

B.SC - FOOD SCIENCE AND NUTRITION

Program Outcomes (PO):

By the end of the program the students will be able to:

1. Provide and equip students with knowledge and critical thinking in understanding the recent developments of nutritional science and novel food usage with evidence-based approach.
2. Train on innovative product/process development applying the science of food and to be able to serve in core industry, which leverages diverse food science and nutrition domains including, disease prevention, product development, safety & quality control.
3. Harness the skills required to be an efficient entrepreneur and to be able to build competent nutrition professionals to address the health related community issues.
4. Perform in applied nutrition fields including public health and diet therapy and enable students to confidently pursue higher studies and research in nutrition and interdisciplinary areas.
5. To apply technical skills, knowledge of food science and nutrition, critical thinking, and decision-making skills in research and development

PROGRAM SPECIFIC OUTCOMES:

1. Provide and equip students with understanding of food Science and nutrition with evidence-based approach
2. Equip students with knowledge and understanding of modern aspects of nutritional science and novel food usage
3. Train on innovative recipe development applying the science of food
4. Serve in core food industry, which leverages diverse food science domains including food biotechnology, product development, safety & quality control.
5. Harness the skills required to be an efficient entrepreneur
6. Perform in applied nutrition fields including public health and diet therapy
7. Build competent professionals in the field of food industry, health care sector to address societal & national needs
8. Enable students to confidently pursue higher studies and research
9. Gain an understanding to enable independency to access, analyze and plan nutritional management for disease and critical condition
10. Develop feasible solutions against major nutrition related health issues in country
11. Develop confidence to implement nutrition education program in community
12. Open a window in the field of food microbiology, quality control
13. Create competitive nutritionists in various fields – hospitals, health care sectors, sports nutrition and food service institutions.

B.Sc I Semester

Course: PRINCIPLES OF HUMAN NUTRITION

Course Outcomes (COs):

CO1: Interpretation of scientific facts on the relationship between nutrition, health and fitness and gain knowledge on nutrition standards and guidelines.

CO2: Understand the role of macronutrients and their processes of digestion, absorption, and transport in human body.

CO3: Understand the concepts of energy balance and weight control.

CO4: Demonstrate knowledge and understanding the role of major vitamins, minerals and water in the body and their nutritional requirements.

Course: SCIENCE OF FOOD

Course Outcomes (COs):

CO1: Gain knowledge on the basic cooking methods and different types of processing.

CO2: Understand chemical function and properties of major food components.

CO3: Know the effects of chemical reactions of food components on the quality of food.

CO4: Understand the basis of minerals and anti-nutrition present in food and the effects of processing.

Course: NUTRITION PHYSIOLOGY I

Course Outcomes (COs):

CO1: Understand the cellular components and role of blood and its components

CO2: Learn about the functions and components of the lymphatic and immune system

CO3: Learn the structure and functions of the digestive, excretory, reproductive and endocrine systems

CO4: Relate the physiology of gut, liver and adipose tissue with the nutrient digestion, absorption, transport and storage.

CO5: Link the physiology of renal system to the excretion, hormonal regulation of nutrients, regulation of fluid, electrolyte and acid base balance.

CO6: Understand the role of endocrine system in nutrient metabolism and its regulation.

Course: NUTRITION LITERACY & HEALTH (OE)

Course Outcomes (COs)

CO1: Understand the basics of nutrition

CO2: Relate nutrient requirements to healthy food selection

CO3: Enable to make healthy food choices

B.Sc II Semester

Course: FUNDAMENTALS OF FOOD SCIENCE

Course Outcomes (COs):

- CO1: Understand the structure, compositions and processing of cereals and legumes and effect of processing on their antinutrients.
- CO2: Understand food microstructures and its relationship to food quality
- CO3: Understand the chemistry underlying the properties and reactions of milk meat and egg
- CO4: Understand the structure, composition and processing of fruit, vegetable sugar and jaggery

Course: LIFECYCLE NUTRITION

Course Outcomes (COs):

- CO1: Gain knowledge on changes during various stages of growth and development throughout life cycle.
- CO2: Understand basis of human nutritional requirements and recommendations during pregnancy and lactation
- CO3: Integrate evidence-based information to develop comprehensive understanding on nutrient needs during early years of life.
- CO4: Gain knowledge about the physiological changes during adulthood and relate it in making healthy choices for optimal nutrition.

