



# FATIMA COLLEGE

(Autonomous)

*Affiliated to Madurai Kamaraj University*  
*Re-Accredited with 'A++' by NAAC (Cycle - IV)*  
Mary Land, Madurai - 625018, Tamil Nadu

## AQAR – QUALITATIVE METRIC

2023 - 2024

### Criterion 1 - Curricular Aspects

**1.1.1 Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which is reflected in Programme outcomes (POs), Programme specific outcomes (PSOs) and Course Outcomes (COs), of the Programmes offered by the Institution.**

**Name of the Programme: M.Sc., Human Nutrition and Nutraceuticals**

**Programme Code: PSNN**

### **Programme Outcomes:**

<b>PO1</b>	Scientific knowledge in the thrust areas of Foods, Nutrition and Nutraceuticals.
<b>PO2</b>	Acquisition of skills in the qualitative and quantitative analysis of blood and urine and nutrient analysis of various foods.
<b>PO3</b>	Professional competence in planning normal and therapeutic diets and counselling.
<b>PO4</b>	Social responsibility by participating in community health programs.
<b>PO5</b>	Enterprising by developing innovative value added food products.

### **Programme Specific Outcomes:**

<b>PSO 1</b>	PSO1: Advanced scientific knowledge in food, nutrition and nutraceuticals
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<b>PSO 2</b>	PSO2: Professional competence in planning therapeutic diets and counselling
<b>PSO 3</b>	PSO3: Social responsibilities by participating in community health programmes
<b>PSO 4</b>	PSO4: Enterprising – by developing innovative value added food products
<b>PSO 5</b>	PSO5: Environmental concerns – by understanding the role of microbes in human health and diseases
<b>PSO 6</b>	PSO6: Acquisition of skills in analysing food components and blood constituents
<b>PSO 7</b>	PSO7: Desire for knowing more about nutraceuticals from familiar and unfamiliar foods
<b>PSO 8</b>	PSO8: Creative thinking in choosing the appropriate research design



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## Course Outcomes:

Course Code	Course Title	Nature of the Course (Local/National/Regional/Global)	Course Description	Course Outcomes
23PG1N1	Macronutrients	Local/National / Regional/	The course provides the knowledge on classification, functions, metabolism and deficiency of macro nutrients and its interrelationship.	CO1 Explain the functions, digestion, absorption, deficiency, sources & requirements of Macronutrients and water CO2 Elaborate the energy value of foods by using different Calorimetric methods CO3 Identify the functions, digestion, absorption, deficiency, sources & requirements of Minerals CO4 Analyze the functions, digestion, absorption, deficiency, sources &



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				requirements of Vitamins CO5 Explain the knowledge on nutrient-nutrient and nutrient-drug interrelationship
23PG1N2	Advanced Dietetics	Local/National / Regional/	The course provides a comprehensive knowledge required for the prevention and treatment of various diseases.	CO1 Discuss the Nutritional screening care process, assessment intervention, monitoring and evaluation CO2 Describe the medical nutritional management of gastrointestinal diseases CO3 Plan diets for the management of pulmonary, rheumatic and physiological stress. CO4 Categorize the foods used in the treatment of weight imbalance and metabolic disorders. CO5 Explain the treatment strategies for cardiovascular, renal diseases & cancer.



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23PG1N3	Advanced Dietetics Practical	Local/National / Regional/	The practical course offers hands-on experience in the planning, preparation and calculation of nutrients for the menu planned for various stages of normal life cycle, deficiency disorders, hospital diets, sports and space nutrition.	CO1 Discuss and plan diet for weight imbalance. Plan and prepare diet for Diabetes Mellitus [IDDM and NIDDM] and Atherosclerosis with Hypertension CO2 Analyse the diet for Celiac disease, Peptic Ulcer, Lactose intolerance, Hepatitis and Cirrhosis. Recommend diet for cancer, pre and post Bariatric surgery patients and post burn condition
23PG1NE 1	Functional Foods and Nutraceuticals	Local/National / Regional/	The course contents are an eye opener to students on the terminologies, importance,	CO1 Discuss and understand the concepts of functional foods. CO2 Identify the role of prebiotics, probiotics &



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			therapeutic applications of nutraceuticals from sources through plant, animal and microbes.	synbiotics as functional ingredients
23PG1NE 3	Advanced Human Physiology	Local/National / Regional/	The course provides a detailed insight on the anatomy and functions of the various systems of the human body.	CO1 Describe the functions of blood and endocrine system CO2 Illustrate the anatomy and functions of circulatory system CO3 Analyse the mechanism of musculoskeletal and respiratory systems
23PG1NA E	Nutrition & Dietetics	Local/National / Regional/	This course offers scientific understanding of the role of nutrition in health diseases	CO1 Describe different nutrition terms and concepts of food and nutrition. CO 2 Explain the role of macro and micronutrients in human nutrition CO 3 Analyze the principles of diet therapy in the



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				management of diseases.
23PG2N4 -	Advanced Food Science	Local/National / Regional	The course provides a detailed insight on food science.	CO1 Describe the relationship between the chemical structure and the properties of the main components in food CO2 Illustrate the Composition and characteristics of various food commodities CO3 Identify the role cooking quality of foods and apply food science knowledge in food industries CO 4 Explain the proper use of food colors and food additives in safe food preparation
23PG2N5	Analytical Instrumentation	Local/National /	The course offers the understanding of the principles, instrumentation	Explain the principle and instrumentation of chromatography



