

**VANITA VISHRAM WOMEN'S UNIVERSITY
SCHOOL OF SCIENCE AND TECHNOLOGY**

DEPARTMENT OF FOOD AND NUTRITION

MASTERS IN NUTRITION AND DIETETICS



**Under Learning Outcomes-based Curriculum Framework
(LOCF) for Post Graduate (PG) Education**

**SEMESTER III
Core Courses (CC)**

*Syllabus applicable to the students seeking admission in the
following program*

**MASTERS IN NUTRITION AND DIETETICS under LOCF
w.e.f. the Academic Year 2022-2023**

INDEX

S.No.	Contents	Page no.
1	Preamble – VVWU	3
2	Introduction of the Program	4
3	Program Specific Objectives	4
4	Program Specific Outcomes	4
5	Structure of the Program – Credit Structure	5
6	Course Structure	6
7	Course Objectives – Course Outcomes – Course Contents	7-21
8	Teaching Methodology	22

1. PREAMBLE – VVWU

Vanita Vishram Women's University (VVWU) is the First-ever Women's University of Gujarat approved by the Government of Gujarat under the provisions of the Gujarat Private Universities Act, 2009. It is a University committed to achieve Women's Empowerment through Quality Education, Skill Development, and by providing employment opportunities to its girl students through its model curriculum, integration of technology in pedagogy and best-in-class infrastructure. The focus is on prioritizing practical component and experiential learning supported through academia-industry linkages, functional MoUs, skill development training, internships etc. It aims at providing opportunities to the girl students for holistic development and self-reliance.

VISION

Empowerment of women through quality education and skill development, so as to make them strong pillars of stability in the society.

MISSION

To provide Education & Professional Training to all women for their all-round development, so as to enable them to become economically independent and socially empowered citizens.

2. INTRODUCTION OF THE PROGRAM

The program on Masters in Nutrition and Dietetics focuses on facilitating students to understand the concepts of Diet and Nutrition to further contribute as nutritionists. They need to apply knowledge drawn from relevant sciences to promote an understanding of the effects of nutrition on growth, development, and well-being. It is further strengthened with project work and internships in the food industry, hospitals & public nutrition area. A component of Research is the feature that makes the student think in an innovative manner and thus apply the skills in active research.

3. PROGRAM SPECIFIC OBJECTIVES (PSOs)

- Introduce the students to the advanced aspects of Nutrition Science and Dietetics.
- Make them understand the role as a Nutritionist or a dietitian in preventive and therapeutic aspects of Health care management.
- Develop skills wherein they understand the role of various foods, nutrients they provide and imply innovative methods in food product development.
- Create awareness among them about the current and future trends in the industry and help to determine food safety and entrepreneurship.
- Create awareness about the need for Nutrition in Community emphasizing the role of Public Health Nutrition.

4. PROGRAMME SPECIFIC OUTCOMES (PSOs)

- Students will be equipped with the advanced skills and knowledge that are essential for functioning in the field of Nutrition and Dietetics.
- They will develop professional behavior and competencies in handling hospital setups, counseling, and food handling.
- They will also develop a scientific outlook towards the research in this field and do active research.
- Students will be able to guide and counsel the people in the community, thereby helping in prevention of nutrient deficiencies.
- They will develop competencies that will enable them to focus on various startups, government or non-government organizations.

5. STRUCTURE OF THE PROGRAM

MASTERS IN NUTRITION & DIETETICS							
STRUCTURE & DISTRIBUTION OF COURSES							
Courses	Theory (Credits)	Practical (Credits)	Courses	Theory (Credits)	Practical (Credits)	Total Theory & Practical Credits	Total yearly Credits
SEM III			SEM IV				
FN21120	5	-	FN21170	5	-		
FN21130	5	-	FN21180	5	-		
FN21140	5	-	FN24050/ FN24060	-	4		
FN24010/ FN24020	-	4	FN21190	-	4		
FN24030/ FN24040	-	4	FN21200	-	12		
FN21150	-	4					
FN21160	-	4					
	15	16		10	20	31+30	61

