

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

<b>Name of the Program</b>	<b>B.A. / B.Sc. (LIBERAL EDUCATION)</b>			<b>Year/ Semester:</b>	<b>3<sup>rd</sup> / 5<sup>th</sup></b>
<b>Course Name</b>	<b>Life Span Nutrition</b>	<b>Course Code:</b>	<b>NH301</b>	<b>Type:</b>	<b>Theory</b>
<b>Credits</b>	<b>04</b>			<b>Total Sessions Hours:</b>	<b>45 Hours</b>
<b>Evaluation Spread</b>	<b>Internal Continuous Assessment:</b>	<b>40 Marks</b>		<b>End Term Exam:</b>	<b>35 Marks</b>
<b>Type of Course</b>	<input type="radio"/> Compulsory	<input checked="" type="radio"/> Core	<input type="radio"/> Creative	<input type="radio"/> Life Skill	
<b>Course Objectives</b>	1. To provide students with a firm understanding of Nutrition throughout the Lifespan. 2. To enable the students to know physiological changes and nutritional requirements during various stages of life cycle.				
<b>Course Outcomes(CO):</b> <i>After the successful course completion, learners will develop following attributes:</i>					
<b>Course Outcome (CO)</b>	<b>Attributes</b>				
<b>CO1</b>	Will be able to understand the physiological basis for nutritional needs of normal, healthy humans as they move through life cycle stages.				
<b>CO2</b>	Design food plans to meet the needs of humans at various life cycle stages.				
<b>CO3</b>	Identifying and managing health issues throughout the life span.				
<b>CO4</b>	Provide nutrition counseling and education to individuals, groups, and communities throughout the lifespan using a variety of communication strategies.				
<b>Pedagogy</b>	Interactive, discussion-bases, student-centered, presentation.				
<b>Internal Evaluation Mode</b>	Mid-term Examination: 20 Marks Class test: 05 Marks Online Test/Objective Test: 05 Marks Assignments/Presentation: 05 Marks Attendance: 05 Marks				
<b>Session Details</b>	<b>Topic</b>			<b>Hours</b>	<b>Mapped CO</b>
<b>Unit 1</b>	<b>Nutrition in pregnancy</b> - Physical, physiological and hormonal changes during pregnancy; Nutritional requirements and dietary modifications; Complications of pregnancy and their nutritional management.			15	CO1
<b>Unit 2</b>	<b>Nutrition in lactation</b> - Physiology of lactation, impact of nutrition on efficiency and milk production, food and nutrient requirements during lactation; Problems of breast feeding; Nutritional components of colostrum and breast milk – foremilk, hind milk, Lactogogues.  <b>Nutrition during Infancy</b> - Nutritional requirements for Infants,			15	CO2, CO4

	Breast feeding, Advantages of breastfeeding, Breast-feeding vs. formula feedings; Infant formula, Disadvantages of bottle feeding, Introduction to Weaning foods, Introduction to Supplementary foods.		
<b>Unit 3</b>	<b>Preschool age:</b> growth and development – Physical and mental, prevalence of malnutrition in preschool years and food habits, nutritional requirements during preschool year and supplementary foods. <b>School age:</b> growth and development, nutritional requirements of school age children, specific problems in feeding school children.	15	CO3
<b>Unit 4</b>	Adolescence: physical and physiological changes, nutritional requirements of adolescents, Food preferences and nutritional problems. Elderly: physical and physiological changes, nutritional requirement, problems of old age, nutrients influencing aging process.	15	CO4

**CO-PO and PSO Mapping**

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

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

**Suggested Readings:**

<b>Text- Books</b>	<b>Note: A reading material will be provided by the faculty member well in time.</b> 1. Anderson L, Dibble MV, Turkki PR, Mitchell HS & Rynbergen HJ. 1982. Nutrition in Health and Disease. JB Lippincott Co. Beal VA. 1980. Nutrition in the Life Span. John Wiley & Sons. 2. Krause MV & Mahan LK. 1990. Food, Nutrition and Diet Therapy. WB Saunders.
<b>Reference Books</b>	1. Falkner F & Tanner JM. 1978. Human Growth. Vols. I-III. Plenum Press. 2. FAO/WHO/UNU. 1985. Energy and Protein Requirement. Tech. Report 724. WHO. 3. Ghosh S. 1988. The Feeding and Care of Infant and Young Children. Voluntary Health Association of India, New Delhi. 4. Khetarpaul N, Katyal Sudha K & Grover I. 2001 Infant Health and Nutrition. Agro Tech. Publ. Academy.
<b>Para Text</b>	<b>Unit 1:</b> <a href="https://www.youtube.com/watch?v=t0RpevhamPE">https://www.youtube.com/watch?v=t0RpevhamPE</a> <b>Unit 2:</b> <a href="https://www.youtube.com/watch?v=-g2_j-N6Ic8">https://www.youtube.com/watch?v=-g2_j-N6Ic8</a> <b>Unit 3:</b> <a href="https://www.youtube.com/watch?v=U4FMn4BhRt4">https://www.youtube.com/watch?v=U4FMn4BhRt4</a> <b>Unit4:</b> <a href="https://www.youtube.com/watch?v=U4FMn4BhRt4">https://www.youtube.com/watch?v=U4FMn4BhRt4</a>

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

<b>Course created by:</b>	<b>Dr. Shazia Fatima Dr. Pooja Verma</b>
<b>Signature:</b>	

<b>Approved by: Prof. Afrozul Haq</b>
<b>Signature:</b> 