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		Regional	and analytical techniques of food	Summarize the working procedure of electrophoresis Apply the principle, procedure and application of Photoelectric Colorimeters, Fluorimeters and Microbiological assays Analyze the types of Spectrophotometry its principle, procedure and application
23PG2N6	Techniques in Food analysis	Local/National / Regional	The practical course provides hands –on training in the use of hi-tech precision equipments to identify and analyze the various nutrients present in the food.	Explain the introduction of laboratory instruments summarize the standardization of solution Analyze the food experiments





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23PG2NE 5	Food Safety and Quality Control	Local/National / Regional	The course provides an outline on the standards, tools and techniques to ensure safety and integrity of foods in food preparation and processing	Outline the concept of food safety and food laws Explain the toxicants in animal and plant foods. Examine the various quality assurance systems in food industries. Determine the functions, methods and properties of packaging and its materials
23PG2NE 7	Food Microbiology	Local/National / Regional	The course outlines the role of micro-organism in food spoilage, preservation and processing.	Discuss the basic concepts of food microbiology  Identify food borne intoxications  Analyze the contamination, spoilage and food preservation of foods



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				Assess the water quality and explain water borne diseases
23PG2NS E1-	Food Preservation	Local/National / Regional		
19PG3N1 1	Functional Foods & Nutraceuticals in Preventive Dietetics	Local/National / Regional/	The course elicits the role of various bioactive components in the prevention and treatment of therapeutic conditions.	Explain the role of functional foods and nutraceuticals in oral, gut and renal health. Describe the importance of functional foods in weight management and CVD.
19PG3N1 2	Community Nutrition	National	The course imparts the knowledge on various national nutritional problems and its implications, nutrition awareness	Associate Nutrition and National development Describe the strategies to overcome malnutrition Identify the Nutrition intervention programs and organization



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			among various sections of the population.	Analyze the National nutrition policy and Nutrition surveillance system
19PG3N13	Analytical Instrumentation	Local/National / Regional/	The course offers the understanding of the principles, instrumentation and analytical techniques of food	Explain the principle and instrumentation of chromatography Summarize the working procedure of electrophoresis Apply the principle, procedure and application of Photoelectric Colorimeters, Fluorimeters and Microbiological assays Analyze the types of Spectrophotometry its principle, procedure and application Explain the different types of pH isotopes, buffers and its application
19PG3NE1	Food Product Development and Sensory Evaluation	Local/National /	This course gives in-depth knowledge on	Explain the classification, characteristics and future trends in food product



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		Regional/	the development, evaluation & marketing of food products.	development Choose the different sensory tests employed for food evaluation
19 PG3NE2	Institutional Management	Local/National / Regional/	The course will describe the concepts of organization and management approaches of food service establishment.	CO1 Outline the key areas of food service institutions. CO2 Discuss the theories and concepts of institutional management. CO3 Determine the scope and theories of personnel management.
19PG3N1 5	Techniques for Experimental Nutrition Lab	Local/National / Regional/	The practical course provides hands –on training in the use of hi-tech precision equipment to identify and analyze the various nutrients present in the food.	CO1 Explain the principles of analytical techniques  CO2 Examine the amount of free fatty acid and peroxide values in fats and oil CO3 Choose the method of analyzing amount of antioxidant present in foods



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19PG4N1 6	Food Microbiology	Local/National / Regional/	The course outlines the role of micro-organism in food spoilage, preservation and processing.	CO1 Discuss the basic concepts of food microbiology
19PG4N1 7	Nutritional Biochemistry	Local/National / Regional/	The course provides understanding on the structure, metabolism and energetic of macro and micro nutrients and the integration of metabolic systems.	CO1 Describe the structure of carbohydrates CO2 Discuss protein metabolism CO3 Compare the structure and metabolism of RNA & DNA
19PG4N1 8	Advanced Food Science and Processing Techniques	Local/National / Regional/	The course offers the understanding of processing techniques involved to transform raw ingredients into processed food products for human consumption.	CO1 Identify the methods of harvesting & storage of vegetables and fruits CO2 Analyze the processing methods of milk & egg products CO3 Assess the processing & preservation methods of fleshy foods



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19PG4NE3	Food Safety and Quality Control	Local/National / Regional	<p>To enable students</p> <p>Develop approaches to identify food safety hazards in food processing</p> <p>Apply preventive measures and control methods to minimize microbiological hazards and maintain quality of foods.</p> <p>Identify the wide</p>	<p>CO1 Define the concept of food safety and food laws.</p> <p>CO2 Plan the various quality assurance systems in food industries.</p> <p>CO3 Explain the toxicants in animal and plant foods.</p>



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			variety of parameters affecting food quality.  Develop quality control strategies	
19PG4NE4	Nutrition in Critical Care and Disasters	Local/National / Regional/	The course offers comprehensive knowledge on the assessment and management of nutritional support systems for critically ill.	CO1 Explain nutritional screening, assessment and support system for critically ill CO2Plan special nutrition therapy in critical illness - stress, burns, cardiovascular and kidney CO3Examine the special nutrition therapy in gastrointestinal tract surgery and hepatic transplant
19PG4N19	Food Microbiology Lab	Local/National / Regional/	The course gives the clear idea of assessing the microbes present in foods causing spoilage	CO1 Describe the microbiological laboratory techniques CO2 Select the optimum sterilization and disinfection



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				techniques CO3 Analyse the preparation and storage of culture media
19PG4N20	Nutrient Analysis Lab	Local/National / Regional/	The practical course provides hands –on training in the use of hi-tech precision equipments to identify and analyze the various nutrients present in the food.	CO4 Estimate the calories and moisture content present in foods. CO5 Explain the estimation of acidity and protein content in foods. CO6 Calculate the amount of fat present in Nuts and oilseeds.