

Diploma in Food and Nutrition

Module Outlines

Principles of Chemistry

Principles of Chemistry is an introductory module tailored for students with little to no prior experience in chemistry. The module introduces foundational concepts, knowledge, and skills necessary for applying chemical principles in both academic and professional settings. Over the semester, students will explore topics typically covered in senior high school and introductory university chemistry, providing a solid foundation for advancing to second-semester chemistry. Key areas of study include atomic and molecular structure, bonding, chemical reactions, organic chemistry, and physical chemistry.

Chemistry for Nutrition Science

In this module, you will explore the fundamentals of food chemistry as they relate to human nutrition science. Key topics include the composition, structure, and function of food, along with the chemistry of essential food molecules such as macro and micronutrients. Additionally, you will examine the physical, chemical, nutritional, and sensory changes that occur during the preparation, cooking, and storage of food.

Human Biosystems

In this module, you will gain knowledge in systems physiology, which includes homeostasis, membrane dynamics, communication and integration, the nervous system, and muscle tissue.

Human Physiology

This module introduces you to human physiology, focusing on how the body functions. This foundational knowledge will prepare you for studying the major body systems, including fluids and transport (blood, heart, cardiovascular, and immune systems); energy, maintenance, and environmental exchange (respiratory, digestive, and renal systems, metabolism); and the continuity of life (reproductive systems).

Exercise and Dietary Science

This module aims to present the principles, background, and rationale for current nutrition guidelines specifically for athletes and exercise participants. Using a physiological basis, this module provides an in-depth look at the science behind sport nutrition. Students will come away with a comprehensive understanding of nutrition as it relates to sport and the influence of nutrition on exercise performance, training, and recovery.

Nutrition and Wellness

In this module, you will develop a broad understanding of nutrition and wellness by exploring key theories and contemporary concepts in the field. You will examine the intricate interactions that influence the nutritional and wellness outcomes of individuals, communities, and populations. As wellness is a multidimensional and dynamic concept, you will delve into the social, environmental, and biomedical determinants that shape nutrition and wellness on a global scale. Through this exploration, you will gain insights into how these determinants interact to affect health outcomes and how they can inform practical wellness strategies and interventions.

Scientific Communication Skills

In this module, you will explore diverse modes of scientific communication and hone essential research skills. Key areas of focus include data presentation, understanding copyright and plagiarism, utilising scientific journals and databases, and accessing abstracting journals and online resources. You will engage with and interpret recent scientific literature, write comprehensive literature reviews, employ online software for referencing support, and deliver an oral presentation.

Food Microbiology

This module integrates the core fundamentals of food microbiology with the study of infectious diseases. Students will explore the basics of microbiology, focusing on microorganisms' roles in biotechnology, ecosystems, and their interactions with food, including spoilage, preservation, and foodborne diseases. It also covers the chain of infection, immunity, vaccination, disease prevention, and surveillance, with a focus on microorganisms' natural habitats, infection routes, and prevention strategies at various levels. Practical sessions will provide hands-on experience with laboratory techniques for disease diagnosis, such as culture-based, molecular, and immunological methods, culminating in an infectious disease case study to apply theoretical knowledge practically.