



**University of Kerala**

Discipline	<b>ZOOLOGY</b>				
Course Code	<b>UK3VACZOO201</b>				
Course Title	<b>Nutrition, Health and Wellness</b>				
Type of Course	<b>VAC</b>				
Semester	III				
Academic Level	200-299				
Course Details	Credit	Lecture per week	Tutorial per week	Practical per week	Total Hours/Week
	3	2 hours	-	2 hours	4
Pre-requisites	Pass in class XII				
Course Summary	This course provides a comprehensive understanding of nutrition and wellness, nutritional requirements for healthy life, importance of dietary fibre and water in diet and malnutrition. Students recollects food adulterants and common food preservatives used in food products and thereby emphasis the value of healthy food for a healthy society. Students will gain knowledge about health benefits through regular exercise, stress management and relaxation techniques that enable them to lead a healthy life.				

**Detailed Syllabus**

Module	Unit	Content	30 hrs
<b>I</b>	<b>Introduction to Nutrition</b>		<b>6</b>
	1.1	Definition and classification of nutrition-macronutrients (carbohydrate, protein, lipid and fat) and micronutrients (minerals and vitamins); its source and functions. Vitamin deficiency disorders (Brief account).	2
	1.2	Importance of dietary fibre and water in diet.	2
	1.3	Malnutrition – overnutrition (obesity and its types) and undernutrition (Kwashiorkor, Marasmus).	2
<b>II</b>	<b>Nutritional requirements</b>		<b>6</b>
	2.1	Nutritional requirements during pregnancy, lactation, infant growth,	3

		childhood, adolescence and adulthood.	
	2.2	Balanced diet and its importance in health management.	3
<b>III</b>	<b>Health and wellness</b>		<b>8</b>
	3.1	Concept of health and wellness, dimension and determinants.	2
	3.2	Health benefits of regular physical activity.	2
	3.3	Type of exercise – aerobic and anaerobic (Brief account).	2
	3.4	Mind and body connection in health – concept and relation, Stress management and relaxation techniques-deep breathing, Progressive Muscle Relaxation (PMR), Yoga and meditation (Brief account only).	2
<b>IV</b>	<b>Healthy diet for Wellbeing</b>		<b>5</b>
	4.1	Food adulteration- Mention any two examples.	1
	4.2	Common food preservatives – Mention any four examples.	1
	4.3	Diet to prevent obesity, hypertension, cardiovascular diseases, diabetes and cancer.	2
	4.4	Fast-food culture and its health implications.	1
<b>V</b>	<b>Lifestyle diseases</b>		<b>5</b>
	5.1	Hypokinetic diseases (brief account only).	2
	5.2	Stress management and relaxation techniques-deep breathing, progressive muscle relaxation (PMR), meditation and Yoga .	3

### References

1. Ghosh S. (1981). The feeding care of infants and young children, UNICEF, New Delhi.
2. Gibney M.J (2013) Public Health Nutrition, Blackwell publishing, The Nutrition Society Textbook Series.
3. Gopalan C. Ramasastri B.S. & Balasubramanian S. C. (1971) Nutritive value of Indian foods. National Institute of Nutrition, Hyderabad.
4. Guyton, A.C and Hall, J.E. Text Book of Medical Physiology.
5. Manay, M.s. and Shadaksharaswamy, M. (1998). Food – Facts and Principles, New age international (P) Ltd.
6. Mudambi, S. R (1995). Fundamentals of Food and Nutrition. New age international, New Delhi.
7. Swaminathan, M. (1989). Hand book of food and nutrition. Bappco, Bangalore.
8. The complete manual of Fitness and Well-being (1988) The Reader's digest Association, Inc. Pleasantville, New York /Montreal.
9. Wong, K.V (2017) Nutrition, Health and Disease.

