

DEPARTMENT OF FOOD AND NUTRITION
HIRALAL MAZUMDAR MEMORIAL COLLEGE FOR WOMEN

SESSION 2023-24

PO (PROGRAMME OUTCOME)

- 1 learn the role of nutrition at various stages of life
- 2 Nutrition and its implications under different diseased conditions
- 3 Nutrition is an integral part of the development of a community
- 4 Nutrition and lifestyle changes towards a better future
- 5 Understand the concepts of biochemistry, food chemistry and food microbiology
- 6 Apply skill-based knowledge in the food industry
- 7 Learn food processing technique
- 8 Interpret and apply nutrition concepts to evaluate and improve the nutritional health of communities
- 9 Learn Entrepreneurial Knowledge
- 10 Learn Research Methodology and Biostatistics applicable in the Research field
11. Acquire theoretical knowledge, important values, hands-on skills, ability to apply in real-life situations, as the thrust of the programme seeks to strike a balance between theory and its applicability
- 12 progress academically smoothly into higher levels, being inculcated with a spirit to know continually in the field of food and nutrition, or opt for self-employment/jobs in different related sectors.
13. learn fundamental skills of computer and instruments.

Course Outcome (CO)

Paper Code	Paper Name	Course Outcome
FNTADS01T & FNTADS01P	Basic of food & nutrition	This course on food and nutrition is composed of several units: an introduction to food & nutrition, cooking of food, and energy requirements. This is the preliminary course for a food and nutrition honours student. They can Understand the food groups and their functions. Acquire knowledge of different methods of cooking. Apply the process of different foods. Use a combination of foods in the development of food Products.

		On successful completion of the particular course, the students are expected to appreciate well the basics Food and Nutrition.
FNTASE01	Fundamental skills of computer and instruments	After completion of this course successfully, the students will be able to learn about the basics of computer and instruments
FNTDSC202T FNTDSC202P	& Chemistry of nutrients	On successful completion of the particular course, the students are expected to have clear concept regarding the structures, properties, and basic functions of the nutrients and select food groups.
FNTSEC02*	Fundamental Skills of Fruit and Vegetable Processing	On successful completion of the particular course, students should be able to acquire the required skills for independently going for preparation of the fruit/vegetable preserves.
FNTACOR05T& FNTACOR05P	Nutrients Metabolism	This section provides clear information about the different metabolic pathways of the nutrients. Studying the metabolic pathways to understand nutrient requirements for better health is important. All the analytical methods included in this section have a practical impact on our daily lives; this section will help the students to pursue experimental work in their studies.
FNTACOR06T& FNTACOR06P	Nutrition Through Life Span	From, this course, students will learn about the basics of meal planning and Physiological change through the

		<p>life span and RDA nutritional guidelines and healthy food choices for Pregnancy, lactation, Infancy, Children and adolescents, Adults and Elderly.</p> <p>From this course, students will learn about Nutrition through the life span: able to understand the importance of lifestyle, Diet and menu planning, and physiological aspects of different ages of humans, like infants, pre-schoolers, school children and adolescents, Adults, pregnancies and geriatric.</p>
FNTACOR07T&P	ELEMENTARY DIETETICS AND MENU PLANNING	<p>Dietetics, dietician, food groups, dietary guidelines, menu planning, basics of diet therapy, diet for health care and routine hospital are the topics covered in portion. Students gather basic knowledge Of elementary dietetics and how to prepare individual and patients.</p>
FNTSSEC01M	Instrumentation	<p>Student can learn about functioning of different instruments like microscopy, Chromatography, Spectrophotometry etc. Also this portion includes updated version of the above mentioned instruments</p>
FNTACOR08T&P	COMMUNITY NUTRITION	<p>After completion of this course successfully, the students will be able to</p> <p>CO-1: Define community,nutritional assessment and surveillance. (Level 1: Remember)</p> <p>CO-2: Explain nutritional assessment of humans,different agencies and nutritional intervention programmes. (Level 2: Understand)</p> <p>CO-3: Compare the nutritional assessment data with norms and interpretation. (Level 4: Analyze)</p> <p>CO-4: Assess the anthropometric measurement of infants including growth charts and clinical signs of nutrient deficiencies.(Level 5: Evaluate)</p> <p>CO-5: Estimate the food and nutrient intake through diet survey. (Level 5: Evaluate)</p> <p>After completion of this course successfully, the students will be able to</p>

