

# Department of Food and Nutrition

## Sarojini Naidu College for Women

**Name of the Academic Program:** B.Sc Honours in Food and Nutrition

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**Course Code:** FNTACOR01T, FNTACOR01P

**Course Title:** HUMAN NUTRITION

**Course Outcome (COs)**

After completion of this course successfully, the students will be able to

<b>CO-1:</b>	Recall various foods, nutrients, diet and health. (Level 1: Remember)
<b>CO-2:</b>	Explain the energy value of foods, BMR, RDA and digestion of foods. (Level 2: Understand)
<b>CO-3:</b>	Prepare food from different food groups, supplementary food from different age groups. (Level 3: Apply)
<b>CO-4:</b>	Plan a few low cost diets for Grade I and Grade II malnourished children. (Level 6: Create)

**Course Code:** FNTACOR02T, FNTACOR02P

**Course Title:** PHYSIOLOGY IN NUTRITION

**Course Outcome (COs)**

After completion of this course successfully, the students will be able to

<b>CO-1:</b>	Recall cell and tissue structure (Level 1: Remember)
<b>CO-2:</b>	Explain blood and body fluids, cardiovascular system, respiratory system, renal physiology, skin and body temperature. (Level 2: Understand)
<b>CO-3:</b>	Analyze normal ECG curve with 6 chest leads. (Level 4: Analyze)
<b>CO-4:</b>	Evaluate pulse rate, blood pressure, PEF, BT, CT and Hb level. (Level 5: Evaluate)

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**Course Code: FNTACOR03T, FNTACOR03P**

**Course Title: FOOD CHEMISTRY, BIOPHYSICS AND BIOCHEMICAL PRINCIPLES**

**Course Outcome (COs)**

After completion of this course successfully, the students will be able to

<b>CO-1:</b>	Recall the chemistry of proteins, carbohydrates and fat. (Level 1: Remember)
<b>CO-2:</b>	Describe water activity, physicochemical principles and enzymes. (Level 2: Understand)
<b>CO-3:</b>	Estimate the levels of glucose, protein, urea and uric acid in blood. (Level 5: Evaluate)
<b>CO-4:</b>	Evaluate the acid value of oils, osmotic pressure and specific gravity. (Level 5: Evaluate)

**Course Code: FNTACOR04T, FNTACOR04P**

**Course Title: HUMAN PHYSIOLOGY**

**Course Outcome (COs)**

After completion of this course successfully, the students will be able to

<b>CO-1:</b>	Recall the physiology of excitable cells. (Level 1: Remember)
<b>CO-2:</b>	Describe the nervous, reproductive and endocrine system. (Level 2: Understand)
<b>CO-3:</b>	Interpret visual acuity and colour vision. (Level 3: Apply)
<b>CO-4:</b>	Identify the histological slides. (Level 4: Analyze)
<b>CO-5:</b>	Evaluate the value of glucose in blood or urine, TC and DC. (Level 5: Evaluate)

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**Course Code:** FNTACOR05T, FNTACOR05P

**Course Title:** NUTRIENTS METABOLISM

**Course Outcome (COs)**

After completion of this course successfully, the students will be able to

<b>CO-1:</b>	Define metabolism of carbohydrate, amino acid, lipid, nucleic acid, vitamins and minerals. (Level 1: Remember)
<b>CO-2:</b>	Describe biological oxidation. (Level 2: Understand)
<b>CO-3:</b>	Estimate the value of vitamin C, Ca, Na, K and iron. (Level 5: Evaluate)
<b>CO-4:</b>	Estimate DNA and RNA in tissues. (Level 5: Evaluate)

**Course Code:** FNTACOR06T, FNTACOR06P

**Course Title:** NUTRITION THROUGH LIFE SPAN

**Course Outcome (COs)**

After completion of this course successfully, the students will be able to

<b>CO-1:</b>	Explain the basics of meal planning. (Level 2: Understand)
<b>CO-2:</b>	Discuss the nutritional requirements in different age groups. (Level 2: Understand)
<b>CO-3:</b>	Choose meals for infants, pre-schooler, school children, adolescents, adults, pregnancy, lactation and elderly. (Level 3: Apply)
<b>CO-4:</b>	Prepare adequate meals for different age groups with special reference to different physiological conditions. (Level 3: Apply)

