Chem 305 Introduction to Chemistry  
Course Syllabus (5 units)

Instructor: Dr. Vera Alino  
Email: AlinoV@scc.losrios.edu

Office Hours: MW 2:00 – 2:45 PM LIH 202E  
Lecture Hours: MW 2:45 – 4:50 PM LIH 201  
Lab Hours: M 6:00 – 9:00 PM LIH 212 (Monday section)  
W 6:00 – 9:00 PM LIH 212 (Wednesday section)

Beacon Session: M 5:00 – 6:00 PM TBA (Monday section)  
W 5:00 – 6:00 PM TBA (Wednesday section)  
(Week 2 to Week 17, Jan 26 – May 13, a total of 15 sessions)

Course Description:  
Chemistry 305 is an introductory course to chemistry intended for students majoring in the allied health fields such as nursing, physical therapy, dental hygiene, etc. Chemistry 305 is designed to provide students to basic overview of chemical concepts and principles and laboratory skills for the purpose of establishing a foundation on which clinical and physiological applications are based. Chemistry 305 satisfies the GE lab science requirement for California transfer institutions.

Before every lecture:  
Read assigned chapter(s).

Math prerequisite:  
Mathematics 100 completed with a grade of “C” or better OR [Math 103/Math 104 with grades of “C” or better, OR equivalent]. Proof of completion of the prerequisite must be submitted at the first class meeting (Wednesday, January 21, 2015). Failure to do so will result in you being dropped from the course in order to allow those students on the wait list, who have completed the math prerequisite, to register for the course.

Required Materials:  
- Lecture: Fundamentals of General, Organic, and Biological Chemistry, 7th ed., McMurry, et.al. (or older versions)  
- Lab Manual: Sacramento City College Chemistry 305 Laboratory Manual  
- Approved laboratory safety goggles  
- Nonprogrammable, non-graphing, scientific calculator (TI-30XA is recommended but not mandatory)  
- Scantron Form  
- Mastering Chemistry Access Code – (to access online homework) Code is included with new text books or can be purchased separately from www.masteringchemistry.com

Homework:  
Solving homework problems is very important! Homework assignments are designed to guide you in your study of the material and should be considered as the minimum number of problems to work on. Late homework will be penalized. Any portion of the assignment completed prior to the deadline will receive 100% credit. Any portion done during the next 24 hours (1 day), 2 days, and 3 days will receive 75%, 50% and 25% credit, respectively. Any portion of the homework done more than 3 days late will receive no credit. You will need to complete 85% of all assigned problems in order to receive a perfect score for homework (>85% = 130 points). See examples below:
Example 1: Completing at least 85% of the homework (on average)

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Credits</th>
<th>85% of Credits</th>
<th>Your score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>50</td>
<td>42.5</td>
<td>30</td>
</tr>
<tr>
<td>2</td>
<td>110</td>
<td>93.5</td>
<td>110</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>160</strong></td>
<td><strong>136.0</strong></td>
<td><strong>140</strong></td>
</tr>
</tbody>
</table>

\[ \frac{140}{136} \times 100\% = 103 \approx 100\% \]

Example 2: Completing less than 85% of the homework (on average)

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Credits</th>
<th>85% of Credits</th>
<th>Your score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>50</td>
<td>42.5</td>
<td>30</td>
</tr>
<tr>
<td>2</td>
<td>110</td>
<td>93.5</td>
<td>50</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>160</strong></td>
<td><strong>136.0</strong></td>
<td><strong>80</strong></td>
</tr>
</tbody>
</table>

\[ \frac{80}{136} \times 100\% = 59\% \]

Registering for Mastering Chemistry (access code required):

1. Go to http://www.pearsonmylabandmastering.com/northamerica/masteringchemistry/students/get-registered/
2. Input Course ID: MCVERA25842
3. Select 7th edition of the textbook regardless of which version you own

Homework will be due at 11:59pm on the date shown in your Mastering Chemistry account. Any portion of the assignment completed prior to the deadline will receive full credit. Any portion done during the next 24 hours (i.e., within 1 day late) will receive 75% credit. Any portion done between 1-2 days late will receive 50% credit. Any portion done between 2-3 days late will receive 25% credit. (total hours needed > 3-5 hours/each assignment). You can stop and save your work anytime. This means that you try to work out problems every night. Do not leave everything at the last minute.

