

DEPARTMENT OF FOOD AND NUTRITION
SYLLABUS MODULE-CCF CURRICULUM (MAJOR) UPTO SEM III

| Semester | Course | Topic | Faculty | No of Classes |
|--|--|---|----------------|---------------|
| FIRST SEMESTER | DSC/Core(Major)-C1-TH: BASIC FOOD SCIENCE-I | Basic concept on Food, Nutrition and Nutrients. Classification of Food, Classification of Nutrients. | Sohini Roy | 2 |
| | | Carbohydrates - Definition, Classification, Structure and properties. Monosaccharides - glucose, fructose, galactose. Disaccharides - Maltose, lactose, sucrose Polysaccharides - Dextrin, starch, glycogen, resistant starch. Carbohydrates - Sources, daily requirements, functions. Effects of too high and too Low carbohydrates on health. Digestion and absorption of carbohydrate. | Sohini Roy | 12 |
| | | Lipids -Definition, Classification & Properties. Fatty acids-composition, properties, types. Lipids - sources, daily requirements, functions. Digestion & Absorption of nutrients. Role & nutritional significances of PUFA, MUFA, SFA, W-3 fatty acid. | Sohini Roy | 8 |
| | | Proteins- Definition, Classification, Structure & properties. Amino acids, Classification, types, functions. Proteins - Sources, daily requirements, functions. Effect of too high - too low proteins on health. Digestion & absorption. Assessment of Protein quality (BV, PER, NPU). Factors affecting protein bio-availability including anti-nutritional factors. | Arpita Srimani | 8 |
| | | Dietary Fibre- Classification, sources, composition, properties & nutritional significance | Arpita Srimani | 3 |
| | | Continuous Internal Evaluation (VIVA- VOCE) | Sohini Roy | 2 |
| | DSC/Core(Major)C1-P: BASICFOODSCIENCE -I (PRACTICAL) | Identification of Mono, Di and polysaccharides | Sohini Roy | 10 |
| | | Identification of Proteins | | 6 |
| | | Identification of glycerol | | 4 |
| | SEC 1- TH: NUTRITION AND HEALTH EDUCATION | Concept, objectives and importance of nutrition and health education | Sohini Roy | 3 |
| | | Principles of health education. | | 3 |
| | | Nutrition Educators' - criteria. Target groups for Nutrition and Health education: Infants, preschooler, school children, adults, and elderly. | | 4 |
| | | Nutrition and health education communication process | Arpita Srimani | 4 |
| | | Steps in planning health and nutrition education | Arpita Srimani | 6 |
| | | Channels for nutrition education in the community | Arpita Srimani | 3 |
| | | Methods involved in nutrition and health education | Sohini Roy | 6 |
| | | Evaluation of nutrition and health education programmes | Sohini Roy | 4 |
| Continuous Internal Evaluation (VIVA- VOCE) | Sohini Roy | 2 | | |

