



Realities of Nutrition



Industry Sector: [Health Science and Medical Technology](#)

Pathway: Patient Care

This course offers an Introduction to the basic principles of nutrition and its relationship to good health, including the evaluation of current nutritional information (and misinformation) with an emphasis on critical thinking to determine optimal dietary choices. The course also includes the study of the major dietary goals and guidelines and examination of weight maintenance techniques, eating disorders, food labeling, food safety, and special needs at various stages in the life cycle.

Last Revised: July 24, 2017

Program Information	CTE Certification Elements
<p>Industries / Pathways: Health Science and Medical Technology</p> <p>K-12 Subjects: Physical/Health Education</p> <p>Grade Levels: 11, 12</p> <p>CSU/UC Approval: No</p> <p>Community College Course: Yes</p> <p>Pathway Sequence(s) That Include This Course:</p> <p>1. Patient Care Pathway Course Sequence: Introduction to Health and Human Service Careers or Health Professions and Organizations First Aid, Emergency Response and CPR Career Explorations Anatomy and Physiology</p>	<p>Course Level: Concentrator</p> <p>CALPADS Pathway: HLT-198</p> <p>CALPADS Course Title: Realities of Nutrition</p> <p>State Course ID: 7921</p> <p>Total Hours: 45</p> <p>Course Length: 1 Semester</p> <p>Local Course Number: HED155:PC</p> <p>Board Approval: Pending Board Action on 12/7/17</p> <p>Labor Market Demand: High</p> <p>Course Type: Career-Technical Preparation</p>

Introduction to Public Health or Health and Social Justice or Medical Terminology Hospital/Clinical Internship (10 th , 11 th , 12 th) <i>Realities of Nutrition</i> or Substance Abuse and Public Health CPR Recertification Advanced Pre-nursing Seminar or Advanced Internship	
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Standards

California's 2013 CTE Standards

1. CTE.HTR.A.1.1 Define and compare core elements of the food science, dietetics, and nutrition industry from the supporting industries and regulatory agencies
2. CTE.HTR.A.3.2 Interpret safe and sanitary food-handling procedures as set forth by local, state, and federal health and safety codes, including reporting and dealing with violations of the food safety code
3. CTE.HTR.A.4.1 Understand the relationship of emotional, psychological, and physiological needs to food intake and natural hunger cues.
4. CTE.HTR.A.4.2 Analyze appropriate nutrient intake, diet, and energy expenditure for individuals of different ages and with different dietary and health needs
5. CTE.HTR.A.4.3 Illustrate the anatomical structure and functions of the digestive system, including the biochemical processes involved in digestion, absorption, metabolism, energy balance, and food-drug interactions
6. CTE.HTR.A.5.1 Explain how research-based, recognized dietary guidelines relate to nutrition, fitness, and overall wellness
7. CTE.HTR.A.5.3 Analyze popular diets for recommendations that are consistent with, or contrary to, approved dietary guidelines
8. CTE.HTR.A.5.4 Analyze nutrient density as it relates to food quality and dietary choices for individual nutrition, fitness, and wellness goals.
9. CTE.HTR.A.6.3 Provide examples of the influence of cultural health-related practices and food preferences on the nutrition, fitness, and wellness of individuals.
10. CTE.HTR.A.8.1 Recognize terminology, methods, and equipment used in the food science and technology industry
11. CTE.HTR.A.8.3 Understand important chemical and physical changes that occur during food preparation
12. CTE.HTR.A.9.1 Understand the purpose, importance, and basic procedures of sensory evaluation experiments.
13. CTE.HTR.A.9.5 Test food products by using controls, variables, and random sampling
14. CTE.HTR.A.10.3 Evaluate the psychological effects of market branding, subliminal messages, and advertising on consumer choices

Common Core Standards for Literacy in History/Social Studies, Science and Technical Subjects

Reading

1. RST.9-10.3 (9th and 10th)Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text.
2. RST.11-12.3 (11th and 12th)Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.
3. RST.9-10.9 (9th-10th)Compare and contrast findings presented in a text to those from other sources (including their own experiments), noting when the findings support or contradict previous explanations or accounts.
4. RST.11-12.9 (11th and 12th)Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.

