

KONGUNADU ARTS AND SCIENCE COLLEGE

(AUTONOMOUS)

COIMBATORE – 641029

DEPARTMENT OF CLINICAL NUTRITION (Unaided)

COURSE OUTCOMES (CO)

OF

M.Sc. CLINICAL NUTRITION

For the students admitted In the Academic Year 2023-2024



DEPARTMENT OF CLINICAL NUTRITION

(2023 – 2024)

Sub. Code: 23PCN101

Programme Code: 25	M.Sc. CLINICAL NUTRITION		
Title of the paper: Core Paper 1: Community and Public Health Nutrition			
Batch 2023 – 2025	Hours /Week 5	Total Hours 75	Credits 4

Course Objectives

1. To acquire methods used to assess the nutritional problems in community and the role of welfare programs and health agencies in improving health status.
2. To acquire knowledge in planning, preparation and implementation of nutrition education programs.
3. To develop skills on assessing data on health and nutritional status of individuals and the community.

Course Outcomes (CO)

K1 to K5	CO1	To define the role of community nutritionist and able to describe health in terms of determinants and indicators of health.
	CO2	To explain the nutritional problems and supplementary feeding programs.
	CO3	Assess nutritional status of community and discuss the dietary pattern.
	CO4	Plan and execute nutrition education program.
	CO5	Explain about the food distribution programs for emergency situations.

Sub.Code:23PCN102

Programme Code: 25	M.Sc. CLINICAL NUTRITION		
Title of the paper: Core Paper 2: Human Physiology			
Batch 2023 – 2025	Hours / Week 6	Total Hours 90	Credits 5

Course Objectives

1. To acquire Knowledge on major functions of body systems.
2. To understand the complexity of the human body and it's linking disorder.
3. To appreciate the interrelationship between various organ systems and their functioning in unison to maintain health.

Course Outcomes (CO)

K1 to K5	CO1	Understand the physiological functions of various systems
	CO2	Integrate the mechanism of various organ systems in regulating homeostasis
	CO3	Relate the different functions of the various organ system in the body.
	CO4	Understanding the functioning of the immune system of the body.
	CO5	Relate the physiological function to nutrition and diet.

Sub.Code:23PCN103

Programme Code:25	M.Sc. CLINICAL NUTRITION		
Title of the paper: Core Paper 3: Advanced Nutrition			
Batch 2023 – 2025	Hours / Week 5	Total Hours 75	Credits 4

Course Objectives

1. To enable the students to understand the functions of various nutrients
2. To learn the effects of deficiency and excess of nutrients
3. To relate the functions of nutrients in recommending for clinical conditions

Course Outcomes (CO)

K1 to K5	CO1	Understand the functions, deficiency and excess of major and minor nutrients
	CO2	Learn about the role of water and electrolytes in the body
	CO3	Disseminate the knowledge about the importance of fiber
	CO4	Understand the inter relationship between the various nutrients
	CO5	Integrate the role of nutrients in clinical conditions

Sub. Code: 23PCN104

Programme Code:25	M.Sc. CLINICAL NUTRITION		
Title of the paper: Core Paper 4: Life Span Nutrition			
Batch 2023 – 2025	Hours / Week 4	Total Hours 60	Credits 4

Course Objectives

1. To acquire knowledge on the role of nutrition in the various stages of life span.
2. To plan and recommend diets based on the nutritional requirements of different age groups.
3. To formulate a dietary intervention plan to address nutritional deficiencies or excesses
4. according to the health needs of individuals.

Course Outcomes (CO)

K1 to K5	CO1	Acquire knowledge in the science of nutrition and health for different stages of life.
	CO2	Emphasize the importance of nutrition during pregnancy, lactation and complementary foods for infants.
	CO3	Disseminate facts on the importance of proper selection of foods for good nutrition during pre-school and school age for laying the foundation for ensuing years.
	CO4	Explain the physiological development, psychological changes and psychosocial problems of adolescents in relation to nutritional status.
	CO5	Apply the knowledge of nutrition science for recommending nutritious diet for a healthy adult and develop proper nutrition intervention based on the physiological conditions.

