


Course Outcome (CO) & PO



 Principal
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 Dakshineswar, Kolkata-700 035

I. INTRODUCTION ABOUT THE COURSE


B.SC in food & nutrition is a 3years undergraduate course and also a multidisciplinary subject which covers all the aspects of food and nutrition such as diet therapy, nutritional bio chemistry, microbiology, food chemistry, community nutrition, epidemiology, food processing and technology, research methodology & bio statistics, counselling physiology. Not only this, this subject also have several job prospects like work in hospitals, gyms, food industries, health clubs and also can work as food scientists, food technologists, quality control manager, food production manager. Apart from that after passing National Eligibility Test or state eligibility test, students can opt for academic career. Moreover they learn to understand the role of food and nutrients in health and disease processes and will be able to prepare and deliver effective presentations of information to food science and nutrition professionals and to the general public.

II.

Paper Code	Paper Name	Course Outcome
FNTACORO1T & P	Human Nutrition	<p>This course of food and nutrition composed of several units like an introduction of food & nutrition, cooking of food, energy requirements, digestion of food and also nutrients. This is the preliminary course for a food and nutrition honours student.</p> <p>They can Understand the food groups and their functions. Acquire knowledge on different methods of cooking Apply process of different foods Use combination of foods in the development of food products.</p>
FNTACORO2T & P	Physiology in Nutrition	<p>This course consists of several human physiology portions like blood, cardiovascular system, respiratory system, renal physiology. Cell and also practical like measurements of blood pressure, pulse rate, ECG, BT, CT, blood group measurement, haemoglobin estimation of a human body. So from this portion student can learn a lot about the physiology of a human which is very much important for a nutrition student.</p> <ol style="list-style-type: none"> 1. Understand the Structure and Functions of the various organ systems of the body 2. Relate the Structure with Functions of the tissues and organs 3. Comprehend the Mechanism of Action of Organs 4. Relate the Physiology of the human body with Food and Nutritional requirements 5. Recognize the Clinical Symptoms of Nutritional Deficiencies based on anatomical considerations.
FNTACORO3T & P	Food Chemistry, Biophysics and Biochemical Principles	<p>This part consists of several food chemistry topics like carbohydrate, protein, fat chemistry, water, physicochemical properties, and enzymes. In practical part students get to learn about identification of carbohydrate, protein, fat, osmotic pressure and</p>


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		specific gravity calculation.
FNTACORO4T&P	Human physiology	This is the human physiology portion which composed of nerve, muscle, hormones, and reproductive system. In practical students get to learn about identification of slides, TC DC count, visual acuity determination.
FNTACORO5T&P	Nutrients Metabolism	This section gives a clear knowledge about different metabolic pathways of the nutrients. It's important to study the metabolic pathways to understand nutrients requirement for better health. All the analytical methods include in this section have a practical impact in our daily life. This section will help the students to pursue experimental work in higher studies.
FNTACORO6T&P	Nutrition Through Life Span	From this course students will be learn about basics of meal planning and Physiological change through life span and RDA nutritional guidelines and healthy food choices for Pregnancy, lactation, Infancy, Children and adolescents, Adults and Elderly. From this course students will be learn about Nutrition through life span: able to understand importance of lifestyle, Diet and menu planning, physiological aspects of different age of human, like infant, pre- schooler, school children and adolescent, Adult, pregnancy and geriatric.
FNTACORO7T&P	ELEMENTARY DIETETICS AND MENU PLANNING	Dietetics, dietician, food groups, dietary guidelines, menu planning, basics of diet therapy, diet for health care and routine hospital are the topics covered in this portion. Students gather basic knowledge of elementary dietetics and how to prepare meals for individual and patients. Planning and preparation of normal diets, different fluid diets, soft diet and nutrient modified diets. Students get practical training about therapeutic diets which are needed by the patients in hospital or at home.
FNTACORO8T&P	COMMUNITY NUTRITION	Concept of community, nutritional assessment, surveillance, diet survey, clinical sign, agencies and programmes. Students understand about meaning of community, its types, and all other aspects of it. Anthropometric measurement of infant, comparison with norms, growth charts, clinical assessment, diet survey. Practical hands on training regarding nutritional assessment of infants inclusive of their clinical assessment and survey of diet within family are learnt by the students.
FNTACORO9T&P	EPIDEMIOLOGY AND PUBLIC HEALTH	It consists about health, community health, epidemiology, communicable disease and their control, prevention, public health, immunization, community health care, water management, waste management, air pollution. Students learn about Preparation of 3 audio visual