Writing

1. WHST.9-10.4, WHST.11-12.4 (9-10 & 11-12)Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

Competencies / Outcomes

1. Describe the relationship between good nutrition and good health.
2. Investigate and list the nutrients essential for good health, their physiological functions, and food sources.
3. Examine a variety of dietary planning guides (e.g., food guide pyramids, dietary reference intakes, exchange lists, etc.) in order to make informed dietary decisions.
4. Examine the nutritional facts on food labels and correctly identify the nutritional content.
5. Evaluate current diet utilizing a dietary intake log to determine appropriate nutritional content to meet personal needs/goals.
6. Examine the special nutritional needs of various stages in the life cycle from conception through old age.
7. Evaluate a variety of eating styles for nutritional content and sufficiency (e.g., vegetarianism, cultural and ethnic foodways).
8. Investigate our relationship with food and where the food we eat comes from. Explore local food sources, including: grocery stores, farmers markets and farms.

Units

Unit 1: Orientation

Description

In this unit, students will be introduced to the Realities of Nutrition course. Classroom expectations will be covered by reviewing the syllabus. Because the human body is constantly undergoing changes that are governed by genetics and are highly dependent on the availability of nutrients, this unit will provide students with an overview of nutrition by defining the terms *nutrition* and *nutrient*, and by identifying the major classes of nutrients. Students will also examine some of the factors that influence our food intake. Eating too little or too much can create an imbalance of nutrients and result in nutritional problems. Also included is a discussion of different techniques for assessing nutritional status.

Key Topics/Activities

- Introduce the course and vital terms.
- Analyze the basics of nutrition and nutritional status
- Discuss the course syllabus and major objectives.
- Explain applicable classroom management procedures, and any operational guidelines.
- Review instructor/student expectations.
- Explain enrollment and attendance requirements and procedures.
- Review grading and student evaluation procedures.
- Discuss the community classroom aspect of the program as applicable.
- Discuss the "next steps" in the course sequence related to additional education, training, and employment.
- Review classroom safety, emergency and disaster procedures.
- Discuss student Pathway outcomes and their relationship to the course and employability.

Key concepts and skills will be assessed through written examination, including multiple choice, short answer, and short constructed response.

Unit 2: Basis for a Healthy Diet

Description

In this unit, student will look at how nutrition research is conducted to enable them to make their own assessment of claims. The main part of this unit explains different nutrition research methods, including a discussion of the advantages and disadvantages of each method and what it takes to maintain a healthy diet.

Key Topics/Activities

- Analyze nutrition claims of food products.
- Identify nutrition and dietary standards.
- Identify how nutrition contributes to good health and disease prevention.
- Explain the food guide pyramid.
- Evaluate food labels.
- Identify and describe Recommended Daily Allowances.
- Calculate nutritional information per serving (e.g., calories, fat grams).

Key concepts and skills will be assessed through written examination, including multiple choice, short answer, and short constructed response.

Unit 3: Carbohydrates

Description

In this unit, students will examine the classification of carbohydrates and give examples of food sources of each type. Students will review the processes of digestion and absorption of carbohydrates, and discuss the problem of lactose intolerance. Discussions around the functions of carbohydrates, the health effects of dietary fibre, and the regulation of blood glucose are also included in this unit. Finally, students will look at trends in carbohydrate consumption and the recommendations for carbohydrate intake.

Key Topics/Activities

- Identify sources of carbohydrates.
- Identify simple and complex carbohydrates.
- Explain the role of carbohydrates in a person's diet.
- Identify the health concerns associated with carbohydrates.

Key concepts and skills will be assessed through written examination, including multiple choice, short answer, and short constructed response.

Unit 4: Lipids

Description

In this unit, students will examine the chemical and physical characteristics of various types of lipids and discuss their sources. While there are over 50 types of fatty acids in the diet, this unit will focus on 10 of them. Students will study the processes of digestion, absorption, and transport of lipids, and review the functions of lipids and the effects of diet on blood cholesterol. A look at trends in fat consumption, the current recommendations for fat intake, and the effects of food processing on dietary lipids will be evaluated in this unit as well.

