

## Unit 1 – Chemistry and Biochemistry

### B2.2A

Explain how carbon can join to other carbon atoms in chains and rings to form large and complex molecules.

### B2.2B

Recognize the six most common elements in organic molecules (C, H, N, O, P, S).

### B2.2C

**Describe the composition of the four major categories of organic molecules (carbohydrates, lipids, proteins, and nucleic acids).**

**B2.2C.a I can describe the functional group of carbohydrates.**

**B2.2C.b I can describe the functional group of lipids.**

**B2.2C.c I can describe the functional group of proteins.**

**B2.2C.d I can describe the functional group of nucleic acids.**

### B2.2D

**Explain the general structure and primary functions of the major complex organic molecules that compose living organisms.**

### B2.2E

Describe how dehydration and hydrolysis relate to organic molecules.

### B2.2f

Explain the role of enzymes and other proteins in biochemical functions (e.g., the protein hemoglobin carries oxygen in some organisms, digestive enzymes, and hormones).

### B2.4f

**Recognize and describe that both living and non-living things are composed of compounds, which are themselves made up of elements joined by energy-containing bonds, such as those in ATP.**

B2.5A Recognize and explain that macromolecules such as lipids contain high energy bonds.