## **Valencia College WestScience Department**

## **General Chemistry with Qualitative Analysis II**

## See starting page 5 for more info on labs.

**Professor**

Name: Simon Tang, PhD

E-mail: stang@valenciacollege.edu

Phone: 407-582-5030

Office Hours:

**Course**

Name: General Chemistry with Qualitative Analysis II

Description: Continuation of CHM 1045C / CHM 1045H dealing mainly with equilibrium theory, thermodynamics, chemical kinetics and electrochemistry. Laboratory illustrates principles of ionic equilibria within framework of qualitative analysis

Prerequisites: CHM 1045C / CHM 1045H with a grade of C or better.

Co-requisites: None

**Educational Materials**

Text: Chemistry A Molecular Approach, Custom Ed. for Valencia College, Vol 2 (based on the 3rd edition of the book with same title by Nivaldo J. Tro): ISBN: ISBN without MyLab/Mastering: 126939648X

Other: Scientific Calculator, ability to access internet, lecture notebook (loose leaf type, 2-3” inch), PowerPoint Slides

**Assessment Process**

Hour Exams (3) 45% A = >89.5

## Pop-Quizzes (6) 12% B = 79.5-89.4

Final Exam 20% C = 69.5-79.4

Laboratories 23% D = 59.5-69.4

F = 0-59.4

**Attendance**

Regular attendance and class participation are the most important factors that promote success in college. It is wisest to attend class and be prepared for each scheduled lecture. Read each chapter before its scheduled lecture, and then come to class with appropriate questions. Student absences which exceed **ten percent** of the total amount of class meeting times including labs may lead to a withdrawal from the course without prior notice. Students are responsible for contacting the instructor if they cannot attend the class to attempt to have the absence excused. Extra credit may be given for attendance records; this does not include excused absences and is explained more in the extra credit section.

**Available Resources**

Copies of the PowerPoint slides will be made available online. These are meant as supplemental resources to facilitate multiple exposures to the material and to improve learning, not as a substitute to attending class.

**Policies**

Make-Up: There will be NO make-up quizzes, exams, or late homework without proper reasoning. Please communicate with me as early as possible so that any issues can be resolved in a timely manner.

**Cheating**: Don’t do it. Do not test me. If caught, on a quiz or test the assignment grade will result in a zero. Repeated offences will then result in a failing course grade. The student will then further be sent to Dr. Bob Gessner the Dean of Science. If caught a second time the student would then receive an F for the course as well as be referred to the Dean of Students for further action.

**Final Exam**: The final examination in this course is MANDATORY.  Any student not completing the exam will receive a grade of F for the course. The exam will include a cumulative section. The performance on the cumulative section will replace one lower test grade (1st to 3rd test).

**Extra Credit**: This is optional depending on if instructor deems necessary. Depending on attendance records a total of up to 1.0% extra credit can be given at the end of the semester. Any absences for whatever reason will be calculated in giving these points. Other opportunities include survey points which will be mentioned later in the semester.

**Withdrawal**: Per Valencia Policy 4-07 (Academic Progress, Course Attendance and Grades, and Withdrawals), a student who withdraws from class before the established deadline for a particular term will receive a grade of “W.”  A student is not permitted to withdraw after the withdrawal deadline.  I do not withdraw students after the withdrawal deadline.

**Students with Disabilities**: Students with disabilities who qualify for academic accommodations must provide a letter from the Office of Students with Disabilities (OSD) and discuss specific needs with the instructor, preferably during the first two weeks of class. The Office for Students with Disabilities determines accommodations based on appropriate documentation of disabilities.

**Academic Honesty**: Plagiarism is defined as claiming as your own a paper, report, article, or speech which in whole or in part was prepared by someone other than yourself. Cheating on an exam or copying someone else’s laboratory report is also a violation of this policy. A violation of this policy can result in failure of an assignment, the entire course, or your current status as an active student. Each student is expected to be informed and compliant with the college policy on academic honesty as stated in the Student Handbook.

**Expected Student Conduct**: Valencia College is dedicated not only to the advancement of knowledge and learning but is concerned with the development of responsible personal and social conduct. By enrolling at Valencia College, a student assumes the responsibility for becoming familiar with and abiding the general rules of conduct. The primary responsibility for managing the classroom environment rests with the faculty. Students who engage in any prohibited or unlawful acts that result in disruption of a class may be directed by the faculty to leave the class. Violation of any classroom or Valencia’s rules may lead to disciplinary action up to and including expulsion from Valencia. Disciplinary action could include being withdrawn from class, disciplinary warning, probation, suspension, expulsion, or other appropriate and authorized actions. You will find the Student Code of Conduct in the current Valencia Student Handbook.

**College**: A full description of all college policies can be found in the college catalog at <http://www.valenciacollege.edu/catalog/>; Policy manual at <http://www.valenciacollege.edu/generalcounsel/>; and the Student Handbook at <http://valenciacollege.edu/studentdev/campusinformationservices.cfm>

Valencia Student Core Competencies: Valencia faculties have defined four interrelated competencies (Think, Value, Communicate, and Act) that prepare students to succeed in the world community. These competencies are outlined in the college catalog. In this course, through lecture and discussion, group work, and other learning activities, you will further develop your mastery of those competencies.

