



Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore
Shri Vaishnav Institute of Home Science
DUAL DEGREE PROGRAM (B.Sc-M.Sc Food and Nutrition)
M. Sc Food and Nutrition Sem III (2020-2022)

Subject Code	Category	Subject Name	Teaching and Evaluation Scheme								
			Theory			Practical		Th	T	P	CREDITS
			End Sem University Exam	Two Term Exam	Teachers Assessment	End Sem University Exam	Teachers Assessment				
MFSN 301	III	Clinical Nutrition	60	20	20	0	0	4	0	0	4

Abbreviation		Teacher Assessment (Theory) based on following components: Quiz / Assignment / Project / Participation in class (Given that no component shall exceed 10 Marks).
Th	Theory	
T	Tutorial	
P	Practical	Teacher Assessment (Practical) based on following components: Viva/ File/ Participation in Lab work (Given that no component shall exceed 50% of Marks).

Course Objective

- To enable the students to understand the deficiency of nutrients, estimation of different nutrients in normal and diseased conditions.
- To orient students competent in planning menus involving judicious modification of macro and micronutrients for various physiological and pathological conditions.

Course Outcome

- To develop a keen insight to observe, assess and understand the role of Clinical nutrition.



Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore
Shri Vaishnav Institute of Home Science
DUAL DEGREE PROGRAM (B.Sc-M.Sc Food and Nutrition)
M. Sc Food and Nutrition Sem III (2020-2022)

MFSN 301: Clinical Nutrition

UNIT I

Introduction to Clinical Nutrition: Definition, Principle and History of Clinical Nutrition. Dietetics contemporary in medical management. Concepts of a desirable diet for optimum health. Interrelationship between food, nutrition and health. Factors affecting food choices, Regulation of food intake-hunger, satiety and role of neurotransmitters.

UNIT II

Nutrition counseling: definition, concept, role of clinical dietician, the recipient and counseling environment and goals of counseling. Role of dietician in hospital- specific functions, team approach in patient care, psychological consideration, interpersonal relationship with patients. Nutrition and medical ethics. Hospital dietary- scope and importance, types of food service, quality management.

UNIT III

Assessment of nutritional status and development of nutrition care plan: Clinical situations for hospitalized and out patients. Somatic, biological, clinical and dietary assessment, environmental and behavioural data analysis and interpretation. Medical records-types and uses. Nutritional and health conditions including body care- skin, hair, face, hands, feet etc. Aging, gender related problems.

UNIT IV

Principles of planning a normal diet: characteristics of a normal diet, meeting nutrient requirements of individuals and family. Use of Dietary guidelines for Indians. Objectives of diet therapy. Enteral and Parenteral feeding: principles, types, methods of administration, monitoring and complications. Dietary principles and management of special conditions. Food supplements, Enteral formulas, Functional foods and therapeutic foods.

UNIT V

An overview of systems approach to nutritional care and its components (planning, implementation and evaluation. Drug and nutrient interaction: drug – drug / drug-nutrient interaction – effect on ingestion, digestion, absorption and metabolism of nutrients. Nutrition care in immune deficiency diseases. Care during HIV and Cancers, Children with special needs- spastic, polio affected, preterm infants and other conditions. Febrile diseases- classification of fevers, metabolism, general dietary considerations, Diet in typhoid and tuberculosis.



Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore
Shri Vaishnav Institute of Home Science
DUAL DEGREE PROGRAM (B.Sc-M.Sc Food and Nutrition)
M. Sc Food and Nutrition Sem III (2020-2022)

Reference Books

- Antia, F.P. & Abraham, P. (1997). Clinical Dietetics and Nutrition 4th Ed., Oxford University Press, New Delhi.
- Bamji, M.S., Rao, N.P & Reddy, V. (1996). Textbook of Human Nutrition. Oxford & IBH Publishing Co. (P) Ltd. New Delhi.
- Eastwood, M. A. & Passmore, R. (1987). Human Nutrition and Dietetics. 8th Ed. ELBS Churchill Livingstone, London
- Garrow, J.S. et al. (2001). Nutrition and Dietetics. Churchill and Livingstone, Edinburgh.
- Khanna, K. (2007). Textbook of Nutrition and Dietetics. Elite publishing house, New Delhi.
- Robinson, C.H. & Lawler, M.R. (1982). Normal and Therapeutic Nutrition. Oxford & IBH Pub. Co. New Delhi.
- Shils, M.E. (2006). Modern Nutrition in Health and Disease. Lippincot, Williams & Williams, USA.
- Whitney, E.R & Rodney Roltes, S. (1996) Under Standing Nutrition. West Publishing Company, New York, USA.



Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore
Shri Vaishnav Institute of Home Science
DUAL DEGREE PROGRAM (B.Sc-M.Sc Food and Nutrition)
M. Sc Food and Nutrition Sem III (2020-2022)

Subject Code	Category	Subject Name	Teaching and Evaluation Scheme								
			Theory			Practical		Th	T	P	CREDITS
			End Sem University Exam	Two Term Exam	Teachers Assessment	End Sem University Exam	Teachers Assessment				
MFSN 302	III	Public Health Nutrition	60	20	20	0	0	4	0	0	4

Abbreviation		Teacher Assessment (Theory) based on following components: Quiz / Assignment / Project / Participation in class (Given that no component shall exceed 10 Marks).
Th	Theory	Teacher Assessment (Practical) based on following components: Viva/ File/ Participation in Lab work (Given that no component shall exceed 50% of Marks).
T	Tutorial	
P	Practical	

Course Objective

- To understand the concept of public health nutrition and the national health care delivery system .
- To orient students towards concept of food and nutrition security and critical appraisal of the current scenario.

Course Outcome

- To understand the concept and current concerns of Public Health Nutrition.
- To get exposed to population dynamics and economics of malnutrition and how it impacts National development.



Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore
Shri Vaishnav Institute of Home Science
DUAL DEGREE PROGRAM (B.Sc-M.Sc Food and Nutrition)
M. Sc Food and Nutrition Sem III (2020-2022)

MFSN 302: Public Health Nutrition

UNIT I

Public Health Nutrition and Health Care System: Aim, scope and content of public health nutrition. Current concerns in public health nutrition: An overview. Role of public health nutritionists in national development. Health - definition, dimensions, determinants and indicators.

UNIT II

Population Dynamics and demographic transition. Population structure: Implications on quality of life and Population Policy.

Unit III

Community health care and National health care delivery system. Economics of Malnutrition. Impact of malnutrition on productivity and national development.

Unit IV

Approaches for improving nutrition and health status of the community. Health based interventions including immunization, provision of safe drinking water/ sanitation, prevention and management of diarrhoeal diseases. Food based interventions including food fortification, dietary diversification, supplementary feeding and biotechnological approaches. Education based interventions including growth monitoring and promotion (GMP), health/ nutrition related social and behaviour change communication.

Unit V

Food and Nutrition Security: Concepts and definitions of food and nutrition security at national, regional, household and individual levels. Impact of food production losses, distribution, access, availability, consumption on food and nutrition security and critical appraisal of the current scenario.

Reference Books:

- Achaya, K.T. (Ed) (1984) Interface Between Agriculture, Nutrition and Food Science, The United National University.
- Beaton, G. H and Bengoa, J. M. (Eds) (1996) Nutrition in Preventive Medicine, WHO.
- Gibney M.J., Margetts, B.M., Kearney, J. M. Arab, I. (Eds) (2004) Public Health Nutrition, NS Blackwell Publishing.
- Gopalan, C. (Ed) (1987) Combating Under nutrition – Basic Issues and Practical Approaches, Nutrition Foundation of India.
- Kaufman, M. (2007) Nutrition in promoting the public health strategies, principles and practice, Jones and Bartlett Publishers.
- Park, K. (2017) Park's Textbook of Preventive and Social Medicine, 24th ed. Jabalpur M/s. Banarsidas Bhanot.
- Vir, S. (2011), Public health nutrition in developing countries Part-1 & 2. Woodhead



Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore
Shri Vaishnav Institute of Home Science
DUAL DEGREE PROGRAM (B.Sc-M.Sc Food and Nutrition)
M. Sc Food and Nutrition Sem III (2020-2022)

Publishing India limited.