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| SECOND SEMESTER | DSC/Core (Major) C 2- TH : BASIC FOOD SCIENCE-II | Dietary Fibre-Classification, sources, composition, properties & nutritional significance | Sohini Roy | 5 |
| | | Minerals & Trace Elements, Bio-Chemical and Physiological Role, bio-availability & requirements, sources, deficiency & excess (Calcium, Sodium, Potassium Phosphorus, Iron, Fluoride, Zinc, Selenium, Iodine, Chromium) | Arpita Srimani | 10 |
| | | Vitamins - Bio-Chemical and Physiological Role Physiological role, bio-availability and requirements, sources, deficiency & excess. | Sohini Roy | 10 |
| | | Water - Functions, daily requirements, Water balance | Arpita Srimani | 5 |
| | | Continuous Internal Evaluation (QUIZ) | Arpita Srimani | 2 |
| | DSC/Core (Major) C 2- P: BASIC FOOD SCIENCE-II (PRACTICAL) | Determination of Ash content in food | Debarati Mukherjee | 4 |
| | | Determination of Moisture content in food | Debarati Mukherjee | 4 |
| | | Determination of calcium, iron, and Vitamin C content in foods | Sukla Ghosh (Chem) | 12 |
| | SEC 2-TH: NUTRITIONAL EPIDEMIOLOGY & PUBLIC HEALTH | Definition of Health, Dimension of Health: Positive health versus Absence of disease, Determinants of Health, Indicators of health – Mortality, Morbidity, Disability, Nutritional Status, Health care Delivery, Environmental, Socioeconomics, Health care Policy | Dr Mausumi Basu | 4 |
| | | Epidemiology: Definition, Aims, Tools of Measurement – Rates, Ratios and Proportions. Study designs in epidemiology, Descriptive epidemiology, Analytical epidemiology, Data Collection and sources of data. | | 4 |
| | | Secondary Sources of Community Health data: Sources of relevant vital statistics of infant, child & maternal mortality rates, Under- 5 mortality, Birth Rate, Crude death rate. | | 4 |
| | | Immunization: Importance and National Immunization schedule for children and adults | | 2 |
| | | Water and Waste Management: Importance of water to the community, etiology and effects of toxic agents, water borne infectious agents like Viral (Viral hepatitis, rotavirus diarrhea); Bacterial (Bacillary dysentery, Cholera); protozoal (Amoebiasis); Helminthic (Roundworm). Sources of water, safe drinking water, potable water, waste and waste disposal, sewage disposal and treatment, solid waste and disposal, liquid waste disposal. | | 3 |
| | | Communicable and infective disease control: Nature of communicable and infectious diseases (Measles, Influenza, Tuberculosis, Dengue, SARS), infection, contamination, disinfections, decontamination, transmission-direct & indirect, vector borne disease (Malaria, Typhoid, Hookworm infestation, Chikungunya fever) infecting organisms and positive agents, environmental agents and epidemiological principles of disease control | | 3 |

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| SECOND SEMESTER | SEC 2-TH: NUTRITIONAL EPIDEMIOLOGY & PUBLIC HEALTH | Public health hazards due to contaminated foods: Food borne infections (Botulism, Salmonellosis, Shigellosis, Staphylococcal intoxication) and intoxications (Lathyrism, Aflatoxicosis, Mercury poisoning and pesticide residue DDT poisoning): symptoms, mode of transmission and methods of prevention. | Dr Mausumi Basu | 3 |
| | | Continuous Internal Evaluation (Viva Voce) | | 2 |

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| THIRD SEMESTER | DSC/Core(Major)C-3-TH: HUMAN NUTRITION-I | Concept and definition of terms-Nutrition, Malnutrition and Health: Scope of Nutrition | Sohini Roy | 3 |
| | | Minimum Nutritional Requirement and RDA: formulation of RDA and Dietary Guidelines Reference Man and Reference Woman, Adult consumption unit | | 6 |
| | | Energy in Human Nutrition: Idea of Energy and its unit, Energy Balance, Assessment of Energy Requirements—deficiency and excess, Determination of Energy in food, B.M.R. and its regulation, S.D.A. | | 8 |
| | | Growth & Development from infancy to adulthood: Somatic, physical, brain and mental development, puberty, menarch, pre-pubertal and pubertal changes, Factors affecting growth and development. Importance of Nutrition for ensuring adequate development. | Arpita Srimani | 8 |
| | | Growth monitoring and promotion: Use of growth charts and standards, Prevention of growth faltering | | 5 |
| | | Continuous Internal Evaluation (VIVA- VOCE) | Arpita Srimani | 2 |
| | DSC/Core(Major)C-3-P: HUMAN NUTRITION-I (PRACTICAL) | Process involved in cooking: pressure cooking, microwave ,steaming, grilling ,deep fat frying | Arpita Srimani | 4 |
| | | General concepts of weights and measures. Eye estimation of raw and cooked foods | | 2 |
| | | Preparation of food from different food groups and their significance in relation to health | | 6 |
| | | Preparation of supplementary food for different age group and their nutritional significance | | 6 |
| | | Planning and preparation of low cost diet for Grade I and Grade II malnourished child | | 4 |
| | DSC/Core (Major) C-4-TH: HUMAN PHYSIOLOGY-I | Overview of cell Biology .Structure and functions of animal cell with special reference to Plasma membrane (Fluid Mosaic Model), Mitochondria, Ribosome, Endoplasmic reticulum. | Debarati Mukherjee | 4 |
| | | Digestive system: • Structure and functions of G.I. tract. • Structure and functions of Stomach, liver, gallbladder and pancreas. • Composition and function: Salivary juice, Gastric juice, Pancreatic juice, Bile juice and Intestinal juice. • Digestion and absorption of carbohydrates, Protein and fats • Gastrointestinal hormones | | 8 |
| | | Circulatory and Cardiovascular system: • Blood components, Plasma Protein -Composition and Function, Blood groups • Erythropoiesis and factors controlling erythropoiesis, Mechanism of blood coagulation. • Structure and functions of heart. • Cardiac cycle, cardiac output, Blood pressure and its regulation, Hypertension. | | 8 |
| | | Respiratory system: • Structure of Lungs and gaseous exchange (oxygen and carbon dioxide transport), Brief idea on Acclimatization. | | 4 |

