below

\[ A \geq 225; \ B \geq 200; \ C \geq 175; \ D \geq 150; \ F < 150 \]

**Assignments and Quizzes** (70 points)
- Quizzes will be given every week.
- Anyone coming in late (after the quiz has been taken up) will not be allowed to take the quiz. The grade will be a **ZERO** for that quiz.
- The quiz will cover materials from the previous week’s lab and the lab for the day.
- The pre-lab assignments should be done before coming to class. They will be collected as you enter the class. The idea is to get you to study before coming to class.

**Experiments or Dry-labs** (80 points)
- Each report sheet for the experiment or the dry-lab is worth **10 points**.
- The report sheets will be turned in at the end of the laboratory period, unless otherwise stated by the instructor.
- Any assignment turned in at a later time will earn a grade of “0”.

**Mid-term and Final Exams** (100 points)
- A **midterm** exam will be given **March 5** during the laboratory period. The **final exam** will be given **April 30** during the laboratory period.
- The mid-term and final exams are worth **50 points each**.

**MAKE-UP POLICY:** There will be **no make-up** quizzes, pre-labs or labs. Make-up assignments may be allowed at the Instructor’s discretion.

**ATTENDANCE POLICY:**
- Attendance of class is mandatory. One excused absence is allowed. Any other absence will result in a zero for the lab.
- Three or more absences will result in an F for the semester.

**ACADEMIC HONESTY POLICY (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.
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:
Acceptable Student Behavior: Classroom behavior should not interfere with the instructor’s ability to conduct the class or the ability of other students to learn from the instructional program (see the Student Conduct Code, policy D-34.1). Unacceptable or disruptive behavior will not be tolerated. Students who disrupt the learning environment may be asked to leave class and may be subject to judicial, academic or other penalties. This prohibition applies to all instructional forums, including electronic, classroom, labs, discussion groups, field trips, etc. The instructor shall have full discretion over what behavior is appropriate/inappropriate in the classroom. Students who do not attend class regularly or who perform poorly on class projects/exams may be referred to the Early Alert Program. This program provides students with recommendations for resources or other assistance that is available to help SFA students succeed.

- Come to lab prepared (spend at least ONE HOUR reading over entire lab before lab period AND reviewing the previous week’s lab) and on time.
- Bring a NON-programmable, scientific calculator. Cell phones and programmable calculators may NOT be used on quizzes.
- Turn off and put away cell phones; NO texting during lab.
- Come dressed as described in the safety rules that will be given: (Clothes to the ankles, no mid-drift shirts, close-toe shoes. Shoes MUST completely cover feet. Anyone not dressed appropriately for lab will not be allowed into laboratory.)
- Follow all safety rules and good laboratory practices at all time:
  - Wear safety glasses/goggles when anyone in the lab is working on an experiment.
  - One warning concerning safety glasses/goggles will be given. A person will be sent home for a second offense and be will earn a zero that may NOT be dropped.
- NO horseplay in laboratory
- Be courteous and respectful of other students, laboratory assistants, and stockroom personnel.
- Learn your section number and your laboratory assistant’s name.
- Work with assigned lab partner unless otherwise instructed by the lab assistant.
- Students are responsible for any answer they report on a lab, assignment, or quiz. Laboratory teaching assistants are students and sometimes may make an error or misunderstand a question. You can NOT claim the lab assistant told you the wrong answer and get points back.
- Significant figures are required on all answers given in lab on laboratory report sheets, assignments, quizzes, and exams.
- No make up quizzes will be given if a student comes in late and misses the quiz.
- Missing a pre-lab lecture will result in a 10% deduction from the lab for and a zero will be recorded for the quiz. Absences may be assigned to anyone that disrupts class, sleeps in class, or consistently comes in late or leaves early. Any assigned absence will result in a zero for the day which can NOT be dropped.

Note: This syllabus is subject to change at the Instructor’s discretion.
Dr. ‘Tayo Odunuga
January 15, 2018
<table>
<thead>
<tr>
<th>Date</th>
<th>Lab Exercise/Assignment/Activity</th>
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<tbody>
<tr>
<td>Jan 22</td>
<td>Lab #1 Density of Pennies Lab&lt;br&gt;Quiz #1: Safety Quiz&lt;br&gt;Check-in and divide students into Groups 1 and 2</td>
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<tr>
<td>Jan 29</td>
<td>Lab #2 Density of Water&lt;br&gt;Quiz #2 – ALL students take quiz&lt;br&gt;Group 1 students perform lab, Group 2 students stay in class for instruction on Conc. and Dilution Lab</td>
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<tr>
<td>Feb 5</td>
<td>Lab #2 Density of Water&lt;br&gt;Group 2 students perform lab, Group 1 students stay in class for instruction on Conc. and Dilution Lab</td>
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<tr>
<td>Feb 12</td>
<td>Lab #3 Concentration and Dilutions&lt;br&gt;Quiz #3 - ALL students take quiz&lt;br&gt;Group 1 students perform lab, Group 2 students stay in class for instruction on Chemical Reactions &amp; Balancing Chemical Equations</td>
</tr>
<tr>
<td>Feb 19</td>
<td>Lab #3 Concentration and Dilutions&lt;br&gt;Group 2 students perform lab, Group 1 students stay in class for instruction on Chemical Reactions &amp; Balancing Chemical Equations</td>
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<tr>
<td>Feb 26</td>
<td>Lab #4 Chemical Reactions&lt;br&gt;Quiz #4&lt;br&gt;Balancing Equations Worksheet assigned. Due on March 5.&lt;br&gt;ALL students perform lab</td>
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<tr>
<td>Mar 5</td>
<td>Midterm Exam</td>
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<td>Mar 12</td>
<td>Spring Break</td>
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<tr>
<td>Mar 19</td>
<td>Introduction to Titration: Review of chemical concepts and calculations required for titration, teamwork etc. (ALL students)&lt;br&gt;&lt;b&gt;Exercises will be given and graded in class&lt;/b&gt;</td>
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<tr>
<td>Mar 26</td>
<td>Lab #5 Titration I: General Acid &amp; Base Titration&lt;br&gt;Quiz #5&lt;br&gt;ALL students perform lab</td>
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<tr>
<td>Apr 2</td>
<td>Lab #6 Titration II: Experimental Control for Antacid Titration&lt;br&gt;Quiz #6&lt;br&gt;ALL students perform lab</td>
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<td>Apr 9</td>
<td>Lab #7 Titration III: Comparison of Generic and Name Brand&lt;br&gt;Quiz #7&lt;br&gt;Teamwork Rubric Assigned. &lt;b&gt;Students to submit to D2L (latest 2 p.m. April 17) and bring a printed copy the same day at the beginning of lab.&lt;/b&gt;&lt;br&gt;ALL students perform lab&lt;br&gt;Students take photos of lab data for Titration summary exercises –due on April 16 before lab.</td>
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<td>Apr 16</td>
<td>Lab #8 Importance of Buffers and pH&lt;br&gt;Quiz #8&lt;br&gt;Teamwork rubric due to D2L (2 p.m.) and printed copy to instructor.&lt;br&gt;Titration summary due.</td>
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<tr>
<td>Apr 23</td>
<td>Check-out and review for Final exam</td>
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<tr>
<td>April 30</td>
<td>Final Exam</td>
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