

S3571 – Introduction to Organic Chemistry

HSSP Summer 2010

Course Syllabus

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Time: Sunday 3:30pm-5:00pm

Location: 4-257

Course description

This class will provide an introduction to organic chemistry, covering topics such as nomenclature, bonding, reactivity, functional groups, isomers, stereochemistry, and basic reactions. Further topics may be covered depending on class progress. This class provides a good introduction for students interested in taking organic chemistry in the future, or for students interested in learning more advanced topics beyond general chemistry.

Prerequisite

One year of high school chemistry is strongly recommended.

Class structure

Class will consist of lecture, followed by example problems and practice with topics covered in lecture. Additional problems will be assigned to do at home. Solutions will be posted on the HSSP website, and questions will be answered at the beginning of the next class section. Occasionally problems will be collected to check class progress.

Schedule

- Class 1 What is organic chemistry? Review of chemistry background – bonding, Lewis structures, octet rule, atomic orbitals, electron configuration.
- Class 2 Reactivity – stability, charge, electronegativity, size, hybridization, resonance, radical, carbocation, nucleophile/electrophile.
- Class 3 Classes of organic compounds. Nomenclature and functional groups.
- Class 4 Isomers – conformational, structural, geometric. Stereochemistry.
- Class 5 Overview of chemical reactions – addition, elimination, rearrangement, substitution.
- Class 6 More reactions – radicals, alkyl halides, alkenes.
- Class 7 TBD