

**RARITAN VALLEY COMMUNITY COLLEGE  
ACADEMIC COURSE OUTLINE**

**BIOL-142 – Introduction to Nutrition**

**I. Basic Course Information**

A. Course Number and Title: BIOL 142 – Introduction to Nutrition

B. New or Modified Course: Modified

C. Date of Proposal: Semester: Fall Year: 2016

D. Effective Term: Fall 2017

E. Sponsoring Department: Science & Engineering

F. Semester Credit Hours: 3

G. Weekly Contact Hours:                      Lecture: 3  
  Laboratory: 0  
  Out of class student work per week: 6

H. Prerequisites/Corequisites: None

I. Laboratory Fees: None

J. Name and Telephone Number or E-Mail Address of Department Chair at time of approval: Sarah Imbriglio, Ext 8241, sarah.imbriglio@raritanval.edu

**II. Catalog Description**

This is an introductory course in nutrition. It presents the non-science major with the chemistry and function of all essential nutrients. It discusses current ideas and topics in nutrition, and provides an introduction to methods of scientific inquiry in nutrition research. The relationship between nutrients and disease prevention is also discussed.

### III. Statement of Course Need

- A. This course will serve as a science elective for various science options and a non-lab science requirement in various programs. Students will develop an interest in and an understanding of the vital role of optimal nutrition in the maintenance of health and well-being. Students will have an opportunity to analyze their own diets using basic scientific knowledge, and they will have the opportunity to modify their diets accordingly.
- B. The course does not have a lab component.
- C. This course generally transfers as a science general education course.

### IV. Place of Course in College Curriculum

- A. Free Elective.
- B. This course serves as a science general education elective without lab.
- C. This course serves as a science elective for non-science and science majors. This course serves as a program requirement for Exercise Science-Option in Sports Management (AS), Exercise Science (AS), and is an option for Food and Beverage Management (AAS).
- D. Course transferability: a) for New Jersey schools, go to the NJ Transfer website, [www.njtransfer.org](http://www.njtransfer.org); b) for all other colleges and universities, go to the individual websites.

### V. Outline of Course Content

- A. Functions of foods and relation to health: Sources of nutrients; role in health and disease.
  - 1. cancer
  - 2. osteoporosis
  - 3. heart disease
  - 4. diverticulosis
  - 5. diabetes.
- B. Carbohydrates: Digestion, absorption, metabolism.
  - 1. Fiber
  - 2. sugar controversy
  - 3. lactose intolerance
  - 4. sugar substitutes
  - 5. artificial sweeteners
  - 6. diabetes.
- C. Lipids: Digestion, absorption, metabolism.
  - 1. Oils
  - 2. fatty acids (poly- and monounsaturated, saturated)

3. cholesterol
  4. diet
  5. heart disease
- D. Proteins: Digestion, absorption, metabolism.
1. Amino acids
  2. protein quality
  3. food sources
  4. functions
  5. vegetarianism
- E. Vitamins: Fat- and water-soluble vitamins.
1. Functions
  2. Deficiencies
  3. foods sources
  4. supplement pros/cons
- F. Minerals and Water: Sources, functions, deficiencies.
1. Food sources of minerals
  2. water, functions, deficiencies/excess
  3. osteoporosis, anemia, goiter, dental caries, hypertension
- G. Introduction to scientific research:
1. the scientific method
  2. current topics in nutrition research
- H. Energy Balance: Negative and positive balance.
1. Input vs. output
  2. theories of obesity
  3. weight loss diets
  4. fad diets
  5. behavioral modification
- I. Nutrition in the Life Cycle: Nutrient needs.
1. infancy
  2. childhood
  3. pregnancy
  4. adult years
  5. elderly.
- J. Nutrition for Fitness: Importance of physical fitness.
1. macronutrients
  2. vitamins
  3. minerals
  4. fluids
  5. meal replacements
  6. supplement pros/cons

- K. Food labeling: Nutrition Facts.
  - 1. Percent Daily Value (DV)
  - 2. Recommended Dietary Intake (RDI)
  - 3. list of ingredients
  
- L. Food Safety and Technology: Causes and prevention.
  - 1. foodborne illness
  - 2. food additives
  - 3. toxins

## **VI. General Education and Course Learning Outcomes**

### **A. General Education Learning Outcomes:**

**At the completion of the course, students will be able to:**

- 1. Describe the principles of nutrition. (GE-NJ 1)
- 2. Demonstrate knowledge of nutrition principles and critically analyze a diet. (GE-NJ1, IL\*)
- 3. Identify and critically evaluate scientific sources of nutrition information, and use the scientific method to evaluate problems and generate conclusions. (GE-NJ3, IL\*)

### **B. Course Learning Outcomes:**

**At the completion of the course, students will be able to:**

- 1. Identify the six classes of nutrients and their respective functions in the body.
- 2. Describe and apply the tools to evaluate dietary intakes – Dietary Reference Intakes (DRI), including Recommended Dietary Allowance (RDA), Adequate Intake (AI), and Tolerable Upper Intake Level (UL).
- 3. Assess dietary intakes for nutritional adequacy and make recommendations for improvement of the diet.
- 4. Discuss the relationship of physical activity and nutrition and how they relate to energy balance, weight control and health.
- 5. Discuss the varying nutritional needs throughout the life cycle.
- 6. Discuss diseases associated with nutrient deficiencies and excess intakes.
- 7. Discuss the role of nutrients in the prevention of selective chronic diseases.

### **C. Assessment Instruments**

Given the outcomes described above, the following assessment methods may be used:

- 1. Research papers
- 2. Project/presentation using the scientific method (required)

3. Journals
4. Computer programs

## **VII. Grade Determinants**

The following grade determinants may be used:

- A. Tests
- B. Quizzes
- C. Project/presentation using the scientific method (required)
- D. Essays
- E. Research Paper/Presentations (required)

Given the goals and outcomes described above, the primary formats, modes, and methods for teaching and learning that may be used in the course include:

- A. Lecture/discussion
- B. Small-group work
- C. Computer-assisted instruction
- D. Student oral presentations
- E. Student collaboration
- F. Independent study

## **VIII. Texts and Materials**

The following course materials may be used:

- A. Textbooks
- B. Primary sources
- C. Journals
- D. Web sources (required)

The specific text which may be featured is: *Nutrition and You*, 4<sup>th</sup> Edition, Blake (Pearson).

(Please note: The course outline is intended only as a guide to course content and resources. Do not purchase textbooks based on this outline. The RVCC Bookstore is the sole resource for the most up-to-date information about textbooks.)

## **IX. Resources**

- A. Students will need to use computers in order to complete certain assignments.
- B. Internet websites are also required.

## **X. Honors Options**

Not Applicable