

BSHND 105: FUNDAMENTALS OF HUMAN NUTRITION

Course Learning Outcomes:

- To familiarize with the role of macro- and micro-nutrients in human nutrition
- To understand the absorption, digestion and metabolism of nutrients in the human
- To abreast knowledge about the health disorders due to consumption of non-optimal quantities of the nutrients.

Contents – Theory

1. Introduction

- Food, nutrients and nutrition
- Malnutrition - global and local scenario,
- Diet, balanced diet, food groups,
- Foundations of healthy diet, meal planning

2. Water

- Functions,
- Regulation in body, dietary requirements,
- Electrolytes and acid base balance

3. Carbohydrates

- Types,
- Role in body,
- Dietary fiber, bulk and alternative sweeteners,
- Recommended intake and energy value

4. Fats and oils

- Types and functions
- Recommendations concerning fat intake
- Fat substitutes

5. Proteins

- Amino acids,
- Protein synthesis and degradation,
- Classification and functions,
- Quality of proteins,
- Dietary requirements

6. Vitamins

- Classification and types
- Sources
- Role in body

7. Mineral elements

- Types,

- Requirements,
- Sources, role in body
- 8. Digestion**
 - Alimentary tract,
 - Digestive juices,
 - Secretions
- 9. Absorption and metabolism of nutrients**
 - Carbohydrates
 - protein lipids
- 10. Nutrient and Dietary Deficiency**
 - Disorders
 - Special nutrient requirements.

Teaching-Learning Strategies:

Teaching will be a combination of class lectures, class discussions, and group work. Short videos/films will be shown on occasion.

Assignments:

The sessional work will be a combination of written assignments, class quizzes, presentation, and class participation/attendance.

Assessments and Examination:

Sessional Work: 25 marks

Midterm Exam: 35 marks

Final Exam: 40 marks

Recommended Readings:

1. Awan, J.A. (2011). Elements of Food and Nutrition. Unitech Communications, Faisalabad, Pakistan.
2. Bamji, M.S., Krishnaswamy, K. & Brahman, G.N.V. (2009). Textbook of Human Nutrition. (3rd ed.). Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi, India.
3. Eastwood, M. (2003). Principles of Human Nutrition. (2nd ed.). John Wiley & Sons, Inc., New York, USA.
4. Geissler, C. & Powers, H. (2011). Human Nutrition. (12th ed.). Churchill Livingstone, London, UK.