

FOLSOM CORDOVA UNIFIED SCHOOL DISTRICT

NUTRITION FOR LIFE

Date: January 2009

Category: Elective

Proposed Grade Level(s): 10-12

Course Length: 1 Semester

Grading: A-F

Number of Credits: 5 per semester

Subject Area Credit: Health/Family Life

Prerequisites: Successful completion of Health Education

COURSE DESCRIPTION:

This course is designed for the student intending to pursue a career in either the health or fitness related field, or any student interested in exploring the world of nutrition. This course is an introduction to the field of nutrition, which includes the study of carbohydrates, fats, proteins, vitamins, minerals and the role of diet on the development of chronic diseases, such as cardiovascular disease, cancer, diabetes, etc. Students will gain knowledge of digestion, absorption, metabolism, life cycle nutrition, nutrition guidelines, and nutrition programs. In addition, students will research food policy and regulatory issues; the public health issue of food safety, and much more.

GENERAL GOALS/PURPOSES:

At the end of the course of study the student should be able to:

- Name and describe the characteristics, physiological functions, and food sources of essential nutrients.
- Discuss the adverse effects of both inadequate and excessive intakes of nutrients; understand the concept of nutrient requirements and how these are translated to recommendations for intake of nutrients and foods.
- Assess the adequacy and balance of food consumption patterns of healthy adults.
- Critically assess current nutrition **fads** and **controversies**.
- Describe how to properly design individualized eating plans by utilizing diet planning principles, the Food Guide Pyramid, and other food guide plans that incorporate personal food preferences.
- Explain the function of the RDA.
- Describe the digestive system, including problems that it encounters and solves during the digestive process.
- Explain the differences between energy- and non-energy-yielding nutrients.
- Distinguish between simple and complex carbohydrates in form and function and the health effects associated with carbohydrate intake including fiber and sugar intake.
- Differentiate between members of the lipid family--triglycerides, phospholipids, and sterols--in form and function and the health effects associated with lipid intake, especially triglyceride and cholesterol intake.
- Describe protein form and function, identify essential amino acids, and explain the health effects of protein intake, including Protein Energy Malnutrition as well as how vegetarians and non-vegetarians obtain adequate protein.
- Explain the steps involved in metabolism and the ways energy is derived from carbohydrate, fat, and protein, including the consequences of consuming too much and too little energy.
- Describe the factors associated with weight control, including causes of obesity, methods of assessing body weight and composition, and good and poor treatments for obesity.
- Explain the differences between water- and fat-soluble vitamins, including how each one functions in the body, the deficiency/toxicity symptoms, and major food sources.

- State which vitamins have antioxidant effects and what those effects include.
- Explain the differences between major and minor minerals, including how each one functions in the body, the deficiency/toxicity symptoms, and major food sources.
- Describe the function of water in the body and the ways electrolytes/fluids are balanced and maintained in the body.
- Provide accurate information regarding vitamin/mineral supplementation and the use of ergogenic aids in athletic performance.
- State the benefits associated with physical activity, the components of a sound fitness or health program, and the fuels that are necessary for physical performance and daily activity.
- Describe how nutrition and lifestyle choices impact the life cycle before and during pregnancy, during lactation and infancy, during childhood and adolescence, and through adulthood and aging.

STUDENT READING COMPONENT:

Students will read proposed textbook along with additional articles pertaining to:

- Exercise, health and the food connection.
- Nutritional requirements of athletes vs. the “Average Joe”.
- Designing your personal nutrition plan.

STUDENT WRITING COMPONENT:

- Students will write a research paper related to specific topics related to nutrition such as: health, fitness, exercise and disease.
- Students will write weekly current event articles related to the field of nutrition.

STUDENT ORAL COMPONENT:

- Students will have several required group PowerPoint projects that will be presented in front of the class.
- Students will have the opportunity for group and class discussions throughout the school year.
- Students will engage in discussion of current event articles.
- Students will participate in individual presentations in front of the class

DETAILED UNITS OF INSTRUCTION:

Proposed textbook:

Contemporary Nutrition: A Functional Approach, Seventh Edition: **Gordon M. Wardlaw, Anne M. Smith - Medical - McGraw-Hill (2008)**

Week 1-3

NUTRITION: A KEY TO HEALTH

Chapter 1: What You Eat and Why

Chapter 2: Guidelines for Designing a Healthy Diet

Chapter 3: The Human Body: A Nutrition Perspective

Week 4-7

THE ENERGY NUTRIENTS AND ENERGY BALANCE

Chapter 4: Carbohydrates

Chapter 5: Lipids

Chapter 6: Proteins

Chapter 7: Energy Balance and Weight Control

Week 8-9

VITAMINS, MINERALS AND WATER

Chapter 8: Vitamins

Chapter 9: Water and Minerals

Week 10-13

NUTRITION: BEYOND THE NUTRIENTS

Chapter 10: Nutrition: Fitness and Sports

Chapter 11: Eating Disorders: Anorexia Nervosa, Bulimia Nervosa, and Other Conditions

