(Applicable to the batch of students admitted in the academic year 2025-26 onwards)

B.Sc. Clinical Nutrition & Dietetics (CBCS) FACULTY OF SCIENCE, SU

B.Sc. (CLINICAL NUTRITION & DIETETICS)
Syllabus (CBCS)
(w.e.f. 2025-2026)

FACULTY OF SCIENCE
SATAVAHANA UNIVERSITY
KARIMNAGAR – 505002

2025

OSMANIA UNIVERSITY

Proposed CBCS Structure from 2025-26 for UG Courses asper TGCHE guidelines

B.Sc. Clinical Nutrition and Dietetics-Template

Courses		Papers	Total Credits	Credits for each paper / semester					
				I	II	III	IV	V	VI
Core Courses DSC	Major - 1	6	30	5	5	5	5	5	5
	Major -2	6	30	5	5	5	5	5	5
	Minor- 1	4	20	5	5	5	5	*	*
MIL / AEC (First Language)	English	5	20	5	5	5	5	-	-
Second Language (Telugu, Hindi, Urdu , etc)		5	20	5	5	5	5	-	-
Multi-Disciplinary Course	MDC 1			-	-	-	-	4	-
SEC 1,2		2	4	-	-	-	-	2	2
SEC 3,4		2	4	-	-	-	-	2	2
Value Added Course (VAC)	VAC 1,2	2	6	-	-	-	-	3	3
Internships	Internships / Project	1	4	-	-	-	-	-	4
Total credits in each semester			142	25	25	25	25	21	21
Total credits in UG				142					
Credits under Non-CGPA (Community engagement and service)	NSS / NCC / sports / Extra curricular			Upto 6 (2 in each year)					
	IKS	4		Upto 4 (2 in each, after I & II years)					

** In Semester V and VI, 3 optional papers will be proposed. Students can choose any only.

B.Sc. Clinical Nutrition and Dietetics

I Year: Semester I and II

SEMESTER I		
Course Type	**Course Title**	**Credits**
Core Courses DSC	**Basic Nutrition (Optional I)**	**4+1=5**
	Optional II	4+1=5
	Optional III	4+1=5
MIL/AEC (First Language)	English	5
Second Language (Telugu, Hindi, Urdu etc)	Second Language	5
	TOTAL	**25**
SEMESTER II		
Core Courses DSC	**Nutritional Biochemistry (Optional I)**	**4+1=5**
	Optional II	4+1=5
	Optional III	4+1=5
MIL/AEC (First Language)	English	5
Second Language (Telugu, Hindi, Urdu etc)	Second Language	5
	TOTAL	**25**

****Among Optional I, II and III any two will be Major and one will be Minor on choice of the students**

B.Sc. I Year

SEMESTER I (Theory) Paper DSC - 1A

Code BS 103 BASIC NUTRITION **4 Hours/Week. Credits 4**

15 Hours

Credit – 1: Introduction to Nutrition

1.1. Introduction to nutrition. Food as a source of nutrients. Functions of food.
Definition of nutrition. Nutrients, adequate, optimum and good nutrition. Malnutrition. Interrelationship between nutrition and health.
1.2. Introduction to meal management, Balanced diet, Food guide for India. Basic 5 food groups. Basic principles and steps in meal planning.

Credit-2: Energy

2.1. Energy, Units of energy, components of energy requirement, BMR, Measurement of energy, Factors affecting BMR
2.2. Energy requirements of adults. Reference man and woman.

Credit-3: Nutrition in Pregnancy, Infancy and Lactation

3.1. Nutrition in pregnancy, Physiological stages of pregnancy, Nutritional requirements. Complications of pregnancy.

3.2. Nutrition during infancy. Nutritional requirements, Nutritional contribution of Human milk vs cow's milk/Infant formula. Introduction of supplementary foods. Nutritional requirements during lactation.

Credit-4. Childhood, School Age, Adolescence and Geriatric Nutrition.

4.1. Nutrition during Early childhood: Nutritional requirements of a Toddler, Preschool child. And School Children. Importance of snacks. School lunch.

4.2 Nutrition during adolescence. Nutritional requirements of adolescents. Factors influencing eating habits.

4.3. Geriatric Nutrition: Factors influencing food intake, Nutritional requirements.

Suggested readings

Agarwal, A and Udipi S, A textbook of Human Nutrition. Jaypee Brothers Medical Publishers (P) Ltd, New Delhi.

Helen A. Guthrie. Introductory Nutrition. Times Mirror-Mosby.

Swaminathan M. Advanced textbook on Food and Nutrition. Vol-1. The Bangalore Printing & Publishing Co.Ltd.

