

CHEMISTRY OF NUTRITION

Course Outcome: CONTRAST THE SYNTHESIS, COMPOSITION, STRUCTURE AND FUNCTIONS OF MAJOR BIOLOGICAL MACROMOLECULES.
ILLUSTRATE THE PROCESS OF FLOW OF GENETIC INFORMATION.

Your Name(s)

HOW DO CHEMISTRY AND NUTRITION COME TOGETHER?

- Nutrition is referring to all of the nutrients, vitamins, and minerals our bodies need to function properly.
- Our bodies are very complex and go through a process "by which substances in **food** are taken into body tissues and provide energy for a wide range of physical and mental activities throughout **human** life." (Kent-Jones, 2020)
- These processes are going to involve biochemistry and molecular biology
- There are 3 essential nutrients to be consumed through food for the human body, Carbohydrates, Proteins, and Lipids these give the body energy
- Meanwhile minerals, vitamins, and water support the body's metabolism.
- Chemical reactions, where one or more chemical substances are changed into a different substance, are occurring in the body constantly to give us energy and keep our bodies functioning
- The next few slides will talk about the details of these nutrients and how chemistry correlates to them

Chemical digestion

- Chemical digestion “involves the catalytic processing of food in the gastrointestinal (GI) tract by digestive enzymes, aided by co-secreted substances, required to break down the food substances into simple molecules for absorption”(Welcome, 2018).
- Large food molecules i.e. nucleic acids, carbohydrates and proteins be broken down to small molecules that can be of great help in the body with energy and improving the body system.
- Enzymes make this possible through hydrolysis.
- After polymers are broken down into monomers they go through the stomach and small intestines, entering the circulatory system then being carried to cells that need the nutrients that were absorbed.