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**Course Code:** FNTACOR07T, FNTACOR07P

**Course Title:** ELEMENTARY DIETETICS AND MENU PLANNING

**Course Outcome (COs)**

After completion of this course successfully, the students will be able to

<b>CO-1:</b>	Define dietetics and dietitians. (Level 1: Remember)
<b>CO-2:</b>	Explain food groups, dietary guidelines, menu planning, basics of diet therapy, team approach to health care and routine hospital diets. (Level 2: Understand)
<b>CO-3:</b>	Prepare normal diets, fluid diets and soft/semi solid diets. (Level 3: Apply)
<b>CO-4:</b>	Prepare different nutrient modified diets. (Level 3: Apply)

**Course Code:** FNTACOR08T, FNTACOR08P

**Course Title:** COMMUNITY NUTRITION

**Course Outcome (COs)**

After completion of this course successfully, the students will be able to

<b>CO-1:</b>	Define community, nutritional assessment and surveillance. (Level 1: Remember)
<b>CO-2:</b>	Explain nutritional assessment of humans, different agencies and nutritional intervention programmes. (Level 2: Understand)
<b>CO-3:</b>	Compare the nutritional assessment data with norms and interpretation. (Level 4: Analyze)
<b>CO-4:</b>	Assess the anthropometric measurement of infants including growth charts and clinical signs of nutrient deficiencies. (Level 5: Evaluate)
<b>CO-5:</b>	Estimate the food and nutrient intake through diet survey. (Level 5: Evaluate)

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**Course Code:** FNTACOR09T, FNTACOR09P

**Course Title:** EPIDEMIOLOGY AND PUBLIC HEALTH

**Course Outcome (COs)**

After completion of this course successfully, the students will be able to

<b>CO-1:</b>	Memorize health, its importance and indicators of health. (Level 1: Remember)
<b>CO-2:</b>	Discuss epidemiology, various diseases with prevention and control, public health, immunization, community health care, water and waste management. (Level 2: Understand)
<b>CO-3:</b>	Prepare 3 audio visual aids like charts, posters, models related to health and nutrition education. (Level 3: Apply)
<b>CO-4:</b>	Prepare low cost and medium cost nutritious/ supplementary recipes. (Level 3: Apply)
<b>CO-5:</b>	Summarize a field visit in terms of epidemiological approach. (Level 6: Create)

**Course Code:** FNTACOR10T, FNTACOR10P

**Course Title:** DIET THERAPY FOR LIFESTYLE DISORDERS

**Course Outcome (COs)**

After completion of this course successfully, the students will be able to

<b>CO-1:</b>	Identify lifestyle disorders. (Level 1: Remember)
<b>CO-2:</b>	Discuss diet therapy in diabetes mellitus, CVD, obesity and overweight, various metabolic diseases, asthma, cancer (oral and colon), arthritis and osteoporosis. (Level 2: Understand)
<b>CO-3:</b>	Illustrate the role of nutrients and food additives in various diseases. (Level 4: Analyze)
<b>CO-4:</b>	Prepare diets for obesity and underweight, diabetes mellitus, hypertension and atherosclerosis, gout and osteoporosis. (Level 3: Apply)

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**Course Code:** FNTACOR11T, FNTACOR11P

**Course Title:** CLINICAL NUTRITION AND DIET FOR SPECIAL SITUATIONS IN LIFE

**Course Outcome (COs)**

After completion of this course successfully, the students will be able to

<b>CO-1:</b>	Explain nutritional management of physiological stress, GI diseases, renal disease and allergy. (Level 2: Understand)
<b>CO-2:</b>	Describe dietary modification in febrile condition, malabsorption syndromes, diseases of gallbladder and pancreas, liver diseases and neurological diseases. (Level 2: Understand)
<b>CO-3:</b>	Prepare diets for peptic ulcer and viral hepatitis. (Level 3: Apply)
<b>CO-4:</b>	Prepare diets for fever and acute and chronic renal failure. (Level 3: Apply)

