I. GENERAL COURSE INFORMATION

Subject and Number: Nutrition Science 110
Descriptive Title: Introduction to Nutrition Science
Course Disciplines: Family and Consumer Sciences
Division: Industry and Technology

Catalog Description:
This course is an introduction to the fundamental principles of nutrition utilizing the scientific method and dietary approaches to health and wellness. Nutrients will be identified, along with their physiological functions, metabolic pathways and role in diet and disease. Additional topics will include food science, the application of food safety principles and lifecycle nutrition.

Conditions of Enrollment:
Recommended Preparation: English 1

Course Length:	**X Full Term**	**Other (Specify number of weeks):**
Hours Lecture:	**3.00 hours per week**	**TBA**
Hours Laboratory:	**0 hours per week**	**TBA**
Course Units:	**3.00**	

Grading Method: **Letter**
Credit Status: **Associate Degree Credit**

Transfer CSU: **X Effective Date: Prior to July 1992**
Transfer UC: **X Effective Date: Prior to July 1992**

General Education:
El Camino College:
5 – Health and Physical Education
Term: Other: Approved

CSU GE:
E - Lifelong Understanding and Self-Development
Term: Other: Approved

IGETC:

II. OUTCOMES AND OBJECTIVES

A. COURSE STUDENT LEARNING OUTCOMES (The course student learning outcomes are listed below, along with a representative assessment method for each. Student learning outcomes are not subject to review, revision or approval by the College Curriculum Committee)

SLO #1 Personal Dietary Intake
Utilizing dietary analysis software students will apply current nutrition standards and dietary guidelines to analyze and critique their personal dietary intake.

SLO #2 Nutrition News Article
Following textbook review and classroom discussion, students will analyze and evaluate the reliability and validity of a nutrition news article.

SLO #3 Nutrition Fact Panel
Given in-class demonstration students will interpret and evaluate information provided on a Nutrition Facts Label.

B. Course Student Learning Objectives (The major learning objective for students enrolled in this course are listed below)

1. Examine the physiological, social and cultural factors that influence eating behavior, and food choices.
2. Compare and contrast the nutrients, their sources from food and functions in the body.
3. Apply dietary guidelines and current nutrition recommendations.
4. Analyze how nutrient needs change throughout the lifecycle.
5. Perform a personal dietary analysis, utilizing a computer database.
6. Demonstrate and explain the basic principles of food safety.
7. Evaluate credible nutrition~~al~~ information using the scientific method.
8. Assess the relationship between diet, fitness and disease.
9. Describe the major components of nutrient digestion, absorption and metabolism.
10. Evaluate the nutrient value of food based on the Nutrition Facts Label.

III. OUTLINE OF SUBJECT MATTER (Topics are detailed enough to enable a qualified instructor to determine the major areas that should be covered as well as ensure consistency from instructor to instructor and semester to semester.)

Lecture or Lab	Approximate Hours	Topic Number	Major Topic
Lecture	6	I	OVERVIEW OF NUTRITION SCIENCE A. Nutrient classifications, functions and source B. Evaluating nutrition information 1. Scientific method and principles 2. Identifying credible nutrition information 3. Identifying nutrition quackery
Lecture	3	II	DIETARY GUIDELINES FOR AMERICANS A. Dietary Reference Intakes B. Diet planning 1. Ethnic diets and cultural influences B. Nutrition Facts Panel C. Health and Nutrient Claims
Lecture	4	III	THE HUMAN BODY A. Chemistry, anatomy, physiology B. The cell 1. Organelles C. The systems 1. Digestive tract 2. Nutrient digestion, absorption, transport D. Chemistry/pH
Lecture	6	IV	CARBOHYDRATES A. Structure, classification, food sources 1. Physiological functions 2. Digestion, absorption, metabolism 3. Dietary recommendations B. Complications and disease 1. Lactose intolerance 2. Diabetes and glucose intolerance 3. Hypoglycemia
Lecture	4	V	LIPIDS A. Structure, classification, food sources 1. Physiological functions 2. Digestion, absorption, metabolism 3. Dietary recommendations B. Diet and heart disease 1. Blood lipids 2. Atherosclerosis 3. Hypertension
Lecture	4	VI	PROTEINS A. Structure, classification, food sources 1. Physiological functions