6. COURSE STRUCTURE

MASTERS IN NUTRITION & DIETETICS (SEMESTERS III & IV)					
Sem	Core Course	Ability Enhancement Course	Skill Enhancement Course	Discipline Specific Elective Course	Generic Elective Course
III	FN21120- Public Health Nutrition	-	-	-	-
	FN21130- Family Meal Management	-	-	-	-
	FN21140- Food Science and Legislation	-	-	-	-
	-	-	-	Department Elective1 FN24010- Alternate Therapies FN24020- Pathology and Pharmacology	-
	-	-	-	Department Elective 2 FN24030- Institutional Food Management FN24040- Food Safety and Toxicology	-
	FN21150- Recent Advances in Nutrition	-	-	-	-
	FN21160- Project Work	-	-	-	-
IV	FN21170 - Research Methodology and Biostatistics	-	-	-	-
	FN21180 -Diet Counseling Techniques	-	-	-	-
	-	-	-	Department Elective 3 FN24050-Nutrigenomics FN24060-Enteral and Parenteral Nutrition	-

	FN21190- Internshi	-	-	-	-
	FN21200- Dissertation	-	-	-	-

**MASTERS IN NUTRITION AND DIETETICS
SEMESTER III
CORE COURSE**

FN21120- PUBLIC HEALTH NUTRITION	
Course Objectives The course will enable the student to learn	
<ol style="list-style-type: none"> 1. To recognize the importance of malnutrition as an obstacle for community development. 2. To understand various methods of assessment of nutritional status in the community. 3. To be familiar with strategies and programs for improving nutrition and health of vulnerable groups in the community. 	
Course Outcome: This course will help to get in depth knowledge about various public health agencies, strategies to improve public health status.	
FN21120- THEORY COURSE CONTENTS (5 CREDIT)	
S.No.	STRUCTURE
Unit 1	Concept of Public Nutrition <ul style="list-style-type: none"> ● Relationship between health and nutrition, role of public nutritionists in the health care delivery. ● Determinants of Health Status ● Indicators of Health (Vital statistics: Mortality and morbidity rates; Life expectancy) ● National Health Care Delivery System ● Primary Health Care of the Community
Unit 2	Assessment of Nutritional status <ul style="list-style-type: none"> ● Anthropometry ● Dietary survey ● Clinical Evaluation ● Biochemical Methods
Unit 3	Nutritional Monitoring and Surveillance <ul style="list-style-type: none"> ● Objectives and components of Nutrition Monitoring ● Nutrition Monitoring Programs in India (NNMB, NSSO, NFHS, DLHS, FNB) ● Nutrition Surveillance system, objectives, uses and its indicators
Unit 4	Nutrition Intervention Programmes: Objectives and its operation <ul style="list-style-type: none"> ● Integrated Child Development Services ● Anaemia Prophylaxis and Vitamin A Prophylaxis Programme Supplementary Feeding Programs

	<ul style="list-style-type: none"> ● Mid Day Meal Programme ● Other current Programs ● Field observations of some current programmes and agencies- ICDS, Anganwadi, Milk Dairy, Food Corporation etc.
Unit 5	<p>Food and Nutrition Security</p> <ul style="list-style-type: none"> ● Determinants of Food Security ● Food Security Programs in India (PDS, TPDS, AAY, Annapurna Scheme, NFFWP) ● Role of Agriculture in Nutrition <p>National and International organizations concerned with food and nutrition:</p> <ul style="list-style-type: none"> ● International organizations- FAO, WHO, UNICEF, World Bank etc. ● National organizations- ICMR, ICAR, CSWB, SSWB.
<p>REFERENCES</p> <ol style="list-style-type: none"> 1. Park & Park: Textbook of preventive and Social Medicine, Banarsidas, Bhanot Publication 1995. 2. Gopaldas, T. and Seshadri S (Eds) Nutritional Monitoring and Assessment, Delhi; Oxford University Press. 3. FAO, Annual on food and Nutrition Policy, 1970. 4. Sabarweal, B. Public Health and Nutritional care. Commonwealth publishers . New Delhi 1999. 5. Gibney M.J, Magarets B.M, Kearney J.M and Lenore Arab 2004. Public Health 6. Nutrition, Blackwell Publishing Co., U.K. 7. SCN News, UN ACC/SCN subcommittee on Nutrition. 8. National Plan of Action on Nutrition 1995. Food & Nutrition Board, Dept. of WCD, GOI. 9. National Nutrition Policy 1993 : Dept. of WCD, GOI 	
<p>TEACHING METHODOLOGY</p> <ul style="list-style-type: none"> ● PowerPoint presentations ● Videos ● Chalk and talk method ● Guest Lectures ● Group discussions ● Quiz and Debate 	