<p>FNTACOR09T, FNTACOR09P</p>	<p>EPIDEMIOLOGY AND PUBLIC HEALTH</p>	<p>CO-1: Memorize health,its importance and indicators of health. (Level 1: Remember) CO-2: Discuss epidemiology,various diseases with prevention and control,public health,immunization,community health care,water and waste management. (Level 2: Understand) CO-3: Prepare 3 audio visual aids like charts, posters, models related to health and nutrition education. (Level 3: Apply) CO-4: Prepare low cost and medium cost nutritious/ supplementary recipes. (Level 3: Apply) CO-5: Summarize a field visit in terms of epidemiological approach. (Level 6: Create)</p>
<p>FNTACOR10T, FNTACOR10P</p>	<p>DIET THERAPY FOR LIFESTYLE DISORDERS</p>	<p>After completion of this course successfully, the students will be able to CO-1: Identify lifestyle disorders. (Level 1: Remember) CO-2: Discuss diet therapy in diabetes mellitus,CVD,obesity and overweight,various metabolic diseases,asthma, cancer (oral and colon),arthritis and osteoporosis. (Level 2: Understand) CO-3: Illustrate the role of nutrients and food additives in various diseases. (Level 4: Analyze) CO-4: Prepare diets for obesity and underweight, diabetes mellitus,hypertension and atherosclerosis,gout and osteoporosis. (Level 3: Apply)</p>
<p>FNTSSEC02M</p>	<p>Field study in clinical/Community Setting</p>	<p>From this course students will be learn aboutField study . And also Learn about what is clinical nutrition and its implementation, RDA, role of hospital dietitian, staff training and development, RD eligibility.</p>
<p>FNTACOR11T, FNTACOR11P</p>	<p>CLINICAL NUTRITION AND DIET FOR SPECIAL SITUATIONS IN LIFE</p>	<p>After completion of this course successfully, the students will be able to CO-1: Explain nutritional management of physiological stress,GI diseases, renal disease and allergy.(Level 2: Understand) CO-2: Describe dietary modification in febrile condition,malabsorption syndromes,diseases of gallbladder and pancreas,liver diseases and neurological diseases.(Level 2: Understand) CO-3: Prepare diets for peptic ulcer and viral hepatitis. (Level 3: Apply)</p>

		CO-4: Prepare diets for fever and acute and chronic renal failure. (Level 3: Apply)
FNTACOR12T, FNTACOR12P	FOOD MICROBIOLOGY AND IMMUNOLOGY	After completion of this course successfully, the students will be able to CO-1: Recall general introduction to microbes (bacteria, fungus, and algae). (Level 1: Remember) CO-2: Explain microbiology of food, microbial food spoilage, food fermentations and immune system. (Level 2: Understand) CO-3: Discuss use of compound microscope, autoclave, incubator and inoculation chamber. (Level 2: Understand) CO-4: Prepare different types of media, slant, stab and plates using nutrient agar. (Level 3: Apply) CO-5: Demonstrate gram staining and morphological study of bacteria and fungi using permanent slides. (Level 3: Apply) CO-6: Evaluate bacteriological analysis of water and Ouchterlony double diffusion test in agar-gel. (Level 5: Evaluate)
FNTACOR13T , FNTACOR13P	FOOD PROCESSING AND FOOD TECHNOLOGY	After completion of this course successfully, the students will be able to CO-1: Describe contamination and microorganisms in the spoilage of different kinds of foods and different methods of food preservation. (Level 2: Understand) CO-2: Discuss food packaging, food adulteration, various food Standards and food laws. (Level 2: Understand) CO-3: Prepare jam, jelly, pickles, fruit pulps/juice/beverages, traditional Indian fermented food and dehydrated products. (Level 3: Apply) CO-4: Distinguish Adulterants in common food stuffs like milk, oil, laddu, turmeric etc. (Level 4: Analyze) CO-5: Summarize a food processing and preservation unit visit. (Level 6: Create)
FNTACOR14T, FNTACOR14P	RESEARCH METHODOLOGY AND BIOSTATISTICS	After completion of this course successfully, the students will be able to CO-1: Describe research methodology and research problem. (Level 2: Understand)

		<p>CO-2: Explain different research designs, variables, experimental and control groups. (Level 2: Understand)</p> <p>CO-3: Discuss sampling of data and testing of hypothesis. (Level 2: Understand)</p> <p>CO-4: Prepare a report with graphical and diagrammatic presentation. (Level 3: Apply)</p> <p>CO-5: Calculate mean, median, mode, standard deviation, standard error of mean and students' 't' test with provided data. (Level 4: Analyze)</p> <p>7</p>
FNTADSE02T&P	Entrepreneurship in Food Industry	<p>After completion of this course successfully, the students will be able to</p> <p>CO-1: Explain food business management. (Level 2: Understand)</p> <p>CO-2: Discuss case studies of successful entrepreneurs, SWOT analysis, positive self image and locus of control. (Level 2: Understand)</p> <p>CO-3: Develop communication skills, leadership skills, team building and public speaking. (Level 4: Analyze)</p> <p>CO-4: Prepare a business plan and project report. (Level 6: Create)</p> <p>CO-5: Summarize a food industry visit in terms of entrepreneurship. (Level 6: Create)</p> <p>8</p>
FNTADSE03T, FNTADSE03P	FOOD BORNE DISEASES AND FOOD TOXICOLOGY	<p>After completion of this course successfully, the students will be able to</p> <p>CO-1: Classify types of different food borne diseases with examples (Pandemic, Endemic and Epidemic). (Level 2: Understand)</p> <p>CO-2: Explain infection, contamination, decontamination, disinfection, transmission and mode of transmission, prevention and control of various diseases. (Level 2: Understand)</p> <p>CO-3: Identify toxic agents in food like Botulism, lathyrism, Ciguatoxins, Tetrodotoxins, Saxitoxins, conotoxins, Antivitamins, Haemagglutins, Cyanogenic Glycosides, Strychnine, Solanine, atropine, Muscarine. (Level 4: Analyze)</p> <p>CO-4: Assess surface sanitation, personal hygiene, physico chemical properties of wastewater. (Level 5: Evaluate)</p> <p>CO-5: Design various food processing systems and food service areas, cold storage and warehouse. (Level 6: Create)</p>