Wardlaw, G M & Insel P M. Perspectives in Nutrition. Mosby Publishing Co. St. Louis.

Muzambi S R and Rajagopal M.V, Fundamentals of Foods and Nutrition Wiley Eastern Limited.

Patricia A. Kreutler and Dorice Czajka Narins. Nutrition in Perspective, Prentice Hall, New Jersey.

Swaminathan M. Handbook of Food and Nutrition. The Bangalore Printing Publishing Co. Ltd.

I SEMESTER - Practical

BS 103 BASIC NUTRITION **3 Hour/Week; Credits 1 (50 marks)**

Total Number of Practical: 6

1. Planning diets for an adult man and an Adult Woman during different physical activities
   - Sedentary, Moderate and Heavy worker.
2. Planning a balanced diet for a pregnant woman doing different physical activities.
   - Sedentary, Moderate and Heavy worker.
3. Planning a balanced diet for a Lactating woman doing different physical activities
   - Sedentary, Moderate and Heavy worker (0-6 months and 6 to 12 months).
4. Planning a balanced diet for a Pre-school child.
5. Planning a balanced diet for a school age child (Packed lunch).
   - School going boy aged 10 - 12 years.
   - School going girl aged 10 - 12 years.
6. Planning a balanced diet for adolescent girls and adolescent boys (Packed lunch).
   - Adolescent girl aged 13 - 15 years.
   - Adolescent boy aged 13 - 15 years
   - Adolescent girl aged 16 to 17 years
   - Adolescent boy aged 16 to 17 years
7. Planning a balanced diet for a Senior Citizen
   - Planning a diet for an elderly woman
   - Planning a diet for an elderly man

SEMESTER II

THEORY

B.S. 203 NUTRITIONAL BIOCHEMISTRY DSC 1B 60Hrs

4 Hours/Week. Credits 4
15 Hours

Credit-1: Vitamins and Minerals

1.1. Water soluble vitamins, Classification, sources, functions and deficiency of (B&C) Ascorbic acid, Thiamine B1, Riboflavin B2, Niacin B3, Vitamin B6, Vitamin B12, and Folic acid B9.

1.2. Fat soluble vitamins. Classification, sources, functions, and deficiency of fat-soluble vitamins A, D, E & K.

Credit-2: Carbohydrates and lipids

2.1. Composition. Classification, Sources and Functions, Digestion, Absorption and Transport. Carbohydrate Metabolism- Glycolysis, Citric Acid Cycle, Glycogenesis and Glycogenolysis. Gluconeogenesis. Pentose Phosphate Pathway.
2.2 Lipids- composition, classification, sources and functions. Essential fatty acids. Digestion, Lipid metabolism- Beta oxidation of fatty acids.

Credit-3: Amino acids, Proteins, and Enzymes

3.1. Amino acids: Classification- Chemical and Nutritional, Deamination and Transamination. Urea cycle.
Proteins- Composition, classification, sources, functions, effects of protein deficiency.
3.2. Enzymes- Definition, Classification, Properties, Mechanism of Enzyme Action, Factors effecting Enzyme Action, Enzyme Inhibitors.

Credit- 4: Water and Hormones.

4.1. Water as a nutrient, Functions of water, sources, requirements, Water balance. Effects of deficiency.
4.2. Hormones: Pituitary, adrenocortical, thyroid and reproductive hormones: Hormones of the pancreas and hormones of the adrenal cortex. Mode of action and control of secretion.

Suggested Readings.

Rama Rao, A.V.S.S. and Surya Laxmi A. A textbook of biochemistry. For medical students. UBS Publishers Distributors Ltd.

Weil J.H. General Biochemistry. Wiley Eastern Limited, New Delhi.

Agarwal, A and Udupi, S. A. Textbook of human nutrition, Jaypee Brothers Medical Publishers (P). Ltd. New Delhi.

Mudambi. S R and Rajagopal.MV, Fundamentals of foods and nutrition. Willey Eastern Limited.

Suresh R Essentials of Human Physiology Books and Allied Private Limited, Kolkata.

SEMESTER II - PRACTICAL

BS 203 NUTRITIONAL BIOCHEMISTRY **3 Hour/Week; Credits 1 (50 marks)**

Total Number of Practical: 6

Introduction to Qualitative Analysis of Nutrients

I. Carbohydrates.

1. Qualitative analysis of Glucose.
2. Qualitative analysis of Fructose
3. Qualitative analysis of Maltose.
4. Qualitative analysis of Sucrose.
5. Qualitative analysis of Lactose.
6. Qualitative analysis of Starch.

II. Proteins.

1. Qualitative analysis of Proteins.

III. Minerals.

2. Qualitative analysis of Minerals.