Sub. Code: 23PCN205

Programme Code: 25	M.Sc. CLINICAL NUTRITION		
Title of the paper: Core Paper: 5 Nutrition in Clinical Care I			
Batch 2023 – 2025	Hours / Week 5	Total Hours 75	Credits 5

Course Objectives

1. To acquire knowledge on the nutrition principles and their application in disease prevention and treatment.
2. To interpret and translate the scientific knowledge and principles related to nutrition into practical meal planning in the preparation of therapeutic diets.
3. To prescribe appropriate diet plans for diverse disease conditions.

Course Outcomes (CO)

K1 to K5	CO1	Utilize the basic nutrition knowledge acquired to understand the various steps in nutrition care process.
	CO2	Provide diet counseling to individuals, patients and groups.
	CO3	Describe the various types of hospital diets and indications for use in clinical settings.
	CO4	Apply principles of medical nutrition therapy for the dietary management of life style diseases namely CVD, Diabetes Mellitus and COPD
	CO5	Explain nutrition care process to meet the nutritional needs for various diseases (Musculoskeletal, Endocrinal, hepatic pancreatic and immune system disorders)

Sub. Code: 23PCN206

Programme Code:25	M.Sc. CLINICAL NUTRITION		
Title of the paper: Core Paper 6: Clinical Biochemistry			
Batch 2023 – 2025	Hours / Week 5	Total Hours 75	Credits 5

Course Objectives

1. To understand the metabolism of various nutrients
2. To learn the techniques of function tests and relate to clinical diagnosis
3. To integrate metabolism of nutrients with diet planning

Course Outcomes (CO)

K1 To K5	CO1	Understand metabolism of nutrients and function tests
	CO2	Recall biochemical changes occurring in disorders.
	CO3	Explain clinical significance of metabolic cycles.
	CO4	Relate the function tests with metabolism.
	CO5	Associate the biochemical function with nutrition.

Sub. Code: 23PCN207

Programme Code: 25	M.Sc. CLINICAL NUTRITION		
Title of the paper: Core Paper 7: Biostatistics & Research Methods			
Batch 2023 – 2025	Hours / Week 4	Total Hours 60	Credits 4

Course Objectives

1. To understand the concepts of research process.
2. To discuss the concepts and procedures of statistical analysis.
3. To develop the skills involved in testing and its significance.

Course Outcomes (CO)

K1 To K5	CO1	Remembering about the fundamental ideas of research methodology.
	CO2	Understanding the concepts of sampling design and the collection of data.
	CO3	Applying the collection of data in Vital Statistics, Health Statistics and Hospital Statistics.
	CO4	Analyzing the measures of central tendency.
	CO5	Evaluating the testing of hypothesis using z test, ANOVA and Chi square test.

Sub. Code: 23PCN208

Programme Code: 25	M.Sc. CLINICAL NUTRITION		
Title of the paper: Core Paper 8. Nutrition in Clinical Care - II			
Batch 2023 - 2025	Hours /Week 4	Total Hours 60	Credits 5

Course Objectives

1. To acquire knowledge on the nutrition principles and their application in disease prevention and treatment.
2. To interpret and translate the scientific knowledge and principles related to nutrition into practical meal Planning in the preparation of therapeutic diets.
3. To prescribe appropriate diet plans for diverse disease conditions.

Course Outcomes (CO)

K1 To K5	CO1	Understand feeding in critically ill children and able to characterize enteral and parenteral feeding and manage feeding problems arising in nutrition support
	CO2	Apply MNT for various diseases of the lower and upper gastrointestinal problems, surgeries, renal disorders and cancer.
	CO3	Practice nutrition care process to meet the nutritional needs for various disease condition in order to deliver effective nutrition care plans
	CO4	Able to describe the nutrition principles of pediatric dietetics: assessment, dietary requirements and feed supplementation and pediatric problems.
	CO5	Apply evidence-based approach in nutrition care process for various disease conditions for effective nutrition care process

Sub Code: 23PCN30

Programme Code: 25	M.Sc. CLINICAL NUTRITION		
Title of the paper: Core Paper 9. Nutraceuticals and Drug-Nutrient Interaction			
Batch 2023 –2025	Hours /Week 4	Total Hours 60	Credits 4

Course Objectives

1. To acquire knowledge on the basic pharmacokinetic concepts of the absorption, distribution, metabolism and excretion of drugs.
2. To learn about the potential drug-nutrient interactions.
3. To understand the importance of drug-nutrient interactions and the relationship between disease and nutritional status.

