

ALAGAPPA UNIVERSITY, KARAIKUDI
DEPARTMENT OF NUTRITION AND DIETETICS

About the Department:

The Department of Nutrition and Dietetics was established in the year 2023. The Department offers a two-year M.Sc., Degree Programme in Nutrition and Dietetics from the Academic year 2023 - 2024. Our work focuses towards nurturing the students in solving the nutritional issues and setbacks faced by the community to forge a society with fitness and finesse. The postgraduate programme in Nutrition and Dietetics includes the complete study of basic components of foods; their nutrients chemistry and metabolism; technology involved in food processing and preservation; food safety; functional food, meal planning, quantity food production and therapeutic dietary modifications with a focus on human health and well-being. Since its inception, the department has directed its activities towards development of the community to shape the prospective academicians, administrators, researchers, entrepreneurs and health conscious citizens.

VALUE ADDED COURSE - I

Offers value added courses on

FOOD PRODUCT DEVELOPMENT

Course Code: 555VAC01

Session: October to November 2023

Duration: 20 Hrs



Summary of the content:

- **Food and Food service system**
- **Human Nutrition across the life span**
- **Inter professional Collaboration management**
- **Population food system and Food Security**
- **Professional Practice in dietetics**

Objectives:

- **To Know the principles of new product design**
- **To gain the knowledge of food science, food processing and nutrition in the development of a new product.**
- **To understand marketing and safety issues to Food Product Development**
- **To acquire statistical knowledge in relation to development of a new product**



COURSE CO-ORDINATOR:

Dr.P. Rameshthangam

Associate Professor & Head i/c
Department of Nutrition and Dietetics
Alagappa University, Karaikudi.

Outcome:

After successfully completing the course, students will be able to:

- **Apply the appropriate processing technology to create a new product.**
- **Explain the role of marketing efforts in the product development process**
- **Apply knowledge of statistics in relation to development of a new product**
- **Incorporate the input of different disciplines in product design.**

VALUE ADDED COURSE - I

SUMMARY OF THE COURSE:

This course will allow the student to gain an understanding of the product development procedure as it relates to the food industry. Emphasis will be on application of basic knowledge of foods and food processing in designing a new product.

The course should provide some insight into the development of food products within a food processing company while giving students a chance to see one way to apply what they have learned in their program. In addition to the technical aspects of prototype development, students will learn the relevant aspects of supply chain management, marketing and business plan development.

Food Product Development course is required for all students in the Food Science, Nutrition and dietetics as well as students in the Nutritional Sciences. Nutrition and dietetics students in other options who have a desire to learn about developing new products and students from other programs with the necessary background are also welcome to take the course.

SYLLABUS:

SEMESTER I				
Course code : 555VAC01	Title of the Course	Food Product Development	T	Hours : 20
Unit - I				
Objective 1	To gain the knowledge of food processing and nutrition in the development of a new product.			
Food : Physical properties and chemical composition of food, Food preservation, storage and packaging, The role of ingredients and their interaction in food preparation, Application of dietary requirements, guidelines, and guidance tools to food planning, Food modification to address therapeutic, textural or other needs, Sensory evaluation of food, Food labelling.				
Outcome 1	Develop a prototype, including properly labelled package, for a new food product.			K3
Unit - II				
Objective 2	To Know the principles of new product design			
Food Service Systems : Recipe development, standardization and evaluation, Quantity food production and distribution, Cost control, Human resource, financial, technical and equipment needs, Hazard Analysis and Critical Control Points (HACCP).				
Outcome 2	Apply the appropriate processing technology to create a new product.			K3
Unit - III				
Objective 3	To understand marketing and safety issues to Food Product Development			
Human Nutrition across the Lifespan: Nutrition recommendations and guidelines, Effect of deficiencies and toxicities of nutrients, Food sources of nutrients and dietary supplements, Role of nutrients and other food components in health. Microbes in food safety.				

Outcome 3	Create a plan to deal with quality and safety issues.	K3
Unit - IV		
Objective 4	To gain the knowledge of Inter professional Collaboration Management	
Inter professional Collaboration Management: Team Functioning, Collaborative leadership, Financial management, Strategic and operational planning including needs assessment, goal setting and outcome assessment, Organizational behaviour and development, Project management, Marketing. Food consumption patterns and trends.		
Outcome 4	Understand how to function as a team and Develop collaborative leadership	K2
Unit - V		
Objective 5	To acquire knowledge on professional practice in dietetics.	
Professional Practice in Dietetics: Ethical conduct, Decision making, Time and workload management, Technological applications used in practice.		
Outcome 5	Apply the knowledge of dietetics to develop new product	K3
Suggested Readings:		
<p>Ken Prusa & Kate Gilbert, 2021. Food Product Development Lab Manual. Iowa State University</p> <p>Beckley, J.H. 2007. Accelerating new food product design and development. Blackwell Pub.</p> <p>Carpenter, R.P., Lyon, D.H. and Hadsell, T.A. 2000. Guidelines for sensory analysis in food product development and quality control. Aspen Pub. Gaithersburg, MD. Sci. and Tech TP 372.5G85 2000.</p> <p>Cooper, R.G. 1993. Winning at new products: accelerating the process from idea to launch. Addison-Wesley, Reading Mass. Management Library. HF 5415.153 C65.</p> <p>Moskowitz, H.R. Beckley, J.H and Resurreccion, A.V.A. 2012 Sensory and consumer research in Food Product Design and Development. Blackwell Publishing TX546.M68 2012 (e resource)</p> <p>Moskowitz, H.R. ,Saguy, I.S. and Straus, T. 2009. An integrated approach to new food product development. Boca Raton: CRC press (e resource).</p> <p>Saarela, M. 2011. Functional Food: concept to product. Woodhead Pub. Sci and Tech Library RM 216F9452011 Side, C. 2002. Food product development based on experience. IFT Symposium Series. Iowa State</p> <p>Smith, J. 2010. Functional food product development. Wiley Blackwell. Dafoe QP 144 F85 F853 2010</p>		
Web Resources:		
<p>https://www.slideshare.net/UxmanAli/food-product-development-177907870</p> <p>https://cordis.europa.eu/project/id/RM239</p> <p>https://www.slideshare.net/lynettealcaide/the-food-service-system</p> <p>https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9902887/</p> <p>http://www.emro.who.int/emhj/1006/10_6_2004_716_730.pdf</p> <p>https://www.gradcollege.iastate.edu/academics/programs/apresults.php?id=140</p>		