JCL 202 (Aug) (3-0-0)
Organic Chemistry
Instructor: Sarit S. Agasti

Chemical bonding and Molecular structure, Electronic effects, Resonance, Aromaticity, Acids and Bases, Weak bonding.
Stereochemistry and conformational analysis: Stereoisomerism definitions, optical isomerism, Resolution of racemic mixture, Enantioselective synthesis, Effect of conformation on reaction.
Basic organic reaction and their mechanism, nucleophilic, electrophilic addition to double bond. Methods of deducing organic reaction mechanisms, Curtin-Hammett Principle, Organic Reaction Mechanism.
Fundamental reactions of functional groups including amines, carboxylic acids, ethers, alcohols, aldehydes, ketones, and aromatic compounds; functional group transformation: retrosynthetic approach.
Organic Transformations/molecular rearrangements/ isomerizations/ reactions involving additions, eliminations, and substitutions.
Reactive Intermediates: carbocations, carbanions, free radicals, carbenes, nitrenes, arynes, radical ions, diradicals.
Concerted reactions, thermal pericyclic reactions-Organic photochemistry, Forward and backward approach in organic synthesis.

Reference Books:

1. Smith, M. B.; March, J. March's Advanced Organic Chemistry: Reactions, Mechanisms and Structure, 6th ed. Wiley (2000)
2. Carey F. A.; Sundberg, R. J. Advanced Organic Chemistry, Part A. 5th ed. Harper & Row (1986)
3. Clayden, J.; Greeves, N.; Warren, S.; Wothers, P. Organic Chemistry. Oxford University Press, (2000)
4. Corey, E. J. Cheng, X. The Logic of Chemical Synthesis 1989
5. Warren, S. Organic Synthesis: The Disconnection Approach, 1982