Course Acronym:	PE
Course Number:	270
Descriptive Title:	Fitness and Sports Nutrition
Division:	Health Sciences and Athletics
Department:	Physical Education
Course Disciplines:	Physical Education
Catalog Description:	This course examines the nutritional and dietary requirements of physically active adults and those involved in athletic competition. The course emphasizes optimal nutrition regimens as an integral part of overall health and peak performance. Emphasis is placed on human nutrition needs, the role of supplements as ergogenic aids, and the integration of diet and exercise in achieving optimal body composition.
Prerequisite:	
Co-requisite:	
Recommended Preparation:	Eligibility for English 1A Proficient in pre-algebra skills
Enrollment Limitation:	
Hours Lecture (per week):	3
Hours Laboratory (per week):	0
Outside Study Hours:	6
Total Course Hours:	54
Course Units:	3
Grading Method:	Letter Grade only
Credit Status:	Credit, degree applicable
Transfer CSU:	Yes
Effective Date:	12/12/2002
Transfer UC:	No
Effective Date:	
General Education: ECC	
Term:	
Other:	
CSU GE:	

Term:	
Other:	
IGETC:	
Term:	
Other:	
Student Learning Outcomes:	**SLO #1 Protein and Nutritional Supplements** Student will identify effective protein and nutritional supplements for enhanced muscular recovery from exhaustive exercise. **SLO #2 Carbohydrate Supplements** Student will identify effective carbohydrate supplements for pre-exhaustive, exhaustive, and post-exhaustive endurance training sessions. **SLO #3 Body Weight and Composition** Student will design an effective strategy to achieve goal body weight and composition.
Course Objectives:	1. Describe the basic functions and food sources of the macronutrients and micronutrients. 2. Compare and contrast the nutrient needs of physically active individuals and sedentary individuals. 3. Explain the value of nutrient timing and its application in endurance and resistance training. 4. Discuss the contribution of nutrition to the achievement of fitness goals and athletic performance. 5. Recognize the known efficacy and safety of nutritional supplements as ergogenic aids in fitness and sport. 6. Describe the importance of proper hydration before, during, and after exercise 7. Determine appropriate weight management strategies for active individuals and competitive athletes. 8. Evaluate published dietary regimens promoted for fitness and sport participants.
Major Topics:	**I. INTRODUCTION TO NUTRITION FOR HEALTH, FITNESS, PERFORMANCE (4 hours, lecture)** A. Exercise and health related fitness B. Nutrition and health related fitness C. Sports related fitness: Exercise and Nutrition D. Ergogenic aids and sports performance **II. NUTRITION FOR FITNESS AND SPORTS PERFORMANCE (6 hours, lecture)** A. Essential nutrients and recommended nutrition B. Balanced diet and nutrient density C. Healthful dietary guidelines D. Consumer nutrition: food labels and health claims E. Dietary supplements and health

III. HUMAN ENERGY (6 hours, lecture)

A. Measures of energy
B. Human energy systems
C. Energy metabolism during rest
D. Energy metabolism during exercise
E. Energy Systems and fatigue during exercise

IV. CARBOHYDRATES, PROTEIN, AND FATS (18 hours, lecture)

A. Metabolism and function
B. Carbohydrates, protein, and fats role during exercise
C. Ergogenic aspects
D. Carbohydrate loading
E. Proteins and exercise
F. Amino acids including specific branch-chain amino acids
G. Dietary fats and cholesterol

V. VITAMINS: Organic Regulators (3 hours, lecture)

A. Basic facts
B. Fat-soluble vitamins
C. Water-soluble vitamins
D. Vitamin supplements: ergogenic aspects
E. Vitamin supplements: health aspects

VI. MINERALS: Inorganic Regulators (3 hours, lecture)

A. Basic Facts
B. Macro minerals
C. Trace minerals
D. Mineral supplements for exercise and health

VII. WATER, ELECTROLYTES, AND TEMPERATURE REGULATION (3 hours, lecture)

A. Human water and hydration
B. Role of electrolytes in performance
C. Regulation of body temperature
D. Exercise performance in heat: fluid, carbohydrate, and electrolyte replacement
E. Ergogenic aspects

VIII. BODY WEIGHT AND COMPOSITION FOR HEALTH AND SPORT (3 hours, lecture)

A. Ideal body weight and composition
B. Weight gain, lean body mass, obesity, and health
C. Weight loss and health
D. Body composition and exercise performance

