BIOL 8: BASIC NUTRITION

Foothill College Course Outline of Record

Heading	Value
Effective Term:	Summer 2025
Units:	5
Hours:	5 lecture per week (60 total per quarter)
Advisory:	Demonstrated proficiency in English by placement via multiple measures OR through an equivalent placement process OR completion of ESLL 125 & ESLL 249.
Degree & Credit Status:	Degree-Applicable Credit Course
Foothill GE:	Area 7: Lifelong Learning
Transferable:	CSU/UC
Grade Type:	Letter Grade (Request for Pass/No Pass)
Repeatability:	Not Repeatable

Student Learning Outcomes

- Upon successful completion of Bio 8, students will be able to utilize the Dietary Guidelines for Americans to plan a diet for themselves and their family.
- Upon successful completion of Bio 8, students will be able to analyze their current dietary intake and use this information to make suggestions for appropriate dietary modifications.
- Upon successful completion of Bio 8, students will be able to interpret food labels and use them to make informed dietary choices.

Description

Introductory nutrition course intended for non-science/health-career majors. Not intended for students wishing to pursue a career in health care. Basic biological function of nutrients. Nutritional needs throughout the life span. Relationship between nutrition and disease. Current scientific, social, and psychological issues and controversies in nutrition.

Course Objectives

The student will be able to:
A. identify psychological and social influences on eating behaviors
B. make food choices that promote nutritional health throughout their life span
C. explain the scientific basis for and the uses of dietary guidelines
D. discuss techniques used to evaluate human nutritional status
E. describe the basic anatomy and physiology of the human digestive system
F. explain the biological functions of nutrients and list major food sources for each
G. recall factors influencing energy balance and appraise the role that they play in the management of weight control
H. discuss the role of nutrition in chronic disease
I. assess the nutritional adequacy of a diet of a healthy person and propose specific changes that will reduce the possibility of disease or malnutrition
J. critically evaluate sources of nutrition information
K. discuss current food and nutrition issues facing consumers

Course Content

A. Factors influencing eating behaviors
1. Psychological
2. Social/cultural
B. Principles of scientific inquiry
1. Scientific method
2. Epidemiology and experimental studies
3. Dietary Reference Intakes (DRIs) across the life span
4. Daily Values
5. Dietary Guidelines for Americans and the MyPlate nutrition guide
6. American Heart Association and American Cancer Association dietary guidelines
C. Nutritional evaluation
1. Anthropometric data
2. Biochemical studies
3. Physical examination
4. Dietary intake data
5. Economic, educational status
6. Health history
7. Personal dietary analysis using dietary analysis software
D. Anatomy and physiology of the human digestive system
1. Mouth
2. Esophagus
3. Stomach
4. Small intestine
5. Large intestine
6. Pancreas
7. Liver
8. Gallbladder
E. Nutrient functions, food sources, and requirements across the life span
1. Macronutrients
a. Carbohydrates
b. Proteins
c. Lipids
2. Micronutrients
a. Vitamins
1) Fat-soluble
2) Water-soluble
b. Minerals
1) Major minerals
2) Trace minerals
F. Energy balance
1. Measurement of kilocalories in food
2. Energy expenditure
a. Basal metabolic rate
b. Physical activity
c. Thermic effect of food
d. Thermogenesis
3. Measurement of body weight and composition
4. Obesity treatments
5. Eating disorders
G. Role of diet in chronic disease
1. Hypertension
2. Heart disease
3. Diabetes
4. Cancer
5. Osteoporosis
H. Critical evaluation of sources of nutrition information
1. Internet resources
2. Written publications

a. Scholarly
b. Popular
I. Current issues facing consumers
1. Nutritional supplements
2. Functional foods
3. Food safety
4. Food production and nutritional quality

Lab Content

Not applicable.

Special Facilities and/or Equipment

A. Textbook, dietary analysis software.
B. When taught as an online distance learning class, students will need an email address and regular access to email and the internet.

Method(s) of Evaluation

Methods of Evaluation may include but are not limited to the following:

Online exams including multiple choice and short-answer/short-essay questions
Online open-book, open-note quizzes approximately every week including multiple choice and fill-in-the-blank question formats
Analysis of personal dietary intake from at least a four-day time period
Written assignments:
1. Mandatory, formal participation online discussion forums using language and grammar appropriate to their intended audience
2. Detailed written analyses of the results of their computerized dietary analysis using grammar and diction appropriate to the college academic community

Method(s) of Instruction

Methods of Instruction may include but are not limited to the following:

Lecture
Discussion
Cooperative learning exercises
Electronic discussions/chat

Representative Text(s) and Other Materials

Smith, A., et al.. Wardlaw's Contemporary Nutrition: A Functional Approach, 5th ed.. 2018.

Types and/or Examples of Required Reading, Writing, and Outside of Class Assignments

A. Weekly reading assignment from the textbook, averaging 30-60 pages.
B. Formal written analysis of student's personal dietary intake.

Discipline(s)

Biological Sciences OR Health OR Nutritional Science/Dietetics