Unit I: Nutrients

1. Nutrients: History and Definitions
2. Guidelines for Food and Nutrient Intake

Unit II: Structure and Properties of the Macronutrients

3. Structure, Nomenclature, and Properties of Carbohydrates
4. Structure, Nomenclature, and Properties of Lipids
5. Structure, Nomenclature, and Properties of Proteins and Amino Acids

Unit III: Digestion and Absorption of the Macronutrients

6. Overview of Digestion and Absorption
7. Digestion and Absorption of Carbohydrates
8. Digestion and Absorption of Lipids
9. Digestion and Absorption of Protein

Unit IV: Metabolism of the Macronutrients

10. Central Aspects of Macronutrient Metabolism
11. Overview of the Regulation of Macronutrient Metabolism
12. Metabolism of Carbohydrate
13 Metabolism of Fatty Acids, Acylglycerols, and Sphingolipids
14. Cholesterol and Lipoproteins: Synthesis, Transport, and Metabolism
15. Protein and Amino Acid Metabolism
16. Metabolism of Individual Amino Acids

Unit V: Macronutrient Requirements

17. Total Energy Requirement: Energy Expenditure, Growth, and Energy Stores
18. Requirements or Recommended Intakes for Carbohydrate and Lipid
19. Protein and Amino Acid Requirements
20. Consequences of Energy Imbalance: Obesity and Undernutrition

Unit VI. The Vitamins

21. Niacin, Riboflavin and Thiamin
22. Folate, Choline, Vitamin B12 and Vitamin B6
23. Biotin and Pantothenic Acid
24. Vitamin C
25. Vitamin K
26. Vitamin E
27. Vitamin A
28. Vitamin D

Unit VII: The Minerals

29. Calcium and Phosphorus
30. Magnesium
31. Sodium, Chloride, and Potassium
32. Body Fluids and Water Balance
33. Iron
34. Zinc, Copper, and Manganese
35. Iodine
36. Selenium
37. Fluoride
38. Molybdenum and the Beneficial Bioactive Trace Elements