Key Topics/Activities

- Identify sources of fats and oils.
- Identify saturated, polyunsaturated, monounsaturated, and trans-fatty acids.
- Explain the role of lipids in a person's diet.
- Identify the health concerns associated with lipids

Key concepts and skills will be assessed through written examination, including multiple choice, short answer, and short constructed response.

Unit 5: Proteins

Description

This unit will provide an overview of proteins: their chemical characteristics, the processes of protein digestion and absorption, and protein quality. Students will examine the functions of proteins in the body, the health effects of protein deficiency or excess, and the issue of protein quality for vegetarian diets. In addition, students will look at patterns of protein consumption and at intake recommendations.

Key Topics/Activities

- Identify sources of proteins
- Identify essential and nonessential amino acids
- Explain the role proteins play in a person's diet
- Identify the health concerns associated with proteins
- Identify complete and incomplete protein foods

Key concepts and skills will be assessed through written examination, including multiple choice, short answer, and short constructed response.

Unit 6: Vitamins: Fat and Water Soluble

Description

In this unit, students will discuss the characteristics, sources, physiological activity, deficiency symptoms, and stability of the major vitamins. Student will look at the functions of water in the body and at how the body maintains water balance. Included are discussions around the importance of electrolytes in regulating the distribution, composition, and acidity of body fluids. Students will also discuss the functions, deficiency and toxicity symptoms, and major food sources of sodium, potassium, and calcium.

Key Topics/Activities

- Explain the role vitamins play in a person's diet.
- Identify the sources of vitamins A, B, C, D, and E.
- Explain the role minerals play in a person's diet.
- Identify the sources of minerals to include iron, calcium, and electrolytes.
- Identify the health concerns associated with vitamins and minerals.

Key concepts and skills will be assessed through written examination, including multiple choice, short answer, and short constructed response.

Unit 7: Human Digestion, Absorption, and Transport

Description

To understand how food works in the body, you need a basic understanding of the major body systems and of the process of digestion itself. These topics form the subject of this unit.

Key Topics/Activities

- Identify the parts of the digestive system.
- Explain how the digestive system works and the role each organ plays.

Key concepts and skills will be assessed through written examination, including multiple choice, short answer, and short constructed response.

Unit 8: Life Long Nutrition

Description

Lifelong nutrition is the study of the diet throughout the human lifespan, and the ways that different age groups can have unique dietary requirements, and possess individual health risks. In this unit, you will explore the cutting-edge science behind dietary needs, and discover the many other factors that impact on our definitions of 'healthy eating' at different ages.

Key Topics/Activities

- Identify the nutritional needs of babies, toddlers, and school-aged children.
- Describe common health concerns related to nutrition for babies, toddlers, and school-aged children.
- Identify the nutritional needs of teenagers.
- Describe common health concerns related to nutrition for teenagers.
- Identify the nutritional needs of adults.
- Describe common health concerns related to nutrition for older adults.
- Identify the nutritional needs of the elderly.
- Describe common health concerns related to nutrition for the elderly.
- Prepare a balanced menu for each identified population.

Key concepts and skills will be assessed through written examination, including multiple choice, short answer, and short constructed response.

Unit 9: Obesity, Energy Balance and Weight Management

Description

In this unit, students will examine the energy value of foods and the energy expenditure of humans. The challenges of assessing body weight and determining whether a person is underweight or overweight will be discussed. Students will explore the relationship between affluent lifestyles in developed countries and chronic diseases and negative health conditions. Students will also explore a major cause of and contributor to chronic diseases of lifestyle—excess weight and obesity, and discuss Type 2 Diabetes.

Key Topics/Activities

- Analyze diet trends and their impact on a person's health.
- Describe the role of exercise and fitness on a person's health.
- Identify appropriate body weight and composition.
- Identify the effects eating disorders have on the body.

- Calculate caloric intake.
- Prepare a balanced menu for weight management purposes.

Key concepts and skills will be assessed through written examination, including multiple choice, short answer, and short constructed response.