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Co-ordinator

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		aids like charts, posters, models related to health and nutrition education, Formulation and preparation of low cost and medium cost nutritious/ supplementary recipe, Field visit (health centre, immunization centre, ICDS, MCH centre, NGOs etc.).
FNTACOR10T & P	Diet therapy for lifestyle disorders	From this course students will be learn about Lifestyle disorders and their types, aetiology and management. Disorders like Diabetes, CVD, Obesity, Gout, PKU, MSUD, Respiratory health, Cancer, Arthritis, and Osteoporosis etc. From this course students will be learn about Planning and preparation of diet: Medical nutritional therapy that can address the syndrome like diabetes and disease like HTN, Mal nutrition, Gout, osteoporosis.
FNTACOR11T & P	CLINICAL NUTRITION AND DIET FOR SPECIAL SITUATIONS IN LIFE	Knowledge being imparted to students about nutritional management of physiological stress, GI diseases, gall bladder and pancreatic disorders, liver diseases, renal diseases, allergy and neurological diseases. They get information about different diseases and their management. Students gather knowledge about planning and preparation of diets in different diseases condition like peptic ulcer, viral hepatitis, fever, acute and chronic renal failure. It will help them to prepare diet charts in hospital or individual level.
FNTACOR12T & P	Food Microbiology and Immunology	This portion includes both food microbiology and immunology. Microbiology portion includes both bacteriological study and food spoilage by others microbes. Food fermentation with the concept of probiotics is also part of this section. In this practical paper students will learn about different detection methods of basic food microbiology. Also it includes immune diffusion technique for the measurement of antibodies and antigens.
FNTACOR13T & P	CLINICAL NUTRITION AND DIET FOR SPECIAL SITUATIONS IN LIFE	This portion consists of several clinical nutrition condition and diet for special situation like dietary modifications in stress, fever, GI diseases, and malabsorption syndrome, disease of gall bladder and pancreas, liver disease, renal disease, allergy, neurological disorder. Practical portion consist of planning and preparation of diets for peptic ulcer, hepatitis, fever, renal failure. From this students can learn about how to prepare diet for these special health conditions of a patient. 1. Develop skills in planning therapeutic diet 2. Analyze the disease condition and plan appropriate menus 3. Calculate nutrient content of diet plans 4. Prepare the various types of diets

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		5. Learn techniques in diet tray arrangement and assess patient compliance.
FNTACORO14T & P	RESEARCH METHODOLOGY AND BIOSTATISTICS	It consists of research methodology, research problems, study design, sampling of data and analysis, preparation of report. Students can learn about Assignment for calculation of mean, median, mode, standard deviation, standard error of mean and students' 't' test with provided data.
FNTADSE02T&P	Entrepreneurship in Food Industry	From this course students will be learn about Entrepreneurship in food industry : Can understand reason behind the success of top entrepreneurs, SWOT analysis, skills, goal setting, techniques, positive impact on market Food business management : How to develop business environment, demonstrations, identifying of key customer, data analysis, market intelligence, business plan, pilot projects, finance and tax calculation Personal development and communication skills : Help to build self confidence on communication skills and body language, relationship building, leadership and team building. Grooming, dressing etiquette, interview preparation.
FNTADSE03T&P	FOOD BORNE DISEASES AND FOOD TOXICOLOGY	It consists of food born disease, lactose intolerance, and mechanism of food born disease, food safety, hygiene and sanitation, food safety management, toxic agents in food. Students can learn about Assessment of surface sanitation by swab and rinse method; Assessment of personal hygiene, Designing of various food processing systems and food service areas; Design and layout of cold storage and ware house, Assessment of physico chemical properties of waste water, Isolation and enumeration of bacteria from rotten food: bread and vegetables, testing of sanitizers and disinfectants, Study of phenol coefficient of sanitizers, Visit to Food industry and preparation of report.
FNTADSE05T&P	Dairy Technology	This section is completely based on dairy technology. Students will be able to learn about properties, composition, products and industry of milk. Also the practical paper of this portion includes different analytical methods to detect milk quality. It also includes dairy industry visit. Both theory and practical papers will provide a clear knowledge about dairy technology which will help the students to pursue their career in milk industry as food analyst.
FNTADSE06T&P	NUTRITIONAL MANAGEMENT AND	It consists of diet counselling of many non-communicable disease, communication skills,