### Web resources

1. <https://www.frost-flow.org>
2. <https://www.wholisticmatters.com>
3. <https://www.nin.res.in>
4. <https://www.res.in>
5. <https://www.nia.nih.gov>

### **Practicum (30 hrs)**

<b>Sl. No</b>	<b>Contents</b>
1	Measure the BMI of different categories
2	Analysis and interpretation of nutritional information on food labels
3	Methylene Blue Reductase (MBR) test for milk quality checking
4	Testing adulteration of common food items (Any five)
5	Identification and comment on any four nutritional disorders
6	Performing of Yoga and relaxation exercise and it's recording

### **Course Outcomes**

<b>No.</b>	<b>Upon completion of the course the graduate will be able to</b>	<b>Cognitive Level</b>	<b>PSO addressed</b>
CO1	Understand about nutrition, wellness and nutritional requirements for healthy life and importance of dietary fibre and water in diet.	U, R	PSO-1,3
CO2	Remember the nutritional disorders and their symptoms.	R, U	PSO-1,3
CO3	Create an insight into the basic knowledge of food preservation and Adulteration.	U, An	PSO-1,2
CO4	Understand the importance of diet to prevent obesity, hypertension, cardiovascular diseases, diabetes and cancer. Analyse fast-food culture and its health implications.	U, An, E	PSO-1,2
CO5	Analyse the importance of exercise and yoga in daily life and its value in daily routine to lead a healthy life.	An, Ap	PSO-5,6,7

**R-Remember, U-Understand, Ap-Apply, An-Analyse, E-Evaluate, C-Create**

**Name of the Course: Nutrition, Health and Wellness**  
**Credits: 2:0:1 (Lecture: Tutorial: Practical)**

<b>CO No.</b>	<b>CO</b>	<b>PO/PSO</b>	<b>Cognitive Level</b>	<b>Knowledge Category</b>	<b>Lecture (L)/Tutorial (T)</b>	<b>Practical (P)</b>
1	Understand nutrition, wellness and nutritional requirements for healthy life importance of dietary fibre and water in diet.	PO - 1 PSO-1,3	U, R	F,	L	P
2	Remember the nutritional disorders and their symptoms.	PO - 1 PSO-1,3	R, U	F	L	P
3	Create an insight into the basic knowledge of food preservation and adulteration.	PO -1,2,3 PSO-1,2	U, An	F, P	L	P
4	Understand the importance of diet to prevent obesity, hypertension, cardiovascular diseases, diabetes and cancer. Analyse fast-food culture and its health implications.	PO -1,2,3 PSO-1,2	U, An, E	F, C	L	P
5	Analyse the importance of exercise and yoga in daily life and its value in daily routine to lead a healthy life.	PO-2,6,8 PSO-5,6,7	An, Ap	P	L	P

**F-Factual, C- Conceptual, P-Procedural, M-Metacognitive**

### Mapping of COs with PSOs and POs

	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6	PSO 7	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8
CO 1	1	-	2	-	-	-	-	1	-	-	-	-	-	-	-
CO 2	1	-	2	-	-	-	-	1	-	-	-	-	-	-	-
CO 3	1	2	-	-	-	-	-	1	2	3	-	-	-	-	-
CO 4	1	2	-	-	-	-	-	1	2	3	-	-	-	-	-
CO 5	-	1	-	-	1	2	3	-	1	-	-	-	2	-	3

#### Correlation Levels:

Level	Correlation
-	Nil
1	Slightly / Low
2	Moderate / Medium
3	Substantial / High

#### Assessment Rubrics:

##### Assignment /Seminar topics

1. Fast-food culture in Kerala
2. Common adulterants
3. Lifestyle diseases
4. Importance of physical activities
5. Listing healthy foods
6. Computer aided diet analysis and nutrition counselling for different age groups
7. Vitamin deficiency diseases

**Continuous Comprehensive Assessment**

1. Quiz
2. Assignment
3. Monitoring of yoga and exercise
4. Group discussion
5. Internal exam

**End Semester assessment**

1. Multiple choice questions
2. Very short answer questions
3. Short answer questions
4. Practical examination

**Mapping of COs to Assessment:**

	Internal Exam	Assignment/Quiz	Project Evaluation	End Semester Examinations
CO 1	✓	✓		✓
CO 2	✓	✓		✓
CO 3	✓	✓		✓
CO 4	✓	✓		✓
CO 5		✓		✓