**MASTERS IN NUTRITION AND DIETETICS
SEMESTER III
CORE COURSE**

FN21130 - FAMILY MEAL MANAGEMENT	
Course Objectives	
The course will enable the students to	
<ol style="list-style-type: none"> 1. Understand the interrelationship between Food, Nutrition and Health 2. To understand in brief the functions of food and various nutrients, their requirements, dietary sources, their deficiency and excess. 3. To be familiar with different methods of cooking, their advantages and disadvantages. 4. To gain knowledge of improving nutritional quality of food. 	
Course Outcome: This course will help the students to understand various nutrients required for the family and management of meal planning according to the requirements.	
FN21130- THEORY COURSE CONTENTS (5 CREDITS)	
S.No.	STRUCTURE
Unit 1	Basics of Meal Planning <ul style="list-style-type: none"> ● Food Guide/Food Pyramid and its Uses ● Concept of Balanced Diet ● Factors affecting meal planning ● RDA in reference to various age groups
Unit 2	Meal planning and adequacy <ul style="list-style-type: none"> ● Meal and meal frequency ● Importance of meal planning for the family ● Food Budgeting ● Food Patterns ● Tradition, belief and myths
Unit 3	Nutrition in Adulthood <ul style="list-style-type: none"> ● Principles of Planning meal, Factors affecting Food acceptance and Diet ● Dietary requirements for Sedentary, Moderate and Heavy Workers ● Nutrient modifications and dietary goals. ● Dietary modifications for common ailments.
Unit 4	Nutrition during Pregnancy and Lactation <ul style="list-style-type: none"> ● Principles of Planning meal, Factors affecting, Food acceptance and Diet

	<ul style="list-style-type: none"> ● Planning meals for various physiological conditions like pregnancy and lactation.
Unit 5	<p>Nutrition during Other stages</p> <ul style="list-style-type: none"> ● Planning meals for different age groups; Infancy, Childhood, Adolescence and Old age ● Principles of Planning meal, Factors affecting, Food acceptance and Diet
<p>REFERENCES</p> <ol style="list-style-type: none"> 1. Mudambi, S. R., Rajgopal, M.V. (1990) Fundamentals of Foods and Nutrition, New Age International Pvt. Ltd. 2. Nutrient Requirements and Recommended Dietary Allowances for Indians- I.C.M.R. Publication 1999. 3. Guthrie Helen (1986) Introductory Nutrition. Times Mirror/ Mosby College Publishing. 4. Robinson, and Lawler. (1986) Normal and Therapeutic Nutrition. MacMillan Pub.Co. 5. Elenao N., Whitney S., Rady R. (1993): Understanding Nutrition, West Publishing Company, Minneapolis. 6. Wardlaw (1993): Perspectives in Nutrition, Paul Insel Mosby. 7. Bhatia Arti: Nutrition & Dietetics- Anmol Publication Pvt. Ltd. New Delhi. 8. Khanna K. (1998): The Art and Science of Cooking, Phoenix Publishing House Pvt. Ltd., New Delhi. 	
<p>TEACHING METHODOLOGY</p> <ul style="list-style-type: none"> ● PowerPoint presentations ● Videos ● Chalk and talk method ● Guest Lectures ● Group discussions ● Quiz and Debate 	

