

## BIO 155 Nutrition

### COURSE DESCRIPTION:

Prerequisites: ENG 090 and RED 090, or DRE 098; and MAT 070 or DMA 010, 020, 030, 040, 050, or satisfactory score on placement test.

Corequisites: None

This course covers the biochemistry of foods and nutrients with consideration of the physiological effects of specialized diets for specific biological needs. Topics include cultural, religious, and economic factors that influence a person's acceptance of food, as well as nutrient requirements of the various life stages. Upon completion, students should be able to identify the functions and sources of nutrients, the mechanisms of digestion, and the nutritional requirements of all age groups. This course has been approved for transfer under the CAA as a premajor and/or elective course requirement. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.* Course Hours Per Week: Class, 3; Lab 0, Semester Hours Credit, 3.

### LEARNING OUTCOMES:

1. Identify and discuss nutrition problems facing today's society.
2. Identify, distinguish, and discuss the necessities of being an informed consumer of nutrition products and services.
3. Identify, list, distinguish, and discuss the essential dietary nutrients and their role for good health.
4. Utilize dietary standards and guidelines to determine the nutritional adequacy of an individual's diet for weight management and health.
5. Utilize dietary guidelines for disease prevention and management.
6. Distinguish, identify, and implement/demonstrate optimal nutrition for fitness and athletic/sport performance.
7. Distinguish, identify, implement/demonstrate safe food handling, preparation, cooking, and serving practices.

### OUTLINE OF INSTRUCTION:

- I. Introduction
  - A. Nutrients
  - B. Nutrient Assessment
  - C. Diet and Health
- II. Planning a Healthy Diet
  - A. Principles and Guidelines
  - B. Food Labels
- III. Digestion, Absorption, and Transport
  - A. Digestive Tract Anatomy and Physiology
  - B. Health and Regulation of the GI Tract
- IV. Carbohydrates
  - A. Types/Structure of Carbohydrates

- B. Digestion and Absorption
- C. Glucose Metabolism
- D. Carbohydrate Intake
- V. Lipids
  - A. Types/Structure of Lipids
  - B. Digestion and Absorption
  - C. Lipid Metabolism
  - D. Lipid Intake
- VI. Proteins
  - A. Types/Structure of Proteins
  - B. Digestion and Absorption
  - C. Protein Metabolism
  - D. Protein Intake
- VII. Energy Balance
  - A. Energy Metabolism
  - B. Body Weight and Body Composition
- VIII. Weight Management
  - A. Causes of Obesity
  - B. Health Risks of Obesity
  - C. Treatments and Weight-Loss Strategies
- IX. Vitamins
  - A. Water-Soluble Vitamins
  - B. Fat-Soluble Vitamins
- X. Water and Minerals
  - A. Water Intake and Balance
  - B. Major Minerals
  - C. Trace Minerals
- XI. Diet and Health
  - A. Nutrition and Diseases
  - B. Consumer Concerns about Foods and Water
  - C. Hunger and Health

**REQUIRED TEXTBOOKS AND MATERIALS:**

To be selected by Instructor/Discipline Chair.