Quizzes: There will be six quizzes (t = 20 – 45 min) on the scheduled days (unless otherwise announced). There are no make-ups for these quizzes. Quiz will usually be given at the start of the period and no additional time will be given to those who arrive late.

Unit Exams and Final Exams: There will be three unit exam (200 points each). Each unit exam will take one lecture period. The final exam (300 points) will be cumulative. There are no make-up exams. You will need to bring your student ID to these exams to verify your identity.

Redemption Exam: You will be given a chance to replace your lowest unit exam score by taking the redemption exam. Venue and the topics covered will be announced 2-3 weeks before the scheduled date. The level of difficulty is higher than the unit exam.

Beacon Program: Beacon Program is designed to promote and encourage students to work together and to help one another succeed in the class. A beacon tutor, who is familiar with the course content, will supervise the class. You will be given a problem set at the end of the lecture which you will solve during the beacon session (held once a week). The beacon tutor can help or guide the students on how to solve the problem set. At the end of the session, the beacon tutor needs to sign off your completed work which you will submit at the beginning of the lab. Beacon sessions may also be used for any problems or questions that you may have during the lecture discussions.
Approximate Final Exam 300 points 300 points

Point break down*: Unit Exams 3 x 200 points 600 points
Quizzes (lowest is dropped) 5 x 20 points 100 points
Nomenclature Quiz 50 points 50 points
Lab Report 150 points 150 points
Molecular Portfolio 40 points 40 points
Workshop (Beacon Session) 30 points 30 points
Homework (1412 credits) 130 points 1400 points

*The total and distribution of points is tentative and may be adjusted at any time during the semester at the discretion of the instructor.

Approximate Grading: 90-100% = A, 80-89% = B, 70-79% = C, 55-69.9% = D.

Disabilities: It is important that every student be given the opportunity to learn. If you have a disability of any kind, please see me as soon as possible so that we may discuss reasonable accommodations.

Time Requirements: This course requires 1.5 hours of preparation for every class hour (lab+lecture class hours). If your outside commitment (family, work, and other classes) will not allow you sufficient time for this course, please consider postponing this class until sufficient time is available.

Attendance: Attendance is mandatory. You are responsible for all material and information presented in class and missed exams and quizzes cannot be made up. If you miss more than 3 class meetings without an acceptable excuse you may be dropped from the class. If you miss the first day of class you may be dropped.

Student Learning Objectives:
Upon completion of this course, the student will be able to:
• demonstrate a knowledge of introductory chemical concepts.
• relate chemistry to applications in everyday life and the health sciences
• apply knowledge of quantitative chemical methods to chemical calculations, including application of the mole concept to stoichiometry and the use of dimensional analysis.
• demonstrate the ability to perform basic chemical laboratory procedures using common laboratory equipment and to analyze the data collected.
• develop chemical formulas from chemical names and vise versa for elements, ions, acids, ionic and molecular compounds.
• formulate balanced chemical reaction equations and predict states of matter from solubility rules.
• develop a general knowledge of the make-up of the atom and how it relates to periodic trends in chemical properties and chemical bonding.
• differentiate between the characteristics of the three states of matter, the role of intermolecular forces in liquids and solids, and quantitative relationships of variables affecting behavior of gases.
• identify the properties of acids and bases (and their conjugates) with the ability to convert back and forth between acid concentration and pH.
• demonstrate a basic understanding of nuclear chemistry and its applications to medicine.
• interpret simple organic chemical formulas and structures in relationship to VSEPR theory.

Classroom Policies: (please refer to SCC student handbook and division policies, see website)

Laboratory Rules and Regulations: (see lab syllabus)

Disclaimer: The instructor reserves the right to make changes as necessary as the course proceeds.