**MASTERS IN NUTRITION AND DIETETICS
SEMESTER III
CORE COURSE**

FN21140- FOOD SCIENCE AND LEGISLATION	
Course Objectives The course will enable the students to	
<ol style="list-style-type: none"> 1. To understand the nature and composition of food. 2. To learn methods and principles involved in food preparations. 3. To understand the changes occurring in foods during cooking/preparation/processing 	
Course Outcomes: This course will enable the students to understand the nature and composition of food, methods and principles involved in food preparations.	
FN21140- THEORY COURSE CONTENT (5 CREDIT)	
S.No.	STRUCTURE
Unit 1	Introduction to food science, aims and objectives of studying food science <ul style="list-style-type: none"> ● Physical and chemical properties of foods (in brief).
Unit 2	Cereals and Pulses/legumes Cereals: <ul style="list-style-type: none"> ● Structure, composition and nutritive value of cereal grains. ● Gluten formation and factors affecting it. ● Starch, its property and effect of dry and moist heat on starch i.e. dextrinization, gelatinization. Factors affecting gelatinization. Pulses and legumes <ul style="list-style-type: none"> ● Composition and nutritive value in brief. ● Toxic factors, their ill effects and its elimination.
Unit 3	Fruits and Vegetables <ul style="list-style-type: none"> ● Composition, classification and selection of fruits and vegetables. ● Pectin substances of fruits and veg. ● Ripening of fruits and changes during ripening. ● Enzymatic browning reactions and its prevention. ● Vegetable color pigments/plant pigments and effect of heat, acid and alkalis on it.
Unit 4	Fats and Oils <ul style="list-style-type: none"> ● Brief introduction and sources and types of fats/oils ● Functions of fats/oils in cookery ● Fat absorption and factors affecting it ● Spoilage of fats/oils and its prevention.
Unit 5	Milk and milk products <ul style="list-style-type: none"> ● Source, composition and nutritive value ● Physical properties of milk

	<ul style="list-style-type: none"> ● Effect of heat, acid and enzymes on milk
Unit 6	<p>Meat and fish</p> <p>Meat</p> <ul style="list-style-type: none"> ● Composition and nutritive value ● Classes of meat and muscle proteins ● Post-mortem changes in meat ● Changes during cooking of meat ● Gelatin <p>Fish</p> <ul style="list-style-type: none"> ● Composition and nutritive value in brief ● Selection criteria for good quality fish ● Spoilage of fish
Unit 7	<p>Egg cookery</p> <ul style="list-style-type: none"> ● Structure, composition and nutritive value in brief ● Grading and quality measurement of egg ● Physical and chemical changes of egg during storage ● Role of egg in cookery
Unit 8	<p>Sugar and its related products</p> <ul style="list-style-type: none"> ● Properties in brief, related products like honey, jaggery, and caramel sugar. ● Artificial sweeteners in brief.
Unit 9	<p>Water</p> <ul style="list-style-type: none"> ● Water content in foods ● Role of water in food preparation ● Types of water
Unit 10	<p>Risk analysis, assessment and management</p> <ul style="list-style-type: none"> ● Food safety assurance – HACCP, definition, important terms. ● Principles, guidelines and application and benefits of HACCP
Unit 11	<p>Food regulation : Standards and quality control</p> <ul style="list-style-type: none"> ● Food standards and regulations in India – PFA, FPO, BIS, Agmark ● Regulation related to GM foods
<p>REFERENCES</p> <ol style="list-style-type: none"> 1. Srilakshmi, B: (2010) Food Science, 5th Edition, New Age International Pvt Ltd Publishers 2. Shadakshara Swamy, M, Manay, S, (2010): Food facts and Principles, 3rd Edition, New Age International Publishers 3. Bennion, M. Schedule, B.: (2009): Introductory Foods, 13th Edition, Prentice Hall Publications 4. Manay, S. (2009) Foods Facts, New Age International Pvt Ltd Publishers. 	