**Course Code:** FNTACOR12T, FNTACOR12P

**Course Title:** FOOD MICROBIOLOGY AND IMMUNOLOGY

**Course Outcome (COs)**

After completion of this course successfully, the students will be able to

<b>CO-1:</b>	Recall general introduction to microbes (bacteria, fungus, and algae). (Level 1: Remember)
<b>CO-2:</b>	Explain microbiology of food, microbial food spoilage, food fermentations and immune system. (Level 2: Understand)
<b>CO-3:</b>	Discuss use of compound microscope, autoclave, incubator and inoculation chamber. (Level 2: Understand)
<b>CO-4:</b>	Prepare different types of media, slant, stab and plates using nutrient agar. (Level 3: Apply)
<b>CO-5:</b>	Demonstrate gram staining and morphological study of bacteria and fungi using permanent slides. (Level 3: Apply)
<b>CO-6:</b>	Evaluate bacteriological analysis of water and Ouchterlony double diffusion test in agar-gel. (Level 5: Evaluate)

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**Course Code:** FNTACOR13T , FNTACOR13P

**Course Title:** FOOD PROCESSING AND FOOD TECHNOLOGY

**Course Outcome (COs)**

After completion of this course successfully, the students will be able to

<b>CO-1:</b>	Describe contamination and microorganisms in the spoilage of different kinds of foods and different methods of food preservation. (Level 2: Understand)
<b>CO-2:</b>	Discuss food packaging, food adulteration, various food Standards and food laws. (Level 2: Understand)
<b>CO-3:</b>	Prepare jam, jelly, pickles, fruit pulps/juice/beverages, traditional Indian fermented food and dehydrated products. (Level 3: Apply)
<b>CO-4:</b>	Distinguish Adulterants in common food stuffs like milk, oil, laddu, turmeric etc. (Level 4: Analyze)
<b>CO-5:</b>	Summarize a food processing and preservation unit visit. (Level 6: Create)

**Course Code:** FNTACOR14T, FNTACOR14P

**Course Title:** RESEARCH METHODOLOGY AND BIostatISTICS

**Course Outcome (COs)**

After completion of this course successfully, the students will be able to

<b>CO-1:</b>	Describe research methodology and research problem. (Level 2: Understand)
<b>CO-2:</b>	Explain different research designs, variables, experimental and control groups. (Level 2: Understand)
<b>CO-3:</b>	Discuss sampling of data and testing of hypothesis. (Level 2: Understand)
<b>CO-4:</b>	Prepare a report with graphical and diagrammatic presentation. (Level 3: Apply)
<b>CO-5:</b>	Calculate mean, median, mode, standard deviation, standard error of mean and students' 't' test with provided data. (Level 4: Analyze)

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**Course Code:** FNTADSE01T, FNTADSE01P

**Course Title:** SPORTS NUTRITION

**Course Outcome (COs)**

After completion of this course successfully, the students will be able to

<b>CO-1:</b>	Describe nutritional considerations for sports/exercising person as compared to a normal active person. (Level 1: Remember)
<b>CO-2:</b>	Explain carbohydrate, fat, protein, micronutrient and fluid needs of a sportsperson. (Level 2: Understand)
<b>CO-3:</b>	Discuss nutritional guidelines for different sports and dietary supplements. (Level 2: Understand)
<b>CO-4:</b>	Calculate energy requirement according to physical activity level of a sports person. (Level 4: Analyze)
<b>CO-5:</b>	Assess nutritional status of athletes. (Level 5: Evaluate)
<b>CO-6:</b>	Evaluate ergogenic nutritional products and supplements available in the market. (Level 5: Evaluate)