Course Outcomes (CO)

K1 To K5	CO1	Understand the principles of nutraceuticals and functional foods.
	CO2	Define the basic concepts of pharmacokinetic and pharmacodynamic actions of drugs.
	CO3	Associate the food interactions with pharmacokinetic and pharmacodynamic actions.
	CO4	Relate drug nutrient interaction with special nutrition support.
	CO5	Understand the impact of pharmaceuticals on nutritional status

Sub Code: 23PCN310

Programme Code: 25	M.Sc. CLINICAL NUTRITION		
Title of the paper: Core Paper.10 Sports and Fitness Nutrition			
Batch 2023 –2025	Hours /Week 4	Total Hours 60	Credits 4

Course Objectives

1. To understand the principles of sports, exercise and fitness and nutritional requirements of competitive and recreational athletes.
2. To learn about energy balance, weight control and eating disorders in athletes.
3. To understand the importance of physical fitness in the management of common abuses.

Course Outcomes (CO)

K1 to K5	CO1	Learn the principles of wellness and fitness
	CO2	Describe oxidative stress in athletes, nutrient requirements and supplements for sports activities.
	CO3	To recognize the importance of lifestyle management in drug abuse smoking and alcoholism
	CO4	Understand weight management, energy balance and nutrition for special population
	CO5	To acquire knowledge on the importance of nutrition for high altitude and space travel.

Sub Code: 23PCN311

Programme Code:25	M.Sc. CLINICAL NUTRITON		
Title of the paper: Core Paper 11. Clinical Health Psychology			
Batch 2023 -2025	Hours /Week 4	Total Hours 60	Credits 4

Course Objectives

1. To acquire knowledge on the fundamentals of Clinical Health Psychology.
2. To understand the perspectives of health illness and behavior.
3. To acquire skills on stress management techniques and therapeutic counselling

Course Outcomes (CO)

K1 To K5	CO1	Understand the need and perspectives of health psychology and effects of bio, psycho and social factors on a person's health.
	CO2	Acquire knowledge about the influence of stress on health and the importance of coping and managing stress.
	CO3	Recognize the nature and significance of pain and its management.
	CO4	Apply the counselling skills for intervention on people with chronic and terminal illness.
	CO5	Develop Specific Competencies in Clinical Psychology.

Sub Code: 23PCN312

Programme Code: 25	M.Sc. CLINICAL NUTRITION		
Title of the paper: Core Paper12.Nutrition Research Methods			
Batch 2023 –2025	Hours /Week 4	Total Hours 60	Credits 4

Course Objectives

1. To learn about the different types of nutrition studies.
2. To understand the importance of animal and human ethics for research.
3. To integrate experiments in food analysis with food and nutrition research.

Course Outcomes (CO)

K1 to K5	CO1	Familiarize themselves with different nutritional experimental methods.
	CO2	Learn about the assay techniques.
	CO3	Know about the various assessment methods and physical fitness test.
	CO4	Know about the ethical aspects in animal and human studies.
	CO5	Techniques of protein quality evaluation and bioassay of vitamins and minerals.

Sub Code: 23PCN1CL

Programme Code: 25	M.Sc. CLINICAL NUTRITION		
Title of the paper: Core Paper1: Community Nutrition Practical			
Batch 2023 –2025	Hours /Week 5	Total Hours 73	Credits 3

Course Objectives

1. Assess the nutritional status of different age groups
2. Enrich the knowledge on low cost locally available indigenous foods
3. Plan and implement nutrition intervention programs.