**Computer/Equipment Use**: Use of computers in the Business, IT, and Public Service classrooms at Valencia College is restricted to those activities designated by the instructor to enhance the class materials. Any other use is strictly forbidden. Inappropriate use includes, but is not limited to:

* Use of computer to send Email or access Internet sites not specifically assigned in class.
* Use of computer for job, internship, or other activities not assigned in class.
* Modifying any hardware or software system configuration or setting.
* Activities not in accordance with the Valencia Student Code of Conduct.

Use of computers in the departmental open lab is limited to those activities involved with preparing homework or coursework in this department and is subject to the same restriction as listed above.

Computer use is remotely monitored; any student using computers inappropriately may be subject to dismissal from class or banishment from the lab. Subsequent offense may be sent to the campus administration for further disciplinary action.

**Student Assistance Program**: Valencia College is interested in making sure all our students have a rewarding and successful college experience.  To that purpose, Valencia students can get immediate help with issues dealing with stress, anxiety, depression, adjustment difficulties, substance abuse, time management as well as relationship problems dealing with school, home or work.  BayCare Behavioral Health Student Assistance Program (SAP) services are free to all Valencia students and available 24 hours a day by calling (800) 878-5470. Free face-to-face counseling is also available.

**Learning Outcomes**

**Students should become proficient with chemistry concepts as well as skills to complete common chemistry problems. Topics which will be taught are listed but not limited;**

1. **Chemical Kinetics**
2. **Equilibrium**
3. **Thermodynamics**
4. **Acid and Bases**
5. **Electrochemistry**

**Important Dates**

Drop/Refund deadline \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Withdrawal deadline to receive a “W” \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Final Exam on \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Tentative Schedule of Classes (Fall Example**

|  |  |
| --- | --- |
| Date | Activity |
| 8/28 | Chapter 11: Solids, Liquids and Gases |
| 9/4 | Chapter 12: Solutions |
| 9/11 |  |
| 9/18 | **Test 1** |
| 9/25 | Chapter 13: Rates of Chemical Reactions |
| 10/2 | Chapter 14: Equilibrium |
| 10/9 |  |
| 10/16 | **Test 2** |
| 10/23 | Chapter 15: Acids and Bases |
| 10/30 | Chapter 16: Aqueous Ionic Equilibrium |
| 11/6 |  |
| 11/13 | **Test 3** |
| 11/20 | Chapter 17: Free Energy and Thermodynamics |
| 11/27 | Chapter 18: Electrochemistry |
| 12/4 |  |
| 12/11 | **Final Exam** |

**Disclaimer Statement:**This outline may be altered, at the instructor’s discretion, during the course of the term. It is the responsibility of the student to make any adjustments as announced.

## **CHM 1046L**, **General Chemistry with Qualitative Analysis IILab**

##### Building AHS 309

**Educational Materials**

Text: General Chemistry II Laboratory Manual, Chemistry Department, Valencia College, 2012, printed by Wiley.

ISBN: 978-1-118-30007-7.

Other: Scientific Calculator

**Attendance**

There will be NO make-up laboratories. Be punctual, as there will be a pre-lab discussion. If the student misses the entire pre-lab discussion, the student will not be allowed to perform the experiment that day. If you miss 4 or more labs you will automatically fail the course. There will be (20) lab points which can be deducted due to tardiness.

**Lab Attire**

When attending lab you must wear closed toe shoes and have lower body covered down to mid-calf or below. If you do not you will be asked to leave and will receive a zero for the lab. Lab coats are also mandatory to perform experiments.

**Lab Assignments**

Pre-Lab Assignments (10 pts ea.): The pre-lab must be completed and turned in before the start of the lab experiment. If turned in after it would be counted as late.

Lab Reports/Post Labs (10 pts ea.): Completed lab reports should be turned in at the next lab meeting. This should be turned in at the same time as the pre-lab for that current days experiment. If turned in after the start of the experiment it will be counted as late.

**Tentative Schedule of Labs**

|  |  |
| --- | --- |
| Date | Activity |
| 8/30 | Safety |
| 9/6 | Exp. 1 Evap. And IM Attractions |
| 9/13 | Irma |
| 9/20 | Cont. Chapter 12 lecture. |
| 9/27 | Exp. 3 M.M. of a Solid (Read “Using the LabQuest2 Data Collector With Thermal Probe” on Blackboard) |
| 10/4 | Exp. 5 A Rate Law & Act. E. Corrections to Prelab:4c: 5.11; 7: x-axis on graph: 1/T(K) x 10-3 |
| 10/11 | Exp. 6 Equil.Constant. Read App D & H. |
| 10/18 | Exp. 7 Le Chatlier’s; Buffers |
| 10/25 | Exp. 8 Acids, Bases and Salts |
| 11/1 | Exp. 9 Potentiometric Analys.(Read “Operation of LabQuest with Drop Counter” Posted in Blackboard) |
| 11/8 | Exp. 10 Solubility Prod. Constant |
| 11/15 | Exp. 11 Thermodynamics. Dissolution of Borax |
| 11/22 | Thanksgiving (No Lab) |
| 11/29 | Handout 1: Electrolysis, the Faraday K, and Avo.’s Number – Check Bb |
| 12/6 | TBA |
| 12/11 | Final Exam |

**Disclaimer Statement:** This outline may be altered, at the instructor’s discretion, during the course of the term. It is the responsibility of the student to make any adjustments as announced.