Course Syllabus
Chemistry 1112
General Chemistry 2 Laboratory

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

Number of Credit Hours: 1 semester hour

Course Prerequisites and Corequisites: Prerequisites: CHE 1311 and 1111 (the lab). Co-requisite: CHE 1312. 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.

General Education Core Curriculum Objectives:
- To understand and apply method and appropriate technology to the study of natural sciences.
- To 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.
- To demonstrate knowledge of the major issues and problems facing modern science, including issues that touch upon ethics, values, and public policies.
- To demonstrate knowledge of the interdependence of science and technology and their influence on, and contribution to, modern culture.

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 to problem solving.
- apply quantitative methods to problem solving.
- demonstrate the knowledge of issues facing modern science, and have the confidence and laboratory skills needed to complete routine experiments.
- demonstrate the knowledge of the influence of modern technology on chemistry by using instrumentation to collect data during laboratory experiments.

Outline of Topics with approximate time

<table>
<thead>
<tr>
<th>Topic</th>
<th>Lab Days</th>
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</thead>
<tbody>
<tr>
<td>Orientation, Lab Safety</td>
<td>1</td>
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<tr>
<td>General Glassware use</td>
<td>1</td>
</tr>
<tr>
<td>Volumetric Analysis: Acid-Base Titration</td>
<td>3</td>
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<tr>
<td>Microsoft Excel</td>
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<tr>
<td>Acid-Base Titration Curves using a pH Meter</td>
<td>2</td>
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</table>
TIME REQUIREMENTS BASED UPON CREDIT HOURS:
Please note this description is for a summer 6-week course. This lab course is for one credit and typically meets for 360 minutes for lab each week for 6 weeks. Students are tested over the material via exams, handouts and the lab practical. Students are expected to prepare prior to each lab (literature and concepts), attend lab hours (conduct experiments), and report results (lab reports). Students have required academic components and deliverables: written work (lab notebook), skill mastery (titrations, use of pipets, and making a solution). These activities, inclusive of the lab expectations and academic components, average a minimum of 6 hours of work each week.
Laboratory Syllabus
Summer II 2021
CHE 1112-020
General Chemistry II Laboratory

Course Objectives
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.

Modality:
The lab meets face-to-face within the prescribed time period only. Within this section, no options exist for live-stream, or virtual work (make up or otherwise). (There are three opportunities for asynchronous work to occur, but only three.) Students who need a virtual course, or need an entirely asynchronous option) are encouraged to take Chem 1112-520 with Dr. Odunuga who will be using teaching the on-line version of the laboratory.

Text and Materials
- A scientific calculator (can be graphing or non-graphing)
- Pens, pencils and notebook paper.
- 3 by 5 index cards (~50)

Grading-Grades are based upon performance!
The grade issued in lab is separate from the grade issued in the lecture. The table below specifies the points available and describes each activity. Please note, for most lab periods, we will have two distinct activities: one in the lab and one dry activity. The dry activities all build towards designing functional galvanic cells, which will make up the 50% of the written lab final. The other 50% will be focused on describing the 4 regions of the titration curve. The highlighted activities may be done in an asynchronous environment.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Points for “wet”</th>
<th>Points For ‘Dry”</th>
<th>Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety Quiz</td>
<td>Molecular, Ionic &amp; Net Ionic Equations</td>
<td>15</td>
<td>10</td>
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<tr>
<td>Guided Practice #1: General Glassware and Labeling</td>
<td>Recognizing REDOX Reactions</td>
<td>15</td>
<td>10</td>
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<tr>
<td>Guided Practice #2: Acid-Base Titrations</td>
<td>Balancing REDOX-no solution</td>
<td>15</td>
<td>10</td>
</tr>
<tr>
<td>Unguided Practice #1: Acid-Base Titrations</td>
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<td>15</td>
<td>--</td>
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<tr>
<td>Introduction to Microsoft Excel</td>
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<td>15</td>
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</tr>
<tr>
<td>Lab Practical</td>
<td>Balancing REDOX-acidic solutions</td>
<td>100</td>
<td>10</td>
</tr>
<tr>
<td>Titration Curve Dry Lab</td>
<td>Balancing REDOX-basic solutions</td>
<td>15</td>
<td>10</td>
</tr>
<tr>
<td>Titration Curve Wet Lab</td>
<td>None</td>
<td>15</td>
<td>--</td>
</tr>
<tr>
<td>Using Microsoft Excel to process Titration Curves</td>
<td>Galvanic Cells</td>
<td>15</td>
<td>10</td>
</tr>
<tr>
<td>Nernst Equation</td>
<td>--</td>
<td>25</td>
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<tr>
<td>Written Final Exam for Lab</td>
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<td>100</td>
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<tr>
<td>TOTAL</td>
<td></td>
<td>405</td>
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</table>

Points Necessary for A,B,C,D and F
- A 360
- B 320
- C 280
- D 240
- F Less than 240

The lowest 15-point assignment will be dropped.
The lowest 10-point assignment will be dropped.
The Lab Practical may be redone, but will be penalized as follows:
1st redo: -8 from maximum score
2nd redo: -32 from maximum score
Note: The instructors reserve the right to change the syllabus if and when necessary. The instructors will formally inform students of any changes to the syllabus.

**Attendance Policy:**
During the summer each lab session is equivalent to one weeks of work during a long semester; therefore, missing a lab session is missing a significant amount of material. The student is expected to come to lab and complete the **all of the work.** One absence (and only one) is accommodated within the grading scheme (regardless of excused/unexcused). Additional excused absences will be dealt with as the need arises. Both the “wet” and the “dry” parts of the lab must be completed within the lab period. 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](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. **Cheating during the lab practical and/or the lab final will result in a F for the course.**

**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/).
As of the start date of the lab, face masks are not required. However, the facemask policy has been included in the syllabus in case the University implements the policy midsemester.

**FACE MASKS, COVID-19, ETC.:**

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. A student running a fever should attend class via Zoom and should NOT attend a face to face class.


Advice for how to do well:

1) If you have not already, get a COVID-19 vaccine.

2) As much as possible, avoid absences. If you feel bad, at least do part of the lab “wet” or “dry”.

3) Come to lab ready to listen and learn and retain. Fry has designed the laboratory such that we are busy for about 2.5 hours, but the student does not have a lot of preparation for the next laboratory period. Of course, you will have to study for the written laboratory final, and of course you will want to study for the lab practical. But other than that, you come for the day ready to learn and you learn during the lab time.

4) The laboratory is small—only 12 students as of June 24. Take advantage of the one-on-one faculty interaction.

5) Understand that if you cheat on the lab practical, Dr. Fry will fail you for the laboratory.

6) Understand that if you cheat on the written lab final, Dr. Fry will fail you for the laboratory.

7) Work with others when doing the “dry” laboratory work. (see the two items above)

This syllabus is subject to change which will be announced in lab, emailed to the students and posted on the D2L site for the laboratory.

---6/24/2021----Dr. Darrell R. Fry

Office Hour Zoom Invitation:
https://sfasu.zoom.us/j/93909376629?pwd=cTQwWVlXa003VER2b0gzNEpVM1jNzZ09Copy In