Course Outcomes (CO)

K1 to K5	CO1	Conduct health assessments and develop nutrition interventions for individuals, groups and communities.
	CO2	Use effective teaching strategies for individuals, groups, or through community education programming.
	CO3	Demonstrate active participation, teamwork and contributions in group and professional settings.
	CO4	Evaluate food and nutrient intake for family and community.
	CO5	Formulate menu for different age groups based on their socio-economic levels

Sub code:23PCN2CM

Programme Code: 25	M.Sc. CLINICAL NUTRITION		
Title of the paper: Core Paper 2: Clinical Biochemistry Practical			
Batch 2023 – 2025	Hours / Week 3	Total Hours 45	Credits 3

Course Objectives

1. To acquire skills in carrying out clinical biochemical tests.
2. To learn to interpret the results obtained.
3. To understand the importance of biochemical tests in the diagnosis of diseases.

Course Outcomes (CO)

K1 to K5	CO1	Learn the qualitative analysis of normal and pathological urine
	CO2	Understand the applications of principles of the experiments
	CO3	Acquire hands-on experience on the quantitative analysis.
	CO4	Gain skills in the operation of various clinical equipment.
	CO5	Associate the biochemical parameters with nutrition.

Sub code:23PCN2CN

Programme Code: 25	M.Sc. CLINICAL NUTRITION		
Title of the paper: Core Paper 3: Nutrition in Clinical Care I Practical			
Batch 2023 – 2025	Hours / Week 4	Total Hours 60	Credits -

Course Objectives

1. To design appropriate nutrition care plans and to calculate enteral and parenteral nutrition formulations.
2. To calculate dietary requirements for different case studies.
3. To plan diets for the dietary needs of patients based on medical conditions.

Course Outcomes (CO)

K1 To K5	CO1	Apply nutrition care process for various diseases and disorders and calculate nutrition prescriptions- including macro and micro nutrients and plan menu for Routine hospital diets.
	CO2	Plan therapeutic menus based on case studies of infectious diseases
	CO3	Plan therapeutic diets for lifestyle disorders.
	CO4	Explain dietary management of metabolic disorders.
	CO5	Enact role play in nutrient counselling for selected diseases.

Sub Code:23PCN2CN

Programme Code: 25	M.Sc. CLINICAL NUTRITION		
Title of the paper: Cor Paper.3 Nutrition in Clinical Care – II Practical			
Batch 2023 –2025	Hours /Week 4	Total Hours 60	Credits 4

Course Objectives

1. To design appropriate nutrition care plans and to calculate enteral and parenteral nutrition formulations.
2. To calculate dietary requirements for different case studies.
3. To plan diets for the dietary needs of patients based on medical conditions.

Course Outcomes (CO)

K1 to K5	CO1	Apply nutrition care process for various diseases and disorders and calculate nutrition prescriptions- including macro and micro nutrients and plan menu for routine hospital diet.
	CO2	Plan therapeutic menus based on case studies of life style diseases namely obesity, hyperlipidemia, CVD, Diabetes Mellitus, COPD, Cancer and Musculo-skeletal disorders.
	CO3	Plan therapeutic diets for GI tract diseases and liver disorders.
	CO4	Explain dietary management of Genito urinary system and pediatric care.
	CO5	Enact role play in nutrient counselling for selected diseases.

Programme Code: 25	M.Sc. CLINICAL NUTRITION		
Title of the paper: Hospital Internship & Project			
Batch 2023 –2025	Hours /Week 30	Total Hours 450	Credits 8

Course Objectives

1. To enable the students to understand medical case and dietetic care notes.
2. To learn preparations and administration of special nutrition support.
3. To acquire skills on nutritional screening, assessment, and basic individual and group counseling skills.

Course Outcomes (CO)

K1 to K5	CO1	Assess the nutritional status of patients in hospitals.
	CO2	Develop nutrition counselling skills for patients using appropriate modes of approach.
	CO3	Learn Medical Nutrition Therapy for dietary management of diseases.
	CO4	Plan suitable menu based on nutrient requirement of various disease conditions.
	CO5	Participate and interact in nutrition education seminars and workshops.