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| THIRD SEMESTER | DSC/Core (Major) C-4-TH: HUMAN PHYSIOLOGY-I | Musculoskeletal System: • Types and functions of muscles, bones (osteoclasts and osteoblasts) and teeth (Brief idea) | Debarati Mukherjee | 4 |
| | | Body composition: • Generalized structural makeup of human body | | 2 |
| | | Continuous Internal Evaluation (VIVA- VOCE) | | 2 |
| | DSC/Core (Major) C-4-P: HUMAN PHYSIOLOGY-I (PRACTICAL) | The Compound Microscope- parts, function | Debarati Mukherjee | 4 |
| | | Peak Expiratory Flow Rate (PEFR) using Peak flow meter | | 4 |
| | | Cardiac Efficiency test, Effect of Posture, Gravity and Muscular Exercise on Heart Rate | | 2 |
| | | Squamous epithelial cells- preparation of film and staining | | 4 |
| | FNT-A-CC-3-6-P:COMMUNITY NUTRITION (PRACTICAL) | Anthropometric Measurement of infant - Length, weight, circumference of chest, mid-upper arm circumference, precautions to be taken. | Sohini Roy | 4 |
| | | Comparison with norms and interpretation of the nutritional assessment data and its significance. Weight for age, height for age, weight for height, body Mass Index (BMI) Waist - Hip Ratio (WHR). Skin fold thickness. | | 6 |
| | | Growth charts - plotting of growth charts, growth monitoring and promotion | | 2 |
| | | Clinical assessment and signs of nutrient deficiencies specially PEM (Kwashiorkor, marasmus) I vitamin A deficiencies, Anaemia, Rickets, B-Complex deficiencies | | 4 |
| | | Estimation of food and nutrient intake: Household food consumption data, adult consumption unit, 24 hours dietary recall 24 hours record, Weighment method, food diaries, food frequency data, use of each of the above, information available through each individual, collection of data, estimation of intakes. | | 4 |
| | SEC -3-TH: FOOD SERVICE MANAGEMENT | Organization of food service management: Definition, Various types of Food Service institutions, their characteristics and functions. | Sohini Roy | 4 |
| | | Planning a food service unit, layout design, planning of different work areas – preparation, cleaning, storing, serving and dining areas. Lighting and ventilation, working heights in relation to equipment. | Arpita Srimani | 4 |
| | | Quality food Service – types-Centralized, de-centralized objectives. Styles of service | Arpita Srimani | 3 |
| | | Institutional Menu Planning: Factors influencing menu planning, principles of menu planning, different kinds of menus. | Sohini Roy | 3 |

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| THIRD SEMESTER | SEC -3-TH: FOOD SERVICE MANAGEMENT | Importance of sanitation and hygiene in food, kitchen hygiene, Hygienic handling of Food, employee's health, hygiene of food service unit. | Arpita Srimani | 5 |
| | | Personnel Management- selection, training and supervision of personnel, criteria for selection of Dietitian and Food Service staff | Sohini Roy | 6 |
| | | Continuous Internal Evaluation (online MCQ) | Sohini Roy | |