**Course Code:** FNTADSE02T, FNTADSE02P

**Course Title:** ENTREPRENEURSHIP IN FOOD INDUSTRY

**Course Outcome (COs)**

After completion of this course successfully, the students will be able to

<b>CO-1:</b>	Explain food business management. (Level 2: Understand)
<b>CO-2:</b>	Discuss case studies of successful entrepreneurs, SWOT analysis, positive self image and locus of control. (Level 2: Understand)
<b>CO-3:</b>	Develop communication skills, leadership skills, team building and public speaking. (Level 4: Analyze)
<b>CO-4:</b>	Prepare a business plan and project report. (Level 6: Create)
<b>CO-5:</b>	Summarize a food industry visit in terms of entrepreneurship. (Level 6: Create)



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**Course Code: FNTADSE03T, FNTADSE03P**

**Course Title: FOOD BORNE DISEASES AND FOOD TOXICOLOGY**

**Course Outcome (COs)**

After completion of this course successfully, the students will be able to

<b>CO-1:</b>	Classify types of different food borne diseases with examples (Pandemic, Endemic and Epidemic). (Level 2: Understand)
<b>CO-2:</b>	Explain infection,contamination,decontamination,disinfection,transmission and mode of transmission,prevention and control of various diseases. (Level 2: Understand)
<b>CO-3:</b>	Identify toxic agents in food like Botulism, lathyrism, Ciguatoxins, Tetrodotoxins, Saxitoxins, conotoxins, Antivitamins, Haemagglutins, Cyanogenic Glycosides, Strychnine, Solanine, atropine, Muscarine. (Level 4: Analyze)
<b>CO-4:</b>	Assess surface sanitation, personal hygiene, physico chemical properties of wastewater. (Level 5: Evaluate)
<b>CO-5:</b>	Design various food processing systems and food service areas, cold storage and warehouse. (Level 6: Create)
<b>CO-6:</b>	Summarize a food industry visit in terms of food toxicology. (Level 6: Create)

**Course Code: FNTADSE04T, FNTADSE04P**

**Course Title: FOOD & BEVERAGE MANAGEMENT**

**Course Outcome (COs)**

After completion of this course successfully, the students will be able to

<b>CO-1:</b>	Explain food service, food production & menu planning. (Level 2: Understand)
<b>CO-2:</b>	Discuss resources of food service establishments and personnel management. (Level 2: Understand)
<b>CO-3:</b>	Plan a food service unit along with a survey of types of units, clientele, menu, operations and delivery. (Level 6: Create)
<b>CO-4:</b>	Create a project with proper set up, resources, plan and investments. (Level 6: Create)

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**Course Code:** FNTADSE05T, FNTADSE05P

**Course Title:** DAIRY TECHNOLOGY

**Course Outcome (COs)**

After completion of this course successfully, the students will be able to

<b>CO-1:</b>	Review the physical properties of milk and status of the dairy industry in India. (Level 2: Understand)
<b>CO-2:</b>	Illustrate lactose, milk fat, protein, enzymes, milk products and milk industry. (Level 4: Analyze)
<b>CO-3:</b>	Estimate milk protein and fat. (Level 5: Evaluate)
<b>CO-4:</b>	Interpret various tests like acidity, COB, MBRT, specific gravity, SNF in milk. (Level 5: Evaluate)
<b>CO-5:</b>	Summarize a milk industry visit. (Level 6: Create)

**Course Code:** FNTADSE06T, FNTADSE06P

**Course Title:** NUTRITIONAL MANAGEMENT AND COUNSELING

**Course Outcome (COs)**

After completion of this course successfully, the students will be able to

<b>CO-1:</b>	Recall basics of diet counseling. (Level 1: Remember)
<b>CO-2:</b>	Describe diet counseling at hospital and community level along with proper counseling skills. (Level 2: Understand)
<b>CO-3:</b>	Organize health camps and patient feedback – both at hospital level and community level. (Level 6: Create)
<b>CO-4:</b>	Practice diet counselling for mother and child care, adolescent, obese people, diabetic patient, CVD and others. (Level 3: Apply)
<b>CO-5:</b>	Arrange patient follow up / home visits. (Level 6: Create)