Sub.Code:23PCN1E1

Programme Code: 25	M.Sc. CLINICAL NUTRITION		
Title of the paper: Major Elective 1 Medical Microbiology			
Batch 2023 – 2025	Hours / Week 5	Total Hours 75	Credits 5

Course Objectives

1. To acquire knowledge on the morphology of micro-organism.
2. To understand the pathogenicity of micro-organism.
3. To identify suitable prophylaxis and treatment for infectious diseases

Course Outcomes (CO)

K1 to K5	CO1	Identify and describe morphological and cultural characteristics of the pathogenic organisms.
	CO2	Explain the mechanism by which an infectious agent causes disease
	CO3	Recall the methods used to identify the pathogens
	CO4	Assess treatment strategies for infectious diseases
	CO5	Understand the prophylactic measures against infections.

Sub.Code:23PCN1E1

Programme Code: 25	M.Sc. CLINICAL NUTRITION		
Title of the paper: Major Elective 1 Food Microbiology			
Batch 2023 – 2025	Hours / Week 5	Total Hours 75	Credits 5

Course Objectives:

- 1.To acquire knowledge of the nature and physiology of micro-organisms in foods.
- 2.To learn about microbial contamination of foods and food borne diseases.
- 3.To understood the importance of food sanitation.

Course Outcomes (CO)

K1 to K5	CO1	Explain the interactions between microorganisms and the food spoilage.
	CO2	Understand microbial spoilage and relate it to nutrient degradation
	CO3	Describe the characteristics of food borne spoilage organisms and disease outbreaks in the community.
	CO4	Role of microbial techniques in waste management and sanitation system.
	CO5	Understand the microbial growth pattern.

Sub. Code: 23PCN2E2

Programme Code:25	M.Sc. CLINICAL NUTRITION		
Title of the paper: Major Elective-2: Food Service Management			
Batch 2023 – 2025	Hours / Week 5	Total Hours 75	Credits 5

Course Objectives

1. To acquire knowledge on the principles of food service management from market to table.
2. To learn the applications of purchasing, receiving, storage and inventory of food service institutions.
3. To learn the skills of menu planning for quantity food production.

Course Outcomes (CO)

K1 to K5	CO1	Discuss the principles of food service management
	CO2	Describe the components of food service establishment.
	CO3	Apply the principles of food microbiology for food safety, sanitation and hygiene.
	CO4	Recognize the importance of human resource management personnel in food service Establishment.
	CO5	Learn the financial aspects of a food service establishment.

Sub. Code: 23PCN2E2

Programme Code:25	M.Sc. CLINICAL NUTRITION		
Title of the paper: Major Elective-2: Health Care Management			
Batch 2023 – 2025	Hours / Week 5	Total Hours 75	Credits 5

Course Objectives

1. To acquire knowledge on the responsibilities of hospital administrators
2. To gain insight on the various aspects of health care and hospital management.
3. To identify the current issues in health care management and their remedies.

Course Outcomes (CO)

K1 to K5	CO1	Recognize the clinical services of food service system.
	CO2	Understand the management principles and the system approach in hospital food service System
	CO3	Recognize the approaches and working of the various committees in hospital administration.
	CO4	Keep abreast with the current types of dietary care in hospital setting
	CO5	Describe the characteristics of food service system in food production and health care.

Sub Code: 23PGI4N2

Programme Code: 25	M.Sc. CLINICAL NUTRITION		
Title of the paper: Non-Major Elective Paper: Information Security			
Batch 2023-2025	Hours/Week 4	Total Hours 60	Credits 4

Course Objectives

1. Students will identify the core concepts of Information security.
2. To examine the concepts of Information Security.
3. To design and implement the security features for IT and Industrial sectors.

Course Outcomes (CO)

K1 To K5	CO1	To Learn the principles and fundamentals of information security.
	CO2	To Demonstrate the knowledge of Information security concepts
	CO3	To Understand about Information Security Architecture.
	CO4	To Analyze the various streams of security in IT and Industrial sector.
	CO5	To know about Cyber Laws and Regulations.