NTD 301: HUMAN NUTRITION (2 UNITS)

(1) Study of Nutrients, Digestion, Absorption and Products and Roles in Body function.
   - Definition of nutrients.
   - Classification of nutrients.
   - Other nutrients found in food e.g. fibre, enzymes, emulsifiers, antioxidant, pigments and flavor.
   - Role of nutrients.
   - Sources of nutrients.
   - Processes of digestion, absorption and metabolism of nutrients.
   - End products of digestion and their roles in body function.

(2) Introduction to nutrients requirements and deficiencies.
   - What is a nutrients requirement?
   - Concept of Recommended Dietary Allowance (RDA)
   - Dietary Reference Values (DRVs).
   - Recommended Daily Intake (RDI).
   - Reference Nutrient Intake (RNI).
   - Dietary reference Intakes (DRI).
   - Nutrient Deficiencies

(3) Primary Nutritional Diseases
   a. Starvation
      - Definition of starvation.
      - Causes of starvation.
      - Clinical manifestation and symptoms of starvation.
- Consequences of starvation.
- Management and treatment of starvation.

b. **Obesity**
- Definition of obesity.
- Causes of obesity.
- Clinical features of obesity.
- Classification of obesity.
- Management and treatment of obesity.

c. **Protein-energy malnutrition**
- Definition of protein-energy malnutrition.
- Causes and epidemiology of protein-energy malnutrition.
- Classification of protein-energy malnutrition e.g. Wellcome classification, Gomez classification
- Clinical features of protein-energy malnutrition.

d. **Rickets and Osteomalacia**
- Definition of rickets and osteomalacia.
- Causes of rickets and osteomalacia.
- Clinical manifestation and symptoms of rickets and osteomalacia.
- Prevention, management and treatment of rickets and osteomalacia.

e. **Scurvy, Beriberi and Pellagra**
- Definition of scurvy, beriberi and pellagra.
- Causes of scurvy, beriberi and pellagra.
- Clinical manifestation and symptoms of scurvy, beriberi and pellagra.
- Prevention, management and treatment of scurvy, beriberi and pellagra.

4) **Assessment of Nutritional Disorders.**
- Anthropometric Assessment
- Biochemical Assessment
- Clinical Assessment/ Physical examination
- Dietary Intake Assessment

5) **Population Problems: Famine and Endemic Goiter.**
- Definition of famine.
- Types and causes of famine with examples of previous famines.
- Consequences of famine.
- Prevention and management of famine.
- What is endemic goiter (Iodine Deficiency Disorders)?
- Causes, epidemiology, clinical features, management and treatment of endemic goiter.

6) **Nutrition and Infection.**
- Relationship between infection and malnutrition.
- Effect/consequences of infection and malnutrition on nutritional status of individuals.

7) **Nutrition situation in Nigeria and Government Nutrition policy.**
- Nutrition situation of Nigerian women and children
- Nutrition and development policies.
- Policies and programmes to improve nutrition.
- Improving household food security.
- Protecting consumers through improved food quality and safety.
(8) **Food additives and Contaminants in Nutrition.**

- What are food additives and food contaminants?
- Types of food additives: intentional and unintentional additives.
- Effect of additives and contaminants on food.
- Functions of food additives.

(9) **Food toxins and toxicants.**

- Sources of toxic components of food e.g. hydrocyanic acid (in cassava), Aflatoxin (in cereals), Trypsin inhibitors (in legumes), solanine (in potatoes), mycotoxins, glycosides, etc.
- Infective agents in foods e.g. bacteria, viruses and parasites

Hazard from pesticides, toxicity of packaging materials.