Course: NUTRITION PHYSIOLOGY II

Course Outcomes (COs):

- CO1: Describe the functions and components of the immune system
- CO2: Learn the concept of inflammation and inflammatory markers.
- CO3: Discuss the structure and functions of the heart, pulmonary, skeletal and nervous system
- CO4: Understand the process of bone growth and the role of nutrition in maintaining peak bone mass.
- CO5: Relate skeletal muscle physiology to the effects of exercise on muscle architecture
- CO6: Learn about the role of brain in regulation of energy balance, satiety and appetite

Course: NUTRITION FOR EXERCISE AND FITNESS (Open elective)

Course Outcomes (COs):

- CO1: To understand the fundamentals of nutrition
- CO2: To get acquainted with the role of skeletal system in exercise
- CO3: To gain an understanding of the concept of physical fitness, types and their relationship with health
- CO4: To learn about the importance of nutrients in enhancing physical fitness
- CO5: To gain knowledge regarding the role of physical fitness in various facets of health.

B.Sc III Semester

Course: INTRODUCTION TO FOOD MICROBIOLOGY

Course Outcomes (COs):

CO1: Understand about the origin of food microbiology and characteristic features of microorganisms.

CO2: Understand and distinguish factors in the growth of microorganisms

CO3: Understand the basic measures in maintaining the food sanitation and hygiene

CO4: Acquire knowledge related to organizations dealing with food safety

Course: NUTRITION AND METABOLISM-I

Course Outcomes (COs):

CO1: Attain knowledge on basic concepts of biochemistry.

CO2: Gain knowledge about the biochemical functions of the macronutrients (carbohydrate, fat and protein), metabolism and their functions in the body

CO3: Gain insight into functions and interrelationship between nutrients and their importance in the maintenance of health

CO4: Obtain an insight into the role of biomolecules in biological processes.

Course: METHODS OF NUTRITIONAL ASSESSMENT

Course Outcomes (COs):

CO1: Understand concept of nutrition assessment - anthropometric, clinical, biochemical and dietary analysis

CO2: Identification of malnutrition based on assessment tools

CO3: Assess nutritional status of adults, children using appropriate assessment tools.

CO4: Demonstration of ability to interpret basic findings for nutritional assessment

Course: TRADITIONAL FOODS & HEALTH (Open Elective)

Course Outcomes (COs):

CO1: Developing a sound knowledge on diversities of foods in India with focus on traditional foods.

CO2: Develop an understanding of historical and traditional perspective of foods and food habits

CO3: Reviving traditional food knowledge.

B.Sc IV Semester

Course: NUTRITION IN PUBLIC HEALTH

Course Outcomes (COs):

- CO1: Interpret community nutrition and health outcomes
- CO2: Gain knowledge on food security
- CO3: Understand the methods of Nutrition assessment
- CO4: Gain knowledge on major nutritional deficiencies and learn about their prevention.
- CO5: Understand the human nutrition behavior and learn to plan nutrition education programme.

Course: NUTRITION AND METABOLISM-II

Course Outcomes (COs):

- CO1: Enable the students to apply the knowledge of nutrition and role of nutrients in the body.
- CO2: Understand the chemistry and metabolism of the nutrients in the living system during health and disease.
- CO3: Enable students to understand the role of hormones in the common disorders
- CO4: Develop knowledge in students about biochemical role of micronutrients.

Course: FOOD SAFETY AND STANDARDS

Course Outcomes (COs):

- CO1: Understand the concept and application of food safety
- CO2: Familiarize with the regulations associated with food safety
- CO3: Comprehend the various food hazards and their impact on health
- CO4: Understand the best practices for managing food hazards
- CO5: Get acquainted with food safety management systems
- CO6: Learn about sampling and analytical techniques for evaluating the food quality