# 02: Introduction to Organic Chemistry

## Organic Chemistry
- Chemistry of Carbon
- Terminology
- Proper Structures

### Functional Groups

- **Alkane**: Contains a carbon-carbon single bond.

- **Alkene**: Contains a carbon-carbon double bond.

- **Alkyne**: Contains a carbon-carbon triple bond.

- **Aromatic**: Contains a six-membered ring, with alternating double and single bonds.

- **Alkyl Halide**: Contains an alkyl (alkane – R) and a halogen, RX.

- **Alcohol**: Contains a ROH.

- **Ether**: Contains a ROR.

- **Thiol**: Contains RSH.

- **Sulfide**: Contains a RSR.

- **Aldehyde**: Contains a H bonded to a C on one side of a C=O and a R or H bonded to a C on the other side.

- **Ketone**: Contains 2 R groups attached to the C on either side of a C=O.

- **Acid Halide**: Contains a C=O, with an X attached to the C on one side and an R or H attached to the C on the other side.

- **Carboxylic Acid**: Contains a COOH, with an R or H attached to the C of the COOH.

- **Ester**: Contains a COO, with an R attached to the O and a H or R attached to the C.

- **Anhydride**: Contains an OCOCO, with an R or H attached on either side of the O.

### How to Study Organic Chemistry
- For the terminology, know the definition of such terms as nucleophile, electrophile, syn, anti, etc.
- Learn the functional groups and be able to recognize them quickly.
- Learn the first ten alkanes, along with the prefixes and suffixes.
- Identify the most electronegative and the least electronegative atoms.
- The flow of electrons is from negative to positive.
- Understand the concepts, do not just memorize examples.
- Find examples in the textbook or on websites to reinforce the concepts.
- Make flashcards.
- Ask for help if you don’t understand something.

### How to Use This Cheat Sheet:
These are the keys related this topic. Try to read through it carefully twice then write it out on a blank sheet of paper. Review it again before the exams.