5. Subbulakshmi, G, Udipi, S. A (2006): Food processing and Preservation, New Age International Pvt Ltd Publishers
6. Potter, N. N., Hotchkiss J. H: (1999), Food Science , 5th Edition, Springer Publications
7. Freeland-Graves, J., Peckham, G. C, (1995): Foundations of Food Preparation (6th Edition), Prentice Hall Publishers
8. Food science- Experiments and Applications : Mohini Sethi and Eram S. Rao

TEACHING METHODOLOGY

- Powerpoint presentations
- Videos
- Chalk and talk method
- Guest Lectures
- Group discussions
- Quiz and Debate

**MASTERS IN NUTRITION AND DIETETICS
SEMESTER III
DEPARTMENT ELECTIVE 1**

FN24010- ELECTIVE 1- ALTERNATIVE THERAPIES	
Course Objectives The course will enable the students to	
<ol style="list-style-type: none"> 1. This course explores the variety of options available today for use in the pursuit of holistic health. 2. Alternative therapies will be viewed as complementary to the existing medical system. 3. This course will look at the theories, clinical research, politics and controversies surrounding the use of various alternative healing modalities. 4. It will provide the student with information to evaluate the use of complementary therapies for healing and health maintenance 	
Course Outcomes	
<ol style="list-style-type: none"> 1. Compare and contrast the various forms of alternative therapies. 2. Evaluate current writings and research on alternative therapies. 3. Discuss cultural and religious beliefs as a basis for the use of alternative therapies. 4. Discuss the controversy over the use of alternative therapies in terms of political concerns and issues for the consumer. 	
FN24010- ELECTIVE 1: THEORY COURSE CONTENT (4 CREDIT)	
S.No.	STRUCTURE
Unit 1	Meaning, definition, theories and practice of all alternative therapies.
Unit 2	Basic concepts of Ayurveda (dosh, dhatu, mala, agni and bala). Its explanation in science and modern medicine.
Unit 3	Meaning, definition, theories and practice of all Herbal medicines.
Unit 4	Meaning, definition, theories and practice of all Allopathic medicines.
Unit 5	Meaning, definition, theories and practice of Naturopathy.
Unit 6	Meaning, definition, theories and practice of Dietary supplementation.
REFERENCES	
<ol style="list-style-type: none"> 1. The Alternative Medicine Handbook: The Complete Reference Guide to Alternative and Complementary Therapies 1st Edition by Barrie R. Cassileth. 2. Complementary and Alternative Medicine by Steven B. Kayne. 3. Gale Encyclopedia of Alternative Medicine by Laurie J. Fundukian (Editor). 	
TEACHING METHODOLOGY	
<ul style="list-style-type: none"> ● Chalk and talk method ● PowerPoint presentations ● Videos, Quiz 	

**MASTERS IN NUTRITION AND DIETETICS
SEMESTER III
DEPARTMENT ELECTIVE 1**

FN24020- ELECTIVE 1- PATHOLOGY AND PHARMACOLOGY	
Course Objectives The course will enable the students to	
<ol style="list-style-type: none"> 1. To lay the foundation of biological chemistry. 2. To give insights about the chemical reactions that occur in biological systems. 3. Get an insight into interrelationships between various metabolic pathways 	
Course Outcome: This course will help the students to know about various enzymes and their functioning.	
FN24020- ELECTIVE 1: THEORY COURSE CONTENT (4 CREDIT)	
Sr.No	STRUCTURE
Unit 1	The constituents of blood and their clinical significance <ul style="list-style-type: none"> ● RBC, WBC, Platelet and plasma, function of plasma, RBC or Erythrocyte– the structure and physiology, functions. WBC or Leukocytes – Neutrophils, Lymphocyte, Monocyte, Eosinophil and Basophil. Platelets. General account of Anemia.
Unit 2	Urine and fecal examination and their clinical significance
Unit 3	Biochemical tests for various organ disorders and their interpretations. <ul style="list-style-type: none"> ● Cardiac ● GI Tract ● Liver ● Gall and Pancreas ● Renal ● Thyroid ● Musculoskeletal
Unit 4	Drug, Food and Nutrient Interactions <ul style="list-style-type: none"> ● Pharmacokinetics ● Pharmacodynamics ● Adverse drug reactions
REFERENCES	
1. M.Sc. IGNOU book for food and drug interactions.	
TEACHING METHODOLOGY	
<ul style="list-style-type: none"> ● Chalk and talk method ● PowerPoint presentations ● Videos ● Models and posters 	

