

- **FAO/WHO/UNU (2004).** *Human Energy Requirements*. Report on Joint Expert Consultation. Rome. <https://www.fao.org/4/y5686e/y5686e00.htm>
- **FAO/WHO/UNU (2007).** *Protein and Amino acid Requirements in Human Nutrition*. Report of a joint WHO/FAO/UNU expert consultation WHO Technical Report Series 935. Geneva: WHO. <https://iris.who.int/server/api/core/bitstreams/b7c5ec43-bc59-4b38-b702-3f0e96a06fa1/content>

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

**Bachelors in Arts with With Community Science
Category-V**

**DISCIPLINE SPECIFIC ELECTIVE COURSE – DSE-FN 10-HSC:
THERAPEUTIC NUTRITION**

CREDIT DISTRIBUTION, ELIGIBILITY, PRE-REQUISITES OF THE COURSE

Course Title & Code	Credits	Credit distribution of the course			Eligibility Criteria	Prerequisite of the course
		Lecture	Tutorial	Practical		
Therapeutic Nutrition	4	3	0	1	-	NIL

Learning Objectives

- To understand the basic principles of therapeutic nutrition and nutrition care process.
- To learn the modification of normal diets in the management of common diseases.
- To understand the etio-pathophysiology and metabolic anomalies of various disorders/diseases and provide appropriate nutrition care for their management and prevention.

Learning Outcomes

The students would be able to:

- Understand the principle of diet therapy and the nutrition care process.
- Develop an ability to modify a normal diet for therapeutic purposes.
- Develop an understanding of etiology, pathophysiology, metabolic changes, clinical symptoms, and management of some common disorders/diseases.

**THEORY
(Credits 3; Hours 45)**

UNIT I: Introduction to Therapeutic Nutrition and Nutrition Care Process

9 Hours

Students will be introduced to the concept of therapeutic nutrition (Medical Nutrition Therapy-MNT) and nutrition care process, therapeutic adaptations of normal diets, and progression of diets from liquid to solid. The concept of nutrition support systems will also be discussed.

- Concepts of diet therapy
- Therapeutic adaptations of the normal diet
 - Progressive diets – clear fluid, full fluid, soft and regular
 - Introduction to enteral nutrition
- Nutrition care process
 - Nutritional screening and assessment of patients
 - Nutrition diagnosis, nutrition intervention
 - Nutrition monitoring, evaluation, and follow-up

UNIT II: Febrile and GI disorders and their dietary management 12 Hours

Students will understand the etio-pathophysiology, metabolic & clinical aberrations, diagnosis, complications, treatment, MNT, and recent advances in different diseases/disorders.

- Febrile disorders- Relation between nutrition and immunity, Typhoid, Tuberculosis
- GI Tract disorders- Diarrhea, Constipation, Lactose Intolerance, Celiac Disease
- Infective hepatitis

UNIT III: Dietary intervention for weight management and eating disorders 12 Hours

Students will understand the etio-pathophysiology, metabolic & clinical aberrations, diagnosis, complications, treatment, MNT, and recent advances in weight related disorders.

- Weight management- Underweight, Overweight and Obesity
- Eating disorder- Anorexia nervosa and Bulimia nervosa

UNIT IV: Lifestyle-related disorders and their dietary management 12 Hours

Students will understand the etio-pathophysiology, metabolic & clinical aberrations, diagnosis, complications, treatment, MNT, and recent advances in lifestyle related disorders.

- Atherosclerosis
- Hypertension
- Dyslipidemia
- Metabolic Syndrome
- Diabetes Mellitus (Type 1 and Type 2)

PRACTICAL (Credits 1; Hours 30)

1. Planning of diets for:
 - a. Acute/ Chronic fever
 - b. Diarrhoea
 - c. Hepatitis
 - d. Obesity/ Hypertension
 - e. Type 2 diabetes
2. Planning snacks for
 - a. Constipation
 - b. Celiac Disease
 - c. Under-weight
 - d. Low fat high fibre diet
 - e. Sweet snack for diabetes
3. Preparation of selected diet and snacks

Essential Readings:

UNIT I

This unit introduces the concept of therapeutic nutrition (Medical Nutrition Therapy- MNT) and the Nutrition Care Process.

- **ICMR.** (2020). *Estimated Average Requirements and Recommended Dietary Allowances for Indians*. National Institute of Nutrition, Hyderabad (Revised).
- **Khanna, K., Gupta, S., Seth, R., Passi, S.J., Seth, R., Mahna, R., & Puri, S.** (2013). *Textbook of Nutrition and Dietetics*. 2nd Edn. Phoenix Publishing House Pvt. Ltd.
- **Longvah, T., Ananthan, R., Bhaskarachary, K. and Venkaiah, K.** (2017). *Indian Food Composition Tables*. National Institute of Nutrition, ICMR, Hyderabad.
- **Puri, S., Bhagat, A., Aeri, B.T., & Sharma, A.** (2024). *Food Exchange List: A Tool for Meal Planning*. (2nd Ed.). Elite Publishing House. New Delhi.
- **Raymond, J.L., & Morrow, K.** (2020). *Krause and Mahan's Food & the Nutrition Care Process* (15th ed.). Saunders-Elsevier.
- **Siddhu, A., Bhatia, N., Singh, K., & Gupta, S.** (2017). *Compilation of Food Exchange List* (Technical Series 6). Lady Irwin College, University of Delhi. Global Books Organisation, Delhi.