- WHO (2009). WHO Child growth standards: Growth velocity based on weight, length and head circumference Available at <http://www.who.int>



Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore
Shri Vaishnav Institute of Home Science
DUAL DEGREE PROGRAM (B.Sc-M.Sc Food and Nutrition)
M. Sc Food and Nutrition Sem III (2020-2022)

Subject Code	Category	Subject Name	Teaching and Evaluation Scheme								
			Theory			Practical		Th	T	P	CREDITS
			End Sem University Exam	Two Term Exam	Teachers Assessment	End Sem University Exam	Teachers Assessment				
MFSN 303	III	Food Processing and Technology I	60	20	20	0	0	4	0	0	4

Abbreviation		Teacher Assessment (Theory) based on following components: Quiz / Assignment / Project / Participation in class (Given that no component shall exceed 10 Marks).
Th	Theory	Teacher Assessment (Practical) based on following components: Viva/ File/ Participation in Lab work (Given that no component shall exceed 50% of Marks).
T	Tutorial	
P	Practical	

Course Objective

- To gain in depth knowledge of technological aspects involved in processing of cereals, bakery products, meat, fish, poultry and eggs.

Course Outcome

- The course intends to provide knowledge of cereals and animal food processing.
- Students will learn the processes and ingredients involved in breads, cakes and biscuit processing industry.



Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore
Shri Vaishnav Institute of Home Science
DUAL DEGREE PROGRAM (B.Sc-M.Sc Food and Nutrition)
M. Sc Food and Nutrition Sem III (2020-2022)

MFSN 303: Food Processing and Technology I

Unit I Cereal Technology

Introduction to Cereals: Structure, types/varieties, composition and commercial value of wheat, rice, maize, oats, rye, corn, millets with their nutritional importance and commercial value
Puffed rice, rice flakes, parboiling of rice, extruded and fortified rice. Milling of wheat: Roller milling process, flour grade, flour treatments (bleaching, maturing), flour for various purposes, Products and By-products.

Unit II Baking Technology

Introduction to Baking technology: Types of bakery products, standards & regulations. Bread, cakes, biscuits /crackers: role of ingredients & processes, equipment used, product quality characteristics, scoring of quality parameters, faults and corrective measures. Breakfast cereals, macaroni products and malt.

UNIT III: Meat Technology

Meat: Composition, types, pre-slaughter handling, slaughtering and related practices. Hygiene and sanitation practices of slaughter houses, grading, ageing, curing, smoking and tenderizing of meat. Methods of preservation of meat and value addition .

UNIT IV:

Poultry: Composition of poultry meat, processing plant operations (slaughter, bleeding, scalding, defeathering, eviscerating, chilling and packaging), tenderness and storage.

Eggs: Composition, Structure, quality factors, storage, bacterial infection and pasteurization, freezing, candeling, drying and egg substitutes.

UNIT V:

Fish: Composition, on-board handling & preservation, drying and dehydration, curing, smoking, marinades, fermented products, canning, modified Atmosphere Packaging and quality factors.