- Quiz

**MASTERS IN NUTRITION AND DIETETICS
SEMESTER III
DEPARTMENT ELECTIVE 2**

FN24030- ELECTIVE 2- INSTITUTIONAL FOOD MANAGEMENT

Course Objectives

This course will enable the students

1. To understand various types of menu preparation & presentations.
2. To understand the need for developing knowledge and different skills to become food service professionals..
3. To develop a knowledge base in key areas of institutional food administration.
4. To train the students in about all aspects of food management and service, equipment selection and maintenance, personnel and financial management..

Course Outcome: This will help the students to understand about food service, various menu preparation, expertise them to function become as a food service manager.

**FN24030- ELECTIVE 2: THEORY COURSE CONTENT
4 CREDIT**

S.No.	STRUCTURE
Unit 1	<ul style="list-style-type: none"> • Institutional Food Management- meaning and concept. • Planning and organization of spaces- Kitchen, storage and service area.
Unit 2	<ul style="list-style-type: none"> • Catering equipment- selection of equipment, equipment design and operation. • Care and maintenance of equipment, clearing, cleaning and waste management. • Food management- food purchasing, inventory management, menu planning, food production and service
Unit 3	<ul style="list-style-type: none"> • Financial Management- costing and budgeting, pricing, accounting. • Personnel management- staff employment, staff training and development.
Unit 4	<ul style="list-style-type: none"> • Institutional Food Management for special occasions: planning, report writing & presentation. • Hygiene and Sanitation, safety and security. • Food Service Management- challenges ahead.

REFERENCES

1. Sethi M, Institutional Food Management, New Age International Publishers.
2. J.N. Diwan, Catering & Food Service Management.
3. Anita Kumar, The art of food service, Sanskar publication, Pune.
4. Sudhir Andrews, Food & Beverage Service Beverage Manual, TATA McGrawHill Company.
5. R.K.Arora, Food Service and Catering Mgt, APH Publishing Co.

TEACHING METHODOLOGY

- Chalk and talk method
- PowerPoint presentations
- Videos

- Models and posters

**MASTERS IN NUTRITION AND DIETETICS
SEMESTER III
DEPARTMENT ELECTIVE 2**

Sr.No	STRUCTURE
Unit 1	Food Microbiology- An Introduction
	<ul style="list-style-type: none"> ● Microorganisms in food ● Effect of intrinsic and extrinsic factors affecting the growth of microorganisms in food ● Role of microorganism in fermented products
Unit 2	Food Safety- Basic concept
	<ul style="list-style-type: none"> ● Importance of Safe Food ● Factors affecting food safety- physical, chemical and biological hazards ● Recent concerns of Food safety
Unit 3	Occurrence of microorganism in food
	<ul style="list-style-type: none"> ● Sources of Food contamination ● Food contaminants of natural origin ● Physical and chemical methods used in the destruction of microorganisms ● Public health hazards due to contaminated foods
Unit 4	Food spoilage in different kinds of foods and their prevention
	<ul style="list-style-type: none"> ● Cereal and cereal products ● Pulses and legumes ● Vegetables and fruits ● Meat and meat products ● Eggs and poultry ● Milk and milk products
Unit 5	Hygiene and Sanitation in food service establishment
	<ul style="list-style-type: none"> ● Personal hygiene in food service establishment ● Sanitation in food service establishment <ul style="list-style-type: none"> ○ Cleaning agents, Disinfectants, sanitizers used on working surfaces, hand washing etc. ● Street Food safety
REFERENCES	
<ol style="list-style-type: none"> 1. Frazier, W.C. (1988): Food Microbiology, McGraw Hill Inc. 4th Edition. 2. Indira Gandhi National Open University (IGNOU), MFN 003 Food Microbiology and Safety. 3. Jay, James, M. (2000): Modern Food Microbiology, 6th Edition, Aspen Publishers Inc. Maryland. 4. Banwant, G. (1989): Basic Food Microbiology, 2nd Edition. CBS Publishers. 	