UNIT II

Students will understand the etio-pathophysiology, metabolic & clinical aberrations, diagnosis, complications, treatment, MNT for febrile disorders, GI disorders and Hepatitis.

- **Seth, V., & Singh, K. (Eds.).** (2024). *Principles of Medical Nutrition Therapy for Positive Clinical Outcomes* (2nd ed.). Elite Publishing House Pvt. Ltd.
- **Indian Dietetics Association, (2018).** *Clinical Dietetics Manual*, (2nd Ed.). Elite Publishing House Pvt. Ltd.
- **Puri, S., Bhagat, A., Aeri, B.T., & Sharma, A.** (2024). *Food Exchange List: A Tool for Meal Planning*. (2nd Ed.). Elite Publishing House. New Delhi.

UNIT III

Students will understand the etio-pathophysiology, metabolic & clinical aberrations, diagnosis, complications, treatment, MNT for weight related disorders.

- **Seth, V., & Singh, K. (Eds.).** (2024). *Principles of Medical Nutrition Therapy for Positive Clinical Outcomes* (2nd ed.). Elite Publishing House Pvt. Ltd.
- **Indian Dietetics Association, (2018).** *Clinical Dietetics Manual*, (2nd Ed.). Elite Publishing House Pvt. Ltd.
- **Raymond, J.L., & Morrow, K.** (2020). *Krause and Mahan's Food & the Nutrition Care Process* (15th ed.). Saunders-Elsevier.

UNIT IV

Students will understand the etio-pathophysiology, metabolic & clinical aberrations, diagnosis, complications, treatment, MNT for life-style related disorders.

- **Seth, V., & Singh, K. (Eds.).** (2024). *Principles of Medical Nutrition Therapy for Positive Clinical Outcomes* (2nd ed.). Elite Publishing House Pvt. Ltd.
- **Raymond, J.L., & Morrow, K.** (2020). *Krause and Mahan's Food & the Nutrition Care Process* (15th ed.). Saunders-Elsevier.
- **Indian Dietetics Association, (2018).** *Clinical Dietetics Manual*, (2nd Ed.). Elite Publishing House Pvt. Ltd.

- **Joshi Y K. and Benjamin, J.** (2026). *Basics of Clinical Nutrition* (3rd ed.) Jaypee Brothers Medical Publishers.

Suggested Readings:

- **Chowdhary, S.R. and Aeri, B.T.** (2023). *Textbook of Food Science and Nutrition*. (1st Ed.). Aarahana Publishers.
- **Gibney MJ, Elia M, Ljungqvist & Dowsett J.** (2005). *Clinical Nutrition*. The Nutrition Society Textbook Series. Blackwell Publishing Company
- **Shils, M.E., Shike, M, Ross, A.C., Caballero B and Cousins, R.J.** (2005). *Modern Nutrition in Health and Disease*. (10th Ed.) Lipincott, William and Wilkins.
- **Williams, S.R.** (2001). *Basic Nutrition and Diet Therapy*. (11th Ed.) Times Mirror Mosby College Publishing.

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Bachelors in Arts with With Community Science Category-V

DISCIPLINE SPECIFIC ELECTIVE COURSE – DSE-FN 12-HSC: ADVANCED FOOD SCIENCE

CREDIT DISTRIBUTION, ELIGIBILITY, PRE-REQUISITES OF THE COURSE

Course Title & Code	Credits	Credit distribution of the course			Eligibility Criteria	Prerequisite of the course
		Lecture	Tutorial	Practical		
Advanced Food Science	4	2	0	2	-	NIL

Learning Objectives

- To understand in depth, the scope of food science in processing food.
- To understand the structure, composition, nutritional value, of various food components and the changes that occur during processing.

Learning outcomes

- Appreciate the principles of food science and technology.
- Attain knowledge of the structure, composition, nutritional quality of foods.
- Apply the principles of food science for processing variety of safe foods.

THEORY (Credits 2; Hours 30)

UNIT I: Understanding Food Science and Chemistry

8 hours

This unit will help in understanding the scope, science and functional properties of important components of food, the colloidal systems and their salient applications in the food industry.

- Scope of advanced food science in food industry including nanotechnology
- Functional properties and chemistry of carbohydrates, protein and lipids in food.