IX. WEIGHT MANAGEMENT AND LOSS THROUGH PROPER NUTRITION AND EXERCISE (3 hours, lecture)

A. Fundamentals of weight control

	B. Dietary modifications C. Exercise programs and weight loss D. Prudent weight control programs **X. WEIGHT GAIN THROUGH PROPER NUTRITION AND EXERCISE (3 hours, lecture)** A. Basic considerations B. Nutritional considerations for increases in lean body mass C. Exercise considerations for increases in lean body mass **XI. DRUGS AND RELATED DIETARY SUPPLEMENTS (2 hours, lecture)** A. Alcohol effects and health implications B. Caffeine effects and health implications C. Sodium bicarbonate and health implications D. Dietary and herbal supplements in exercise and sports performance
Total Lecture Hours:	54
Total Laboratory Hours:	0
Total Hours:	54
Primary Method of Evaluation:	1) Substantial writing assignments
Typical Assignment Using Primary Method of Evaluation:	Using reputable professional references (International Society of Sports Nutrition; International Journal of Sports Nutrition and Exercise Metabolism), plan the following in a four- to five-page written report: pre-exercise training meal, exercise training diet, carbohydrate loading diet. Include the protein requirements for athletes involved in different sports activities and explain why different. Provide guidelines for carbohydrate intake during exercise to enhance performance and post-exercise recovery.
Critical Thinking Assignment 1:	In a three- to four-page written report, evaluate claims for dietary supplements purported to result in increased muscle mass.
Critical Thinking Assignment 2:	In a three- to four-page written report, contrast the protein, fat, carbohydrate, and total energy requirements of individuals focusing on resistance exercise training versus endurance exercise training.
Other Evaluation Methods:	Completion, Essay Exams, Matching Items, Multiple Choice, Reading Reports, Term or Other Papers, True/False, Written Homework
Instructional Methods:	Discussion, Guest Speakers, Lecture, Other (specify)
If other:	Internet resources, nutrient analysis software, periodical literature
Work Outside of Class:	Answer questions, Problem solving activity, Required reading, Study, Written work (such as essay/composition/report/analysis/research)
If Other:	
Up-To-Date Representative Texts:	Richard Kreider, Brian Leuthholtz, Frank Katch, and Victor Katch, Eds. Exercise and Sport Nutrition Principles, Promises, Science Recommendations, Fitness Technoligies Press, 2009 (Discipline Standard)
Alternative Texts:	

Required Supplementary Readings:	Joint Position Statement: Nutrition and Athletic Performance, American College of Sports Medicine, American Dietetic Association, and Dieticians of Canada, Med Sci Sports Exercise, 2000 Dec;32(12) :2130-45 (Discipline Standard)
Other Required Materials:	
Requisite:	
Category:	
Requisite course(s): List both prerequisites and corequisites in this box.	
Requisite and Matching skill(s):Bold the requisite skill. List the corresponding course objective under each skill(s).	
Requisite Skill:	
Requisite Skill and Matching Skill(s): Bold the requisite skill(s). If applicable	
Requisite course:	
Requisite and Matching skill(s):Bold the requisite skill. List the corresponding course objective under each skill(s).	
Requisite Skill:	Eligibility for English 1A Proficient in pre-algebra skills
Requisite Skill and Matching skill(s): Bold the requisite skill. List the corresponding course objective under each skill(s). If applicable	**This course involves reading college level textbooks and written reports. A student's success in this class will be enhanced if they have these skills.** Summarize, analyze, evaluate, and synthesize college-level texts. Write a well-reasoned, well-supported expository essay that demonstrates application of the academic writing process. **This course involves pre-algebra math skills. A student's success in this class will be enhanced if they have these skills.** Analyze and calculate percentages of total calories from the major nutrients from information provided in the nutrition label. Analyze and calculate the appropriate caloric intake for an individual's resting metabolic energy needs as well as total daily energy/caloric needs.

	It is recommended that you consume a certain percentage of your calories from carbohydrates, fats, and proteins. The student should be able to determine caloric requirements based upon energy requirements for athletic, active, or sedentary individuals. Acquire effective study skills including the use of the calculator in appropriate situations. Perform various operations (addition, subtraction, multiplication, division, and exponentiation) on different sets of numbers (whole, integer, and rational) and recognize equivalence when it occurs, particularly with fractions, decimals and percents. Formulate mathematical representations of real-world applications including the recognition of proportional relationships. Read, interpret, and construct tables, charts and graphs.
Enrollment Limitations and Category:	
Enrollment Limitations Impact:	
Course Created by:	Thomas W. Storer
Date:	09/01/2002
Original Board Approval Date:	12/09/2002
Last Reviewed and/or Revised by:	Dean Lofgren
Date:	09/05/2023
Last Board Approval Date:	12/18/2023
Effective Term:	FALL 2024