Department of Liberal Education
Era University, Lucknow
Course Outline
Effective From: 2023-24

Name of the Program	B.A. / B.Sc. (LIBERAL EDUCATION)			Year/ Semester:		3rd / 6th
Course Name	Food Product Development	Course Code:	NH305	Type:		Theory
Credits	04			Total Sessions Hours:		45 Hours
Evaluation Spread	Internal Continuous Assessment:		40 Marks	End Term Exam:		35 Marks
Type of Course	○ Compulsory		⊙ Core		○ Creative	○ Life Skill
Course Objectives	1. To provide students with a firm understanding of Food Product Development, Specifically: 2. The course is intended to familiarize students with the product implementation stage of food product development including preliminary product description, prototype development, product testing and the formal presentation of a new product development. 3. Students will learn the importance of teamwork, product specification, food formulation, food ingredient technology, ingredient interaction and how to conduct and terminate a project in an orderly manner.					

Course Outcomes(CO): *After the successful course completion, learners will develop following attributes:*

Course Outcome (CO)	Attributes
CO1	Design a food product through the application of knowledge of food ingredients and functional foods;
CO2	As part of a team, create and evaluate a product using the development process;
CO3	Design and apply packaging for food products;
CO4	Evaluate product quality and sensory properties.
Pedagogy	Interactive, discussion-bases, student-centered, presentation.
Internal Evaluation Mode	Mid-term Examination: 20 Marks Class test: 05 Marks Online Test/Objective Test: 05 Marks Assignments/Presentation: 05 Marks Attendance: 05 Marks

Session Details	Topic	Hours	Mapped CO
Unit 1	**Introduction to Food Product Development:** New Product Development, Stages in Product Development, Methodology Adopted for product Development, New Product Launch **Food Processing:** Primary Processing, Secondary Processing, Tertiary Processing, Need for Food Processing, Emerging Trends &Constraints in Processing sector, Limiting Factors in processing industry in India.	15	CO1

Unit 2	**Food Additives &Preservatives:** E number, Acidulents, Acidity Regulators, Anticaking Agents, Antifoaming &Foaming Agents, Antioxidants, Food Coloring, Artificial Coloring, Emulsifiers, Flavors, Glazing Agents, Humectants, Stabilizers, Thickners. **Standardization of Recipes:** Benefits of Standardized Recipes, Recipe Writing Styles, Phases of Recipe Standardization.	10	CO2, CO4
Unit 3	**Food Packaging, Graphics and Labelling:** Levels of Package, Functions of Packaging, Package Interactions, Selection Criteria for Packages, Types of Packaging Materials, Selection Criteria of Packaging Material for the Raw &Processed Foods, Packaging Graphics, Labeling & Lamination. **Transportation of Food Products:** Modes of Transport, Kinds of Transport, Evolution of Transportation, Food Transportation & Safety.	10	CO3
Unit 4	**Setting a Price for the Product:** Product Cost, Step by Step Approach to Costing &Pricing of a Product. **Advertising &Marketing:** Basic Techniques in Advertising, Persuasive Techniques, Tricks for Advertising, Food Advertising Regulation, Marketing, Success of Food Marketing, Consideration with Marketing. **Food Laws:** FSSA, Key Regulations of FSSA, Food Standards, AGMARK	10	CO4

CO-PO and PSO Mapping

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1							3		3	1				
CO2						2		2		1	2			
CO3				2			2	1				3		2
CO4	1		2									2		2

Strongcontribution-3, Averagecontribution-2, Lowcontribution-1,

Suggested Readings:

Text- Books	**Note: A reading material will be provided by the faculty member well in time.** 1. Fuller, Gordon W. 2004. New Product Development- From Concept to Marketplace, CRC Press. 2. Graf, E. and Saguy I.S. (1991). Food Product Development : From concept to the Market Place, New York: Van Nostrand Reinhold.
Reference Books	1. Anil Kumar, S., Poornima, S.C., Abraham, M.K.& Jayashree, K.2004. Entrepreneurship Development. New Age International Publishers. 2. Moskowitz, Howard and Saguy ,R. I. Sam 2009. An Integrated Approach to New Food Product , CRC Press. 3. Man, C.M. D. and James, A.A. (1994). Shelf life Evaluation of Foods. Blackie Academic and Professional, London: 4. Olickle, J. K. (1990). New Product Development and value added. Food Development Division, Canada: Agriculture.
Para Text	**Unit 1:** https://www.youtube.com/watch?v=ot24j0VXJ3c https://www.youtube.com/watch?v=zgOh_qgOQ_M **Unit 2:** https://www.youtube.com/watch?v=9dhjmfdBQh8 https://www.youtube.com/watch?v=H9FYKv01JVM **Unit 3:** https://www.youtube.com/watch?v=9oPg2g7TF1U https://www.youtube.com/watch?v=vCkZdWx79TE **Unit4:** https://www.youtube.com/watch?v=PdWP-66mPHw https://www.youtube.com/watch?v=dGi_E6E2nrA

Recapitulation & Examination Pattern		
Internal Continuous Assessment:		
Component	**Marks**	**Pattern**
Mid Semester	20	**Section A:** Contains **10** MCQs/Fill in the blanks/One Word Answer/ True-False type of questions. Each question carries **0.5 marks.** **Section B:** Contains **07** descriptive questions out of which **05** questions are to be attempted. Each question carries **03 marks**.
Class Test	05	Contains **05 descriptive questions.** Each question carries **01** mark.
Online Test/ Objective Test	05	Contains **10 multiple choice questions.** Each question carries **0.5** marks.
Assignment/ Presentation	05	Assignment to be made on topics and instruction given by subject teacher.
Attendance	05	As per policy.
Total Marks	**40**	

Course created by:　　Dr. Shazia Fatima 　　　　　　　　　　　Dr. Pooja Verma Signature:	Approved by: Prof. Afrozul Haq Signature:　　*Ahq*