

DISCIPLINE SPECIFIC CORE COURSE
DSC FT08 : Nutrition Science

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITE OF THE COURSE

Course title & code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course
		Theory	Tutorial	Practical/Practice		
Nutrition Science	4	3	0	1	XII Pass	DSC FT01, DSC FT02, DSC FT03, DSC FT04, DSC FT05, DSC FT06

Learning Objectives:

1. To understand the relationship between food, nutrition and health.
2. To learn the digestion, absorption, functions and food sources of various nutrients.
3. To comprehend the concept of balanced diet.
4. To know the different methods of cooking and ways to prevent nutrient losses.
5. To plan and prepare nutritious dishes for various age groups.
6. To assess nutritional status of adults.

Learning Outcomes:

After completing this course, students will be able to:

1. Students will be able to interpret and apply nutrition concepts to evaluate and improve nutritional health of individuals and communities
2. Comprehend the role of digestion, absorption, functions and food sources of various nutrients.
3. Understand the concept of balanced diet and exchange system.
4. Describe different methods of cooking and ways to prevent nutrient losses.
5. Plan and prepare nutritious dishes for various age groups.
6. Assess nutritional status of adults.

SYLLABUS OF DSC FT08

THEORY
Credits 3 (45 Hrs.)

UNIT 1: Introduction to Food and Nutrition

6 hrs

Unit Description: This unit will introduce the basic knowledge of food and nutrition, its functions. It will also help in understanding the inter-relationship between food, nutrition and health.

Subtopics:

- Basic terms used in study of food and nutrition
- Methods of assessment of nutritional status
- Functions of food-physiological, psychological and social
- Understanding relationship between food, nutrition and health

UNIT II: Nutrients

20 hrs

Unit Description: This unit will provide an understanding on functions, dietary sources and clinical manifestations of deficiency/excess of the following nutrients

Subtopics:

- Classification, digestion, absorption, functions, dietary sources, RDA, clinical manifestations of deficiency and excess of the following in brief:
- Energy
- Carbohydrates, lipids and proteins
- Fat soluble vitamins-A, D, E and K
- Water soluble vitamins – thiamine, riboflavin, niacin, folate, vitamin B12 and vitamin C
- Minerals – calcium, iron, iodine, fluorine, sodium, potassium, and zinc

Unit III: Planning Balanced Meals and Selection of Healthy Foods

6 hrs

Unit Description: This unit will help in understanding the concepts of food groups and balanced diet.

Subtopics:

- Food Groups
- Concept of Balanced Diets
- Understanding Nutrition labelling of foods

UNIT IV: Methods of Cooking and Nutrient Retention

13 hrs

Unit Description: This unit will help in developing know-how of different methods of cooking and ways to prevent nutrient losses

Subtopics:

- Dry, moist, frying and microwave cooking - Advantages, disadvantages
- Effect of various methods of cooking on foods and nutrients.
- Preventing nutrient losses

PRACTICAL 1 Credits (30 Hrs)

- Assessment of nutritional status using BMI and waist circumference.
- Identification of food sources for various nutrients using food composition tables.
- Introduction to meal planning, concept of food exchange system.
- Planning and preparation of nutritious snacks for adults using different methods of cooking.
- Planning and preparation of nutritious snacks for pregnant women.
- Planning and preparation of nutritious snacks for lactating women
- Planning and preparation of nutritious snacks for pre-schoolers.

- Planning and preparation of nutritious snacks for adolescents.
- Critical analysis of nutritional labelling of food products.

Essential Readings

1. Byrd-Bredbenner, C., Moe, G., Beshgetoor, D. & Berning, J. (2022). Wardlaw's Perspectives in Nutrition, International Edition, 12th edition, New York: McGraw- Hill 29
2. Chadha, R. and Mathur, P. eds. (2015). Nutrition: A Lifecycle Approach. Hyderabad: Orient Blackswan.
3. Longvah, T., Ananthan, R., Bhaskarachary, K. and Venkaiah, K. (2017). Indian Food Composition Tables. Hyderabad: National Institute of Nutrition, Indian Council of Medical Research, Department of Health Research, Ministry of Health and Family Welfare, Government of India.
4. Seth, V., Singh, K. & Mathur, P. (2018). Diet Planning Through the Lifecycle Part I: Normal Nutrition- A Practical Manual. 6th Edition. Delhi: Elite Publishing House.

Suggested Readings

1. Manay NS and Shadaksharaswamy M (2008). Food-Facts and Principles, Third Edition. New Age International (P) Ltd. Publishers, New Delhi.
2. Srilakshmi, B. (2021). *Nutrition Science*. 7th edition. New Age International.
3. Rekhi T and Yadav H (2014). Fundamentals of Food and Nutrition. New Delhi: Elite Publishing House Pvt Ltd.

Note: Examination scheme and mode shall be as prescribed by the Examination Branch, University of Delhi, from time to time.