Chapter 12: Under nutrition Throughout the World

Chapter 13: Safety of Food and Water

Week 14-16

NUTRITION: A FOCUS ON THE LIFE STAGES

Chapter 14: Pregnancy and Breastfeeding

Chapter 15: Nutrition from Infancy through Adolescence

Chapter 16: Nutrition during Adulthood

Week 16-18

Term Paper Due

Final Exam

SUBJECT AREA CONTENT STANDARDS TO BE ADDRESSED:

Know nutrition guidelines:

- Calculate the total number of calories based on the grams of fats, carbohydrates, and protein in a food product.
- Analyze Nutrition Facts labels to compare the calorie content of different foods as well as the content of nutrients such as fat, carbohydrate and protein.
- Assess the role of the Dietary Reference Intakes (DRIs) and the benefits and drawbacks of taking a daily multiple vitamin and mineral supplement.

Assess personal dietary needs:

- Analyze internal cues to hunger and learn to recognize hunger and the feeling of fullness.
- Calculate personal caloric needs based on age, gender, and activity level; and then calculate the caloric requirements for an individual of a different age, gender, and/or activity level.
- Learn how to apply strategies to reach personal nutrition goals using the current USDA Guide for daily food choices, current dietary guidance for Americans, and Nutrition Facts labels.

Understand the influence of nutrition on health:

- Evaluate each student's short- and long-term health risk based on personal food choices, physical activity, and family medical history.
- Evaluate one or more potential health risks related to family and/or personal medical history.
- Evaluate disordered eating behaviors, symptoms and health impacts of various eating disorders.
- Assess how nutrition related diseases and chronic diseases or health problems for which diet is a risk factor can be prevented (or improved).
- Evaluate how agricultural practices influence the nutritional value of food and potentially impacts health.
- Evaluate the benefits and risks of inadequate and excessive nutrient intakes compared to a healthful diet.

Assess the relationship of physical activity and nutrition to health:

- Know physical activity recommendations for healthy weight.
- Participate regularly in a variety of enjoyable physical activities.
- Analyze personal motivators related to pursuing physical activity.
- Explore ways to continue regular exercise when schedules change, such as during travel or while working.
- Explore ways to engage in out-of school activities that promote fitness and health.
- Follow through on a personal fitness plan based on fitness goals and the results of periodic self-assessment.
- Make adjustments needed for successful implementation of a personal fitness plan.

Establish personal goals and make healthy food and fitness choices:

- Design balanced menus based on food guidelines according to age, gender, and activity level.
- Develop effective consumer skills to purchase healthy foods within budget constraints.
- Develop a balanced eating plan for an individual of a different age, gender, and/or activity level based on assessed needs.
- Analyze and adapt recipes by making them healthier (i.e. lowering saturated fat, salt, or sugar content and increasing fiber).
- Develop a personal nutrition plan that includes strategies to minimize negative influences on personal food choices.

Identify influences on food choices:

- Identify how social conditions influence eating behavior and food choices.
- Analyze societal influence (e.g. peers; media; culture;) on food choices and propose solutions to identified problems.
- Analyze marketing and advertising techniques and how they can influence on food selection.
- Develop strategies to make educated food choices to meet individual needs in a variety of social environments.

Explore factors that contribute to achieving and maintaining a healthy body and positive body image:

- Develop strategies to use in order to increase physical activity and healthful food consumption.
- List and evaluate factors that contribute to unhealthy eating behaviors and a negative body image.
- Analyze weight modification practices and select appropriate practices to maintain a healthy body weight according to individual needs and scientific research.
- Analyze popular diets and products for safety and adequate nutritional content. Include discussing vegan, vegetarian, high fat, and religiously based diets.
- Understand how genetics influences someone's body size and shape.

THIS COURSE WILL PREPARE STUDENTS FOR THE CAHSEE AND/OR CST'S:

Writing, Reading, Science

LAB FEE IF REQUIRED:

None

DISTRICT ESLR'S TO BE ADDRESSED:

Students will be:

- **Self-Directed Learners:** who will be able to utilize their knowledge of nutrition to understand its relation to health and fitness.
- **Effective Communicators:** who will be able to use PowerPoint to convey cogent arguments with proper public speaking skills on topics related to nutrition.
- **Quality Producers/Performers:** who will take pride in the quality of their work and who will use time management and organizational skills to produce quality product.
- **Constructive Thinkers:** who are able to take learned information and integrate it into a construct, a holistic perspective, that allows for free and independent thought processes when dealing with nutrition and health/fitness.
- **Collaborative Workers:** who are able to work cooperatively and collaboratively with a wide diversity of fellow students to facilitate an understanding of the coursework.
- **Responsible Citizens:** who practice democratic values with integrity and responsibility within the classroom to help foster a positive learning environment for all nutrition for life students.