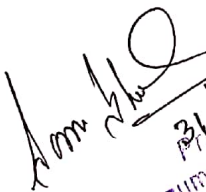
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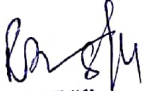
	COUNSELLING	psychology and counselling, diet counselling at hospital and community level. Organizing health camps and patient feedback at hospital and community level. Diet counseling for mother and child care, adolescent, obese people, diabetic patient, CVD, patient follow up and home visits. Students get to know thoroughly about counseling and management.
FNTSSEC02M 1	Instrumentation	Student can learn about functioning of different instruments like Microscopy, Chromatography, Spectrophotometry etc. Also this portion includes updated version of the above mentioned instruments.
FNTSSEC02M	Field study in clinical/Community Setting	From this course students will be learn about Field study : And also Learn about what is clinical nutrition and its implementation, RDA, role of hospital dietitian, staff training and development, RD eligibility.
FNTGCORO1T AND P	FOOD AND NUTRITION	THIS PORTION OF FOOD AND NUTRITION GENERAL COMPOSED OF AN INTRODUCTORY PART OF FOOD AND NUTRITION , CONCEPTS ABOUT ALL THE NUTRIENTS, METABOLISM, ALL KIND OF DEFICIENCY DISEASES. PRACTICAL CONSISTS OF EYE ESTIMATION OF FOOD STUFFS, AND PREPARATION OF DISHES FROM BASIC FIVE FOOD GROUPS. DIET FOR PREGNANT AND LACTATING MOTHER, SUPPLEMENTARY FOOD PREPARATION OF INFANTS.
FNTGCORO2T AND P	HUMAN BODY AND NUTRITION	This course consists of several human physiology portions like blood, cardiovascular system, Exitablecell, regulatory system, respiratory system, DIGESTION cell and also practical like measurements of blood pressure, pulse rate, ECG, BT; CT, blood group measurement, haemoglobin estimation of a human body. so from this portion student can learn a lot about the physiology of a human which is very much important for a nutrition student.
FNTGCORO3T AND P	COMMUNITY NUTRITION AND HEALTH ASSESSMENT	This portion of food and nutrition general consists of concepts of community , nutritional assessments of a person, surveillance system, intervention programme, nutrition education. In practical students lean how to assess the nutrition status along with diet survey , ORS preparation, and preparation of low cost and medium cost school tiffin.
FNTGCORO4T AND P	DIETETICS	This portion consists of several hospital diets, menu planning , RDA, dietary management of different diseases, food allergy. In practical there is planning and preparation of fluid , soft and solid diet, peptic ulcer, fever, hypertension, diabetes mellitus, hepatitis, obesity diet preparation


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		and planning which gives an clear idea about the therapeutic diet preparation.
FNTGDSE02T	FOOD SAFETY AND FOOD PROCESSING	In this portion students learn about food additives, food spoilage, food adulteration, food laws, food preservation, preserved products. In practical, students learn detection of food adulteration , preparation of jam, jelly, 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


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B.Sc. Honours in Food and Nutrition

Programme Specific Outcome	
1.	Interpret and apply nutrition concepts to evaluate and improve the nutritional health of communities.
2.	Apply analytical principles of food and nutrients in diet formulation.
3.	Analyze nutrients, food quality and manage diseases using diet therapy.
4.	Integrate knowledge and skills in food and nutrition with professional issues affecting the nutrition and/or dietetics fields.
5.	Devise research strategies for empowering and promoting healthy living in the community.
6.	Apply food science knowledge to describe functions of ingredients in food.
7.	Understand the role of food and nutrition for the welfare of the community.
8.	Apply skill based knowledge in food industry.
9	Change nutrition & lifestyle towards a better future society.
1 0.	Utilize knowledge from foundational sciences as a basis for understanding the role of food and nutrients in health and disease.
1 1.	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.

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