Syllabus
CHM 507, Chemical Structure and Material Property, Fall 2015

Class Meeting: M. W. F. 11:00 AM, Room 219 Pastore Hall

Instructor: Sze C. Yang, e-mail: syang@uri.edu
Office Hour: Tu 10:00, Wed 2:00, Th 10:00, Room 334 Pastore Hall

Course Description

Fundamentals and applications of chemical thermodynamics, molecular structures, chemical transformations, principles and practice of computational chemistry.

Course Goals

The goal of this course is to be proficient in using basic chemical principles for solving research problems. Students will apply principles of physical chemistry to understand the molecular structure and its influence on the property of materials. This course seeks to build student's chemical intuition by computational and visualization tools. Another component of the course is to get accustomed in using on-line tools for information gathering and problem solving.

Textbooks and on-line resources:

"Thermodynamics and Chemistry", 2nd Ed, by Howard Devoe, (2012), a downloadable digital textbook posted on CHM507 course web site.
"Elements of Statistical Thermodynamics", 2nd Ed., by Leonard K. Nash (2006, Dover Books), ISBN978-0-486-44978-4. Need to purchase, e.g. Amazon, Google Books.
"A Brief Review of Elementary Quantum Chemistry", an on-line posting by C. David Sherrill, GIT. Available at the CHM507 course web site.
"Theoretical Minimum" by Leonard Susskind, a series of free on-line courses on Physics. Professor Susskind gave insightful lectures on quantum mechanics and statistical mechanics. The lectures on classical mechanics is a valuable background knowledge for CHM507.

Course Requirements:

Homework	200 pts
3 Collaborative projects, each counts 100 points.	300 pts
2 Exams, each counts 200 pts.	400 pts
1 Final Exam (Time: 8:00 AM, Friday 12/12/2014)	300 pts