		CO-6: Summarize a food industry visit in terms of food toxicology. (Level 6: Create)
FNTADSE05T, FNTADSE05P	DAIRY TECHNOLOGY	After completion of this course successfully, the students will be able to CO-1: Review the physical properties of milk and status of the dairy industry in India. (Level 2: Understand) CO-2: Illustrate lactose, milk fat, protein, enzymes, milk products and milk industry. (Level 4: Analyze) CO-3: Estimate milk protein and fat. (Level 5: Evaluate) CO-4: Interpret various tests like acidity, COB, MBRT, specific gravity, SNF in milk. (Level 5: Evaluate) CO-5: Summarize a milk industry visit. (Level 6: Create)
FNTADSE06T, FNTADSE06P	NUTRITIONAL MANAGEMENT AND COUNSELING	After completion of this course successfully, the students will be able to CO-1: Recall basics of diet counseling. (Level 1: Remember) CO-2: Describe diet counseling at hospital and community level along with proper counseling skills. (Level 2: Understand) CO-3: Organize health camps and patient feedback – both at hospital level and community level. (Level 6: Create) CO-4: Practice diet counselling for mother and child care, adolescent, obese people, diabetic patient, CVD and others. (Level 3: Apply) CO-5: Arrange patient follow up / home visits. (Level 6: Create)
FNTGCOR02T AND P	HUMAN BODY AND NUTRITION	This course consists of several human physiology portions like blood, cardiovascular system, Excitable, regulatory system, respiratory system, digestion ,cell and also practical like measurements Of, blood pressure, pulse rate, ECG, BT, CT, blood haemoglobin. estimation
FNTGCOR03T AND P	COMMUNITY NUTRITION AND HEALTH ASSESSMENT	On completion, students learn about the community, nutritional assessments of a person, surveillance systems, intervention prog/name, and nutrition education.

		In practice, students learn how to assess their nutrition status along with diet surveys, ORS preparation, and preparation of low-cost and medium-cost school tiffin.
FNTGCOR04T AND P	DIETETICS	This portion Consists of several hospital diets, menu planning RDA, dietary management of different diseases, and food allergies. In practical there is planning and preparation of fluid, Soft and Solid diet:, and different diseased condition diet
FNTGDSE02T	FOOD SAFETY AND FOOD PROCESSING	In this portion, students learn about food additives, food spoilage, food adulteration, food laws, food preservation, and preserved products. In practice, students learn the detection of food adulteration and the preparation of jam, jelly, and pickles.
FNTGDSE04T AND P	NUTRITIONAL BIOCHEMISTRY	This is the biochemistry part for the nutrition general students where , they learn about carbohydrate, protein/ fat metabolism, and in practical they learn about identification: test of carbohydrate and protein
FNTMIN101T	ELEMENTARY FOOD AND NUTRITION (THEORY)	students are expected to possess elementary working knowledge in Food and Nutrition after completing the particular course

Programme Specific Outcome

Interpret and apply nutrition concepts to evaluate and improve the nutritional health of communities.

Apply analytical principles of food and nutrients in diet formulation.

Analyze nutrients, food quality and manage diseases using diet therapy.

Integrate knowledge and skills in food and nutrition with professional issues affecting the nutrition and/or dietetics fields,

Devise research strategies for empowering and promoting healthy living in the community.

Apply food science knowledge to describe functions of ingredients in food.

Understand the role of food and nutrition for the welfare of the community.

Apply skill based knowledge in food industry.

Change nutrition & lifestyle towards a better future society.

Utilize knowledge from foundational sciences as a basis for understanding the role of food and nutrients in health and disease.

Learn some food processing techniques (like preparation of jam, jellies, pickles, squash, etc.), which can also open a job opportunity. They can also spread their knowledge to other people. This helps to form self-help groups.