

<b>Course Code</b>	<b>Title of the Course (Open Elective)</b>	<b>Credits</b>
<b>BCC630</b>	<b>NUTRITION AND HEALTH</b>	<b>4</b>

**COURSE OUTCOME(S):**

- CO1 Identify the details of basic concepts of nutrition  
CO2 Learn in details with application, if applicable, nutrients  
CO3 Deliberate in details with application, if applicable, nutrition associated problems  
CO4 Write down in depth social health problems

		<b>No. of Lectures</b>
<b>Unit I:</b>		<b>10</b>
<b>1.1</b>	<b>Basic Concepts in Nutrition</b>	
1.1.1	Understanding relationship between food, nutrition, health and food pyramid.	
1.1.2	Functions of food: Physiological, psychological and social Basic food groups and concept of balanced diet	
1.1.3	Energy: Functions, sources and concept of energy balance.	
1.1.4	Nutritional requirements: Physiological considerations and nutritional concerns for the following life stages: Adult man / woman Preschool children Adolescent children Pregnant woman, Nursing woman and infant Geriatrics	

<b>Unit II:</b>		<b>14</b>
<b>2.1</b>	<b>Nutrients</b>	
2.1.1	Functions, Recommended Dietary Allowances, dietary sources, effects of deficiency and/ or excess consumption on health of the following nutrients: Carbohydrates and dietary fibre Lipids Proteins Fat soluble vitamins: A, D, E and K Water soluble vitamins: Thiamin, Riboflavin, Niacin, Pyridoxine, Folate, Vitamin B12 and Vitamin C Minerals: Calcium, Iron, Zinc and Iodine	
2.1.2	Gut Microbiome	

<b>Unit III:</b>		
<b>3.1</b>	<b>Nutritional problems, their implications and related nutrition programmes</b>	
3.1.1	Etiology, prevalence, clinical features and preventive strategies of <u>Undernutrition:</u> Protein energy malnutrition, nutritional anemia's, vitamin A deficiency and iodine deficiency disorders <u>Overnutrition:</u> Obesity, Coronary Heart Disease and Diabetes	<b>14</b>
3.1.2	<u>National Nutrition Policy and Programmes:</u> Integrated Child Development Services (ICDS) Scheme Mid day Meal Programme (MDMP) National programmes for prevention of Anemia Vitamin A deficiency and Iodine Deficiency Disorders	

<b>Unit IV:</b>		
<b>4.1</b>	<b>Social health problems</b>	
4.1.1	Smoking Alcoholism AIDS including AIDS Control Programme	<b>10</b>
4.1.2	<u>Nutrition for special conditions:</u> Nutrition for physical fitness and sport, BMI Feeding problems in children with special needs Considerations during natural and man-made disasters e.g. floods, war. Basic guidelines in disaster management	

## References

- [1] Text Book of Biochemistry with Clinical correlations; Thomas Devlin [Ed.] (1997), Wiley –Liss.
- [2] Harper's Review of Biochemistry, Murray et. al., (1997) 24th Edn., Lange
- [3] Bryan Derrickson, Gerard J Tortora Principles of Anatomy and Physiology , twelfth Ed, 2011, Wiley & Sons Limited.
- [4] Bamji MS, Krishnaswamy K and Brahmam GNV (Eds) (2009). Textbook of Human Nutrition, 3rd edition. Oxford and IBH Publishing Co. Pvt. Ltd. New Delhi.
- [5] Mudambi, SR and Rajagopal, MV. Fundamentals of Foods, Nutrition and Diet Therapy; 2012; New Age International Publishers
- [6] Wardlaw GM, Hampl JS. Perspectives in Nutrition; Seventh Ed; 2007; McGraw Hill.
- [7] Swaminathan M. Handbook of Foods and Nutrition; Fifth Ed; 1986; BAPPCO.
- [8] Suri S. and Malhotra A. Food Science, Nutrition & Food Safety Pearson India Ltd. 2014.
- [9] Edelstein S, Sharlin J (ed). Life Cycle Nutrition- An Evidence Based Approach; 2009; Jones and Barlett Publishers.
- [10] ICMR (1989) Nutritive Value of Indian Foods. National Institute of Nutrition, Indian Council of Medical Research, Hyderabad.
- [11] ICMR (2011) Dietary Guidelines for Indians – A Manual. National Institute of Nutrition, Indian Council of Medical Research, Hyderabad
- [12] World Health Organization (2006). WHO Child Growth Standards: Methods and development: Length/height-for-age, weight-for-age, weight-for-length, weight-for-height and body mass index-for-age (d).
- [13] Lakra P, Singh MD. Textbook of Nutrition and Health; First Ed; 2008; Academic 14 Excellence