

UNIVERSITY OF DELHI

Department of Home Science

B.A. (Prog.) with Nutrition and Health Education (NHE)

based on

Undergraduate Curriculum Framework 2022 (UGCF)

(Effective from Academic Year 2022-23)



University of Delhi

DISCIPLINE SPECIFIC CORE COURSE – DSC-2-NHE: INTRODUCTION TO FOODS

Credit distribution, Eligibility and Pre-requisites of the Course

Course Title & Code	Credits	Credit distribution of the course			Eligibility Criteria	Prerequisite of the course
		Lecture	Tutorial	Practical/ Practice		
Introduction to Foods	4	3	-	1	Class XII Pass	NIL

Learning Objectives:

1. To introduce students with the functions of food.
2. To explain the nutritional contribution, selection, changes in cooking and storage of different food groups.
3. To generate awareness about various methods of cooking.

Learning Outcomes:

After completion of the course, the students will be able to:

1. Understand various functions of food and factors affecting food choices.
2. Acquaint themselves to select, purchase and store food safely.
3. Describe various methods of cooking and principles underlying them.

SYLLABUS OF DSC-2

Theory:

Unit1:Basic Concepts of Food (8Hours)

- *Unit Description:*This unit will introduce the concept of food, functions of food and factors affecting food choices.
- *Subtopics:*
 - Definition of food including organic food, genetically modified foods, convenience foods, health foods.
 - Functions of food.
 - Factors affecting food choices.

Unit2:Plant Based Food Groups (15Hours)

- *Unit Description:*This unit will introduce nutritional contribution, selection, changes in cooking and storage of the plant-based food groups.
- *Subtopics:*
 - Nutritional contribution, selection, changes in cooking and storage of the following:
 - Cereal and cereal products
 - Pulses
 - Vegetable and fruits
 - Sugars
 - Oils and fats

Unit3:Animal Based Food Groups (8Hours)

- *Unit Description:*This unit will introduce nutritional contribution, selection, changes in cooking and storage of the animal-based food groups.
- *Subtopics:*
 - Nutritional contribution, selection, changes in cooking and storage of the following:
 - Milk and milk products
 - Eggs and flesh foods

Unit4:Methods of Cooking Foods (14Hours)

- *Unit Description:*This unit will introduce advantages and principles of cooking and various cooking methods.
- *Subtopics:*
 - Advantages of cooking
 - Principles of cooking
 - Preliminary steps in food preparation
 - Cooking methods:
 - Moist heat methods
 - Dry heat methods
 - Methods using fat as a medium
 - Others – microwave, solar cooking

Practical:

Unit1: Cooking methods I (16 Hours)

- *Subtopics:*
 - Cooking employing dry heat methods
 - Cooking employing moist heat methods

Unit2: Cooking methods II

(14 Hours)

- *Subtopics:*
 - Cooking using frying as a cooking method
 - Cooking using microwave

Essential/recommended readings:

1. Rekhi, T., & Yadav, H. (2015). *Fundamentals of Food and Nutrition*. Delhi: Elite Publishing House Pvt. Ltd.
2. Mudambi, S. R., & Rajagopal M. V. (2012). *Fundamentals of food, nutrition and diet therapy*; (6th ed.). Delhi: New Age International (P) Ltd.
3. Sethi, P., & Lakra, P. (2015). *Aahar Vigyan, Poshan Evam Suraksha*. Delhi: Elite Publishing House Pvt. Ltd.
4. Srilakshmi, B. (2018). *Food science* (7th ed.) Delhi: New Age International (P) Ltd.
5. Raina, U., & Kashyap, S. (2010). *Basic Food Preparation – a complete manual* (4th ed.). Delhi: Orient Black Swan.

Suggested readings:

1. Roday, S. (2013). *Food science and nutrition*. (2nd ed.). Oxford University Press.
2. Wardlow, G. M., & Hampl, J. S. (2019). *Perspectives in nutrition*. (11th ed.). New York, NY: McGraw Hill.
3. Agarwal, A., & Udipi, S. (2014). *Textbook of human nutrition*, Jaypee Brothers Medical Publishers (P) Ltd, New Delhi.
4. Chadha, R., & Mathur, P. (2015). *Nutrition: A life cycle approach*. Delhi: Orient Blackswan.

DISCIPLINE SPECIFIC CORE COURSE – DSC-6-NHE: BASICS OF FOOD SAFETY

CREDIT DISTRIBUTION, ELIGIBILITY AND PREREQUISITES OF THE COURSE

Course Title & Code	Credits	Credit distribution of the course			Eligibility Criteria	Prerequisite of the course
		Lecture	Tutorial	Practical/ Practice		
Basics of Food Safety	4	3	1	0	Class XII	Nil

LEARNING OBJECTIVES:

1. To introduce students to the basic concepts of food safety, hygiene, and types of microorganisms associated with food.
2. To equip them with the knowledge of food adulteration and contamination, food borne diseases, and role of microbes in food spoilage.

LEARNING OUTCOMES:

After completion of the course students will be able to:

1. Understand the important genera of microorganisms associated with food and their characteristics.
2. Explain the role of microbes in food spoilage and food borne diseases.
3. Describe food safety and hygiene, types of hazards associated with food.
4. Understand current food safety and standard regulations.

SYLLABUS OF DSC-6

THEORY
(Credits 3: 45 Hours)

Unit 1: Introduction to Food Safety

(7 Hours)

- *Unit Description:* This unit will introduce the concept of food safety, hazards and factors affecting food safety.
- *Subtopics*
 - Definitions
 - Importance of food safety
 - Factors affecting food safety
 - Types of hazards
 - Safe-Unsafe food for consumption

- *Unit Description:* This unit will introduce the concept of food safety, hazards and factors affecting food safety.

- *Subtopics:*
 - Definitions
 - Importance of food safety
 - Factors affecting food safety
 - Types of hazards
 - Safe-Unsafe food for consumption

Unit 2: Microorganisms in Food

(16 Hours)

- *Unit Description:* This unit will introduce the important genera of microorganisms associated with food, their characteristics and factors affecting it.

- *Subtopics:*
 - Bacteria, yeast, mold and virus
 - Role of microbes in food spoilage
 - Food infection and intoxication
 - Food poisoning

Unit 3: Food Safety and Quality Assurance

(12 Hours)

- *Unit Description:* This unit will introduce the food additives, adulteration and food regulations.

- *Subtopics:*
 - Food additives
 - Food adulteration
 - Nutritional labelling
 - Food safety and standard regulation
 - HACCP, GMP, GHP

Unit 4: Recent Concerns of Food Safety

(10 Hours)

- *Unit Description:* This unit will introduce the emerging concerns and new challenges to food safety.

- *Subtopics:*
 - Emerging concerns for food safety
 - Street food safety
 - New challenges to food safety

ESSENTIAL/RECOMMENDED READINGS:

1. Forsythe, S J. (1987) Microbiology of Safe Food. USA: Blackwell Science, Oxford.
2. Frazier, William C. and Westhoff, Dennis C. (2004). Food Microbiology. New Delhi: TMH.
3. Garbutt, John. (1997). Essentials of Food Microbiology. London: Arnold.
4. Jay, James M. (2000). Modern Food Microbiology. New Delhi: CBS Publication.
5. Mathur, P. (2018). Food Safety and Quality Control. Hyderabad: Orient Black Swan Pvt. Ltd.
6. Sethi, P., & Lakra, P. (2015). AahaarVigyaan, PoshanevamSuruksa, Elite Publishing House.
7. Suri, S., & Malhotra A. (2014). Food Science, Nutrition and Safety. Delhi: Pearson.