			2. Digestion, absorption, metabolism 3. Dietary recommendations B. Malnutrition and food insecurity 1. Vegetarian diets C. Food allergies
Lecture	4	VII	VITAMINS A. Classification, food sources 1. Physiological functions 2. Digestion, absorption, metabolism 3. Dietary recommendations B. Deficiency diseases and toxicity symptoms C. Nutrition and cancer
Lecture	4	VIII	WATER AND MINERALS A. Classification, food sources 1. Physiological functions 2. Digestion, absorption, metabolism B. Deficiency diseases and toxicity symptoms
Lecture	6	IX	WEIGHT MANAGEMENT A. Body composition 1. Estimating energy requirements B. Nutrition assessment methods 1. Genetic factors 2. Hormones 3. Environmental influences C. Metabolism 1. Evaluating weight loss diets D. Eating disorders
Lecture	3	X	OVERVIEW OF NUTRITION AND PHYSICAL ACTIVITY A. Energy metabolism and metabolic pathways B. Utilization of energy fuels C. Sports drinks, nutrient supplements**,** performance diets
Lecture	4	XII	NUTRITION THROUGH THE LIFECYCLE A. Pregnancy 1. Physiological changes and nutrient needs B. Infant nutrition 1. Lactation and formula feeding C. Child and teen nutrition D. Geriatric nutrition 1. Physiological changes and nutrient needs 2. Drug-nutrient interactions
Lecture	6	XIII	FOOD SAFETY AND FOOD SCIENCE A. Microbes and causes of foodborne illness B. Government agencies 1. Food law, food additives 2. Pesticides and contaminants C. Food science 1. Food processing and nutrient value 2. Irradiation 3. Genetically modified organisms (GMO)

			4. Organic foods
Total Lecture Hours		54	
Total Laboratory Hours		0	
Total Hours		54	

IV. PRIMARY METHOD OF EVALUATION AND SAMPLE ASSIGNMENTS

A. PRIMARY METHOD OF EVALUATION:
Substantial writing assignments

B. TYPICAL ASSIGNMENT USING PRIMARY METHOD OF EVALUATION:
Select a food product from your cupboard, refrigerator or pantry. Evaluate and identify all components of the Nutrition Facts Label of the food package. This includes the micro nutrients, macro nutrients, ingredients and product details. Prepare a two-page report and submit to the instructor.

C. COLLEGE-LEVEL CRITICAL THINKING ASSIGNMENTS:
1. Locate a nutrition news article from any mainstream newspaper or magazine to identify the scientific method used in the research cited. The validity and credibility of the article will be evaluated. Prepare a two-page written critique and submit to the instructor.

2. Utilize a dietary computer database to evaluate a personal diet record. Accurately record all food and beverage intake over a three-day period. Using the dietary analysis software included with your textbook, analyze the nutrient intake, and recommend appropriate dietary adjustments for deficiencies and excesses. Prepare and submit a three to five-page report to the instructor.

D. OTHER TYPICAL ASSESSMENT AND EVALUATION METHODS:
Performance exams
Quizzes
Written homework
Term or other papers
Multiple Choice
Matching Items
True/False
Other (specify): Dietary Analysis Assignment

V. INSTRUCTIONAL METHODS
Discussion
Group Activities
Lecture
Multimedia presentations
Other (please specify)

Note: In compliance with Board Policies 1600 and 3410, Title 5 California Code of Regulations, the Rehabilitation Act of 1973, and Sections 504 and 508 of the Americans with Disabilities Act, instruction delivery shall provide access, full inclusion, and effective communication for students with disabilities.

VI. WORK OUTSIDE OF CLASS

Study
Required reading
Written work
Other (specify)
Dietary Analysis Assignment

Estimated Independent Study Hours per Week: 6

VII. TEXTS AND MATERIALS

A. UP-TO-DATE REPRESENTATIVE TEXTBOOKS

Smith, Anne. Wardlaw's Contemporary Nutrition. 11th edition. McGraw-Hill, 2018
Schiff, Wendy. Nutrition for Healthy Living. 5th edition. McGraw-Hill, 2018.

B. ALTERNATIVE TEXTBOOKS

C. REQUIRED SUPPLEMENTARY READINGS

D. OTHER REQUIRED MATERIALS

Dietary Analysis Software Program

VIII. CONDITIONS OF ENROLLMENT

A. Requisites (Course and Non-Course Prerequisites and Corequisites)

Requisites	Category and Justification

B. Requisite Skills

Requisite Skills

C. Recommended Preparations (Course and Non-Course)

Recommended Preparation	Category and Justification
Course Recommended Preparation English 1	

D. Recommended Skills

Recommended Skills
It is recommended that students should be able to read and comprehend textbooks that include science-based information and write an essay that demonstrates critical thinking. ENGL 1 - Summarize, analyze, evaluate, and synthesize college-level texts. ENGL 1 - Write a well-reasoned, well-supported expository essay that demonstrates application of the academic writing process.

E. Enrollment Limitations

Enrollment Limitations and Category	Enrollment Limitations Impact

Course created by Nancy Hufstetler on 09/01/1977.

BOARD APPROVAL DATE:

LAST BOARD APPROVAL DATE: 07/20/2020

Last Reviewed and/or Revised by: MARY LYONS **Date: 04/10/2020**

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