

KINS 9: BASIC NUTRITION FOR SPORTS & FITNESS

Foothill College Course Outline of Record

Heading	Value
Units:	5
Hours:	5 lecture per week (60 total per quarter)
Advisory:	Not open to students with credit in PHED 9.
Degree & Credit Status:	Degree-Applicable Credit Course
Foothill GE:	Non-GE
Transferable:	CSU/UC
Grade Type:	Letter Grade (Request for Pass/No Pass)
Repeatability:	Not Repeatable

Student Learning Outcomes

- Analyze and critique personal dietary, hydration and supplementation needs required for daily exercise and health.
- A successful student will develop and justify a three day dietary plan for healthy eating.

Description

Practical application of the basic principles of nutrition and how food choices affect health and fitness. This course will provide the student with a basic understanding of how nutrition can be optimized to enhance physical performance potential and sport. "Dietary Guidelines for Americans" will be utilized to inform selection of foods that would maximize individual health.

Course Objectives

The student will be able to:

- Demonstrate an understanding of the interrelationship among proper nutrition, physical activity, and athletic performance
- Identify the three major human energy systems, their major energy sources as stored in the body, and various nutrients needed to sustain them
- Identify the nutrients that serve as building blocks for fitness and performance
- Evaluate the importance of fluid requirements and hydration
- Describe optimal body weight and composition for health and sport
- Explain weight maintenance, loss, and gain through proper nutrition and exercise
- Evaluate the effects of various nutritional supplements and ergogenic aids on athletic performance and physical development
- Examine eating disorders and risk factors involved
- Understand the dietary challenges of special populations

Course Content

- Demonstrate an understanding of the interrelationship among proper nutrition, physical activity, and athletic performance
 - role of genetics and environment in the determination of optimal health and successful sport performance

- components of health-related fitness designed to enhance aerobic and musculoskeletal fitness
- sports-related fitness compared to health-related fitness
- principles of exercise training
- role of dietary supplements and recognizing nutritional quackery
- development of the DRI and its various components
 - RDA
 - AI
 - AMDR
 - UL
 - EER
 - EAR
- dietary guidelines for Americans
- concept of the balanced diet as applied to the MyPlate food guide
- various classes of vegetarians
- nutrients and food labels
- dietary practices as related to training and competition for optimal sport performance
 - Identify the three major human energy systems, their major energy sources as stored in the body, and various nutrients needed to sustain them
 - measures of energy
 - energy stores in the body
 - ATP
 - PCr
 - carbohydrate
 - fat
 - protein
 - human energy systems
 - ATP-PCr system
 - lactic acid system
 - oxygen system
 - muscle fiber types and major characteristics in relation to energy production during exercise
 - human energy metabolism
 - at rest
 - during exercise
 - relationship between exercise intensity and energy expenditure
 - determinants of exercise fuel usage
 - causes of fatigue during exercise
 - Identify the nutrients that serve as building blocks for fitness and performance
 - carbohydrates
 - dietary carbohydrates
 - carbohydrates for exercise
 - carbohydrate loading
 - ergogenic aspects and health implications
 - fats
 - dietary fats and fat loading
 - metabolism and function
 - fats and exercise
 - ergogenic aspects, cholesterol and health implications
 - proteins
 - dietary protein
 - proteins and exercise
 - ergogenic aspects and health implications
 - vitamins
 - fat-soluble vitamins
 - water-soluble vitamins
 - vitamin supplements
 - minerals
 - macrominerals

- b. trace minerals
- c. mineral supplements
- 6. water
 - a. major functions
 - b. electrolytes
 - c. regulation of body temperature
- D. Evaluate the importance of fluid requirements and hydration
 - 1. distribution of body water
 - 2. water and temperature regulations during exercise
 - 3. exercise in the heat
 - a. fluid, carbohydrate, and electrolyte replacement
 - b. heat illnesses/stroke
 - c. high blood pressure
 - 4. fluid replacement guidelines
 - 5. fluid replacement beverages
- E. Describe optimal body weight and composition for health and sport
 - 1. body weight and composition
 - a. BMI (body mass index)
 - b. fat-free weight and body fat
 - c. measurement techniques
 - 2. regulation of body weight and composition
 - a. neural mechanisms
 - 3. weight gain, obesity, and health
 - 4. excessive weight loss and health
 - 5. body composition and physical performance
- F. Explain weight maintenance, loss, and gain through proper nutrition and exercise
 - 1. basics of weight control
 - 2. behavior modification
 - 3. dietary modification
 - 4. exercise programs
 - 5. comprehensive weight control programs
 - 6. basics of weight gain
 - a. food exchange system
 - b. exercise considerations
 - c. resistance training
 - d. proper nutrition
 - G. Evaluate the effects of various nutritional supplements and ergogenic aids on athletic performance and physical development
 - 1. ergogenic effects and health implications
 - a. alcohol
 - b. caffeine
 - c. ephedra
 - d. sodium bicarbonate
 - e. anabolic hormones
 - f. ginseng and herbals
 - g. sports supplements
 - H. Examine eating disorders and risk factors involved
 - 1. cultural factors
 - 2. psychological factors
 - 3. dieting and weight fluctuation
 - 4. outside influences on weight expectations
 - 5. recognition of eating disorders (anorexia and bulimia)
 - 6. binge-eating
 - 7. prevention and treatment of eating disorders
 - I. Understand the dietary challenges of special populations
 - 1. active women
 - 2. older adults
 - 3. college students
 - 4. athletes
 - 5. people with special health concerns

- 6. construct meal plans designed to enhance human performance in specific populations

Lab Content

Not applicable.

Special Facilities and/or Equipment

A. When taught as an online distance learning or hybrid section, students and faculty need ongoing and continuous internet and email access.

Method(s) of Evaluation

Methods of evaluation may include but are not limited to:

- A. Tests on class lectures
- B. Personal dietary analysis
- C. Final exam on lectures, notes, and discussions
- D. Research papers
- E. Weekly homework assignments
- F. Class participation
- G. Weekly posts on discussion topics
- H. Final project constructing meal plans for special populations

Method(s) of Instruction

- A. Lecture presentations and classroom discussion
- B. Electronic discussion/chat
- C. Presentation of videos on current topics
- D. Outside reading assignments

Representative Text(s) and Other Materials

Williams, Melvin. Nutrition for Health, Fitness and Sport. 11th ed. New York: McGraw and Hill, 2017.

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

- A. Reading assignments: weekly reading assignments from text and online sources ranging from 40-60 pages per week
- B. Homework assignments: weekly essays and terminology on material presented
- C. Projects: personal portfolio and dietary analysis using MyPlate food guide and "Dietary Guidelines for Americans"
- D. Research: planning and completing individual creative projects
- E. Meal plan project: construct meal plans for special populations

Discipline(s)

Kinesiology