Advanced Electives for CH Majors - SPRING 2018

CH 410  Application of Quantum Chemistry. 4 Credits (Hendon)
This course provides an overview of contemporary computational chemistry techniques used to model both single molecule and extended solids. Computations will be conducted on the new University of Oregon super computer, Talapas.

CH 410  Design Principles of Dynamic Biological Systems. 4 Credits (Hansen)
In this course, we will discuss major technological advances over the past 30 years that accelerated scientific discovery at the interface between cell biology and biochemistry. Emphasis will be placed on defining the relationships between protein structure, function, and emergent properties in complex biological systems. Pre req CH 461; MATH 253

CH 421. Physical Organic Chemistry II. 4 Credits. (Pluth)
Modern physical organic chemistry including tools to study reaction mechanisms, kinetic analysis, isotope effects, and qualitative molecular orbital theory. Sequence with CH 420/520. Prereq: CH 420/520.

CH 433. Inorganic Chemistry. 4 Credits. (Page)
Solid-state inorganic chemistry: solid-state structure and its determination; the electrical, magnetic, and mechanical properties of materials and their physical description. Prereq: CH 431 recommended.

CH 443. Quantum Chemistry and Spectroscopy. 4 Credits. (Wong)
Experimental spectra of atomic and molecular systems and surfaces. Prereq: CH 442 or equivalent.

CH 445. Statistical Mechanics. 4 Credits. (Cina)
Molecular basis of thermodynamics. Applications to the calculation of the properties of noninteracting and weakly interacting systems. Prereq: CH 413 or equivalent.

CH 462. Biochemistry. 4 Credits. (Stevens)
Metabolism and metabolic control processes. Energy and sensory transduction mechanisms. Prereq: CH 461.

CH 464. RNA Biochemistry. 4 Credits. (Hawley)
Introduction to the diverse field of RNA biochemistry. Prereq: CH 463 or BI 320.