Reference Books:

- Fabriani, G and Lintas C. (1988) Durum Wheat Chemistry and Technology. American Association of Cereal Chemistry Inc.
- Kent N L.(1993) Technology of Cereals. 4th Edi. Pergamon Press.
- Winton & Winton, (1991) Techniques of Food Analysis. Allied Scientific Publishers.
- Balachandran K K. (1941) Post Harvest Technology of Fish and Fish Products. Daya Publishing House, NewDelhi.
- Stadelman WJ. (1998). Egg and Poultry Meat Processing. VCH, New York.
- Bechtel, PJ. (1986). Muscle as Food. Academic Press, Orlando, FL.
- Matz A Samuel, Bakery Technology and Engineering.



Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore
Shri Vaishnav Institute of Home Science
DUAL DEGREE PROGRAM (B.Sc-M.Sc Food and Nutrition)
M. Sc Food and Nutrition Sem III (2020-2022)

Subject Code	Category	Subject Name	Teaching and Evaluation Scheme								
			Theory			Practical		Th	T	P	CREDITS
			End Sem University Exam	Two Term Exam	Teachers Assessment	End Sem University Exam	Teachers Assessment				
MFNL 304	III	Food Nutrition Lab	0	0	0	90	60	0	0	12	4

Abbreviation		Teacher Assessment (Theory) based on following components: Quiz / Assignment / Project / Participation in class (Given that no component shall exceed 10 Marks).
Th	Theory	
T	Tutorial	
P	Practical	Teacher Assessment (Practical) based on following components: Viva/ File/ Participation in Lab work (Given that no component shall exceed 50% of Marks).

List of Practicals:

a) Clinical Nutrition

1. Market Survey for commercial nutritional clinical and therapeutic products.
2. Planning and preparation of recipes of following type – Normal, soft, semisolid, low fat, low calorie, high fibre, low fibre, low residue, bland, high protein, low protein etc.
3. Planning & preparation of diets for disorders covered in theory with introduction to mixed / multiple disorders and complications.
4. Diet counseling for disorders covered in theory.

b) Food Processing and Technology

1. Quality testing of wheat flour: Gluten quality and quantity, moisture, ash, water Absorption Power (WAP), Pekar color test, maltose value, falling number, Dough Raising Capacity(DRC).



Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore
Shri Vaishnav Institute of Home Science
DUAL DEGREE PROGRAM (B.Sc-M.Sc Food and Nutrition)
M. Sc Food and Nutrition Sem III (2020-2022)

2. Bread Processing: Straight dough method, sponge & dough method (delayed salt method) and use of improvers in bread.
3. Preparation of sweetbuns/pizza base/ Nan/Pav.
4. Biscuits: Short and hard dough biscuits, their quality parameters packaging and shelf life study.
5. Cakes: Sponge and cream cakes/ eggless cakes and their quality parameters.
6. Preparation of cookie, donuts and nan-khatai
7. Formulation of any two functional foods.



Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore
Shri Vaishnav Institute of Home Science
DUAL DEGREE PROGRAM (B.Sc-M.Sc Food and Nutrition)
M. Sc Food and Nutrition Sem III (2020-2022)

Subject Code	Category	Subject Name	Teaching and Evaluation Scheme								
			Theory			Practical		Th	T	P	CREDITS
			End Sem University Exam	Two Term Exam	Teachers Assessment	End Sem University Exam	Teachers Assessment				
MFNP 305	III	Project I & Presentations	0	0	0	30	20	0	0	0	6

Note: Power point presentation based on Project I.



Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore
Shri Vaishnav Institute of Home Science
DUAL DEGREE PROGRAM (B.Sc-M.Sc Food and Nutrition)
M. Sc Food and Nutrition Sem III (2020-2022)

Subject Code	Category	Subject Name	Teaching and Evaluation Scheme								
			Theory			Practical		Th	T	P	CREDITS
			End Sem University Exam	Two Term Exam	Teachers Assessment	End Sem University Exam	Teachers Assessment				
MFNV 306	III	Comprehensive Viva	0	0	0	60	40	0	0	0	2

Note: Comprehensive Viva of the candidates in presence of subject expert and faculty members.