

Chemistry 275 : Computational Chemistry: Structure and Reactivity of Organic Molecules

Application of quantum mechanics in organic molecules will be covered in this course. Topics will include molecular orbital theory, conformational analysis, chemical bonding, aromaticity, molecular spectra (IR, NMR), selectivity, transition states, and thermodynamics and kinetics of reaction mechanism. Students will be introduced to sophisticated quantum chemistry software for these calculations. A combination of lecture and hands-on tutorials will be offered during the class, which will improve students' ability to generate chemical models essential for understanding the structure and reactivity of organic molecules. No prior knowledge of quantum mechanics is needed beyond the general chemistry level.

Credits 2

Prerequisite Courses

[Chemistry 245: Organic Chemistry I](#)

Corequisite Courses

[Chemistry 246: Organic Chemistry II](#)