Instructor: Dr. Chwen-Yang Shew  
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Course hours: Monday & Wednesday (3S-103) 12:20 -2:15 PM  
Office hours: Monday & Wednesday 10:15-11:45 AM  

Note that scientific calculator and student solution manual are recommended.

COURSE DESCRIPTION:
Students enrolled in this course should have good background from General Chemistry I or equivalent course. The course will follow the outline of the given textbook. We will cover chapters 11-19. At the end of this course you should have a representative understanding of some of the fundamental concepts in the chemical sciences.

LEARNING OBJECTIVES:
The student will comprehend how chemistry is important and relevant in daily life. The student will demonstrate an understanding of how intermolecular forces influence the different states of matter, including solutions properties. The student will learn and apply the kinetics and thermodynamics principles, including entropy and free energy. The student will learn the electrochemistry. The student will demonstrate analytical and problem solving skills. Since this course is part of the flexible core of General Education, the students are expected to reach the following General Education goals: (1) Gather, interpret, and assess information from a variety of sources and points of view. (2) Evaluate evidence and arguments critically or analytically. (3) Produce well-reasoned written or oral arguments using evidence to support conclusions. (4) Identify and apply the fundamental concepts and methods of a discipline or interdisciplinary field exploring the scientific world, including, but not limited to: computer science, history of science, life and physical sciences, linguistics, logic, mathematics, psychology, statistics, and technology-related studies. (5) Demonstrate how tools of science, mathematics, technology, or formal analysis can be used to analyze problems and develop solutions. (6) Articulate and evaluate the empirical evidence supporting a scientific or formal theory.

COURSE POINTS:

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<th>Quizzees</th>
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POLICIES:
**Quizzes and Exams:** (1) There will be regular in-class quizzes and 3 midterm exams (2 higher ones: 23% each; the lowest one; 12%) during the semester. Exams cover the whole period of the regular class hour. The lowest grade of the quizzes will be dropped at the end of the course. Final exam will cover the entire semester’s work. A basic scientific calculator will be needed for the exams, and the use of advanced calculators (that can store equations and texts), cell phones with calculator function, or any electronic devices with communication components will NOT be permitted. Make-up quizzes and exams will not be given unless an exception (such as medical problems or court presence) is arranged with the instructor. Official documents are required for proof. Incomplete grade will only be given to those who miss the final exam with legitimate reasons supported by proper documents, such as doctor notes, court paper, police reports, and so on. (2) It is prohibited to have any form of communication during the examination, such as borrowing a calculator from others. (3) After leaving the classroom for any reason during the examination, including going to bathrooms, you will NOT be allowed to re-enter the room. Please use bathrooms before the examination starts.

**Attendance:** Absence without eligible reasons more than 4 times will result in a WU (withdraw unofficially) grade.  
**General:** Cheating, copying and plagiarism will result in a Failing grade or loss of credit for the pertinent part of work. Food is not permitted in the classroom (except for snacks) and cell-phones should be turned off at all times.
Outline
The following is an outline of the lecture for CHM 142. You are strongly advised to read the corresponding chapter in the textbook before attending the lecture. It is important to get a good start and not fall behind.

Chapter 11: Intermolecular Forces and Liquids

Chapter 12: The Chemistry of Solids

Chapter 13: Solutions and Their Behavior

Examination I: 26th of September

Chapter 14: Chemical Kinetics: The Rate of Chemical Reactions

Chapter 15: Principle of Reactivity: Chemical Equilibria

Chapter 16: The Chemistry of Acids and Bases

Examination II: 31st of October

Chapter 17: Principle of Reactivity: Other Aspects of Aqueous Equilibria

Chapter 18: Principles of Reactivity: Entropy and Free Energy

Chapter 19: Principle of Reactivity: Electron Transfer Reactions (Part 1)

Examination III: 3rd of December

Chapter 19: Principle of Reactivity: Electron Transfer Reactions (Part 2)

Chapter 20: Nuclear Chemistry (if time permitted)

Comprehensive Final Examination: 21st of December (Departmental Final)

Note: All the assigned problems for each chapter in the OWL system are recommended to master your knowledge and skills. Also, not every chapter will be covered entirely.

Fall 2018 Chemistry Department Withdrawal Policy:

According to CSI's Fall 2018 Academic Calendar, the last day to withdraw with the grade of "W" without permission of an instructor or Chairperson is November 6, 2018. From November 7, 2018 to December 5, 2018, withdrawal from a chemistry course is possible, with the permission given under the discretion of the instructor and the Chairperson. The Chemistry Department policy does not permit the withdrawal from a chemistry course after December 5, 2018.