5. Garbutt, J. (1997): Essentials of Food Microbiology. 1st Edition, Arnold International Students Editions.
6. Adams, M.R. and M.G. Moss (1995): Food Microbiology, 1st Edition, New Age International (P) Ltd.
7. Bensaon, H. J. (1990): Microbiological applications, C. Brown Publishers U.S.A.
8. Roday, S. (1999): Food Hygiene and Sanitation, 1st Edition. Tata MacGraw Hill, New Delhi.

TEACHING METHODOLOGY

- Chalk and talk method
- PowerPoint presentations
- Videos
- Models and posters
- Quiz
- Celebration of various days based on organs and systems

**MASTERS IN NUTRITION AND DIETETICS
SEMESTER III
CORE PRACTICAL**

FN21150- RECENT ADVANCES IN NUTRITION	
Course Objectives This course will enable the students:	
<ol style="list-style-type: none"> 1. Gain knowledge about functional foods, biodynamic principles and nutraceuticals 2. Have thorough understanding about the deficiencies and its health effects 3. Be familiar with applications in Community. 	
Course Outcome: Students will learn about the use of nutritional knowledge for the benefit of the community.	
FN21150- PRACTICAL COURSE CONTENTS 4 Credit	
Sr.No.	STRUCTURE
Unit 1	Development of tools to assess nutrition knowledge, attitudes and practices.
Unit 2	Development, use and evaluation of methods and aids for nutrition and health education.
Unit 3	Assessment of Nutritional status and Identification of nutritional problems among vulnerable groups.
Unit 4	Planning nutritive recipes specific to nutritional problems.
REFERENCES	
<ol style="list-style-type: none"> 1. Park, J.E. and Park, K. Textbook of Preventive and social medicine. BanarsiDas Bhanot Publishers. 2. Nutrition Education for the Public (1997): FAO Food and Nutrition Paper, 62, FAO. 3. National Plan of Action on Nutrition (1995): Food & Nutrition Board, Dept. Of WCD, Govt. of India. 4. World Health Organization (1998) World Health Report: Life in the 21st century. Report of the Director General. WHO, Geneva, Switzerland. 	
JOURNALS	
<ul style="list-style-type: none"> ● American Journal of Clinical Nutrition ● Age Aging, ● Journal of Gerontology ● Food and Nutrition Bulletin ● Nutrition Reviews 	

- Nutrition Update Series
- World Review of Nutrition and Dietetics

TEACHING METHODOLOGY

- PowerPoint presentations
- Videos
- Chalk and talk method
- Guest Lectures
- Webinars
- Demonstrations
- Group discussions
- Quiz
- Debates
- Field Visits
- Role plays
- Elocution
- Peer group training
- Market surveys

**MASTERS IN NUTRITION AND DIETETICS
SEMESTER III
CORE PRACTICAL**

FN21160- PROJECT WORK	
<p>Course Objectives This course will enable the students</p> <ol style="list-style-type: none"> 1. To train students to find reference material. 2. To train students to analyze, condense and evaluate articles/reports. 3. To understand the importance of different types of scientific writing /documentation. 4. To help students develop an ability to make effective presentations. 5. To develop competence in writing and abstracting skills. 	
<p>Course Outcome: To help students learn how to search, write and present research papers.</p>	
<p>FN21160- PRACTICAL COURSE CONTENT 4 Credit</p>	
Sr.No	STRUCTURE
Unit 1	<ul style="list-style-type: none"> ● Literature search and use of databases ● Styles and formats for writing references
Unit 2	Writing review of literature in an upcoming area and Review paper including bibliography
Unit 3	Writing a scientific paper including abstract and identification of key words.
Unit 4	Writing a research proposal for various funding agencies.
<p>TEACHING METHODOLOGY</p> <ul style="list-style-type: none"> ● Hands on practical training ● Report writing ● Class Presentation ● Group Discussion 	