J. Sargeant Reynolds Community College
Course Content Summary

Course Prefix and Number: HLT 230 **Credits: 3**

Course Title: Principles of Nutrition and Human Development

Course Description:

Introduces students to the basic concepts of nutrition and its impact on personal wellness. Emphasizes an evidence-based approach to various topics, such as the nutrient components of food, the components of a healthy eating pattern, and the relationship between diet and health. Provides a behavioral approach to nutrient guidelines for the development and maintenance of optimum wellness. The assignments in the course require college-level reading fluency and coherent communication through documented written reports.
Lecture 3 hours. Total 3 hours per week. 3 credits

General Course Purpose:

HLT 230 introduces basic nutrition concepts and the relationship between diet and personal health.

Course Prerequisites and Co-requisites:

None

Student Learning Outcomes:

Upon completing the course, the student will be able to

- Communication
  - Communicate openly and accurately with others regarding nutrition issues
- Critical Thinking
  - Discuss the impact of lifestyle behaviors, including nutrition and physical activity, on lifelong health
  - Evaluate current individual nutrition practices and incorporate components of a healthy diet into personal nutrition choices
  - Compare and contrast nutritional needs at various stages of the life cycle
- Social and Cultural Understanding
  - Discuss the personal, cultural, social, and psychological factors affecting food choices
- Information Literacy
  - Assess nutrition information for scientific reliability and evaluation current nutrition concepts and controversies
  - Select and utilize credible sources of nutrition and health information
- Scientific Reasoning
  - Identify the major nutrients, where they are found in foods, and their role in body structure and function.
  - Describe the components of a healthy eating pattern based on current evidence-based guidelines

    - Explain the physiological processes whereby the body breaks down food and absorbs nutrients
    - Discuss the interrelationships of diet to development of obesity and specific chronic diseases, and other physical and mental illnesses and conditions
- Personal Development
    - Discuss the role nutrition plays in the maintenance of health/wellness
    - Construct and employ a personalized meal plan that meets individual dietary needs and incorporates sound nutrition principles
- Introduction to Nutrition Concepts
    - Define nutrition
    - Describe the body's need for calories, nutrients and other substances
    - Explain the connection between diet and health
    - Distinguish among the six classes of nutrients
    - Explain the concept of essential nutrients
    - Discuss the concepts of adequacy, balance, calorie control, moderation, and variety.
    - Discuss the factors affecting individual food choices
    - Explain the motivations for nutrition misinformation in the media
    - Discuss ways to identify nutrition misinformation
    - Discuss sources of scientifically reliable nutrition research and funding sources
    - Analyze selected nutrition articles and websites for reliability and credibility
- Nutrition Standards, Guidelines, and Healthy Eating Patterns
    - Define the five dietary reference intake (DRI) values
    - Discuss the application of the DRIs to various population groups and individuals
    - Discuss the key recommendations in the Dietary Guidelines for Americans
    - Explain the key recommendations for each food group based on the USDA Choose My Plate plan
    - Discuss the key components of USDA Eating Patterns
    - Demonstrate how various diet-planning tools can be used to plan a nutritious diet
    - Identify strategies for healthy eating on a budget
    - Identify and dispel common nutrition myths
    - Explain the key elements of the nutrition label
    - List the requirements/rules for each element of the nutrition label
    - Explain the FDA's policy on health claims on food labels
    - Discuss the differences between the nutrition label and the supplement label
    - Analysis and compare various nutrition labels for required elements and health claims
- Body Systems and Nutrition
    - Name six basic needs of the body's cells
    - Explain the interaction among the endocrine, nervous, and cardiovascular systems, and digestive system health.
    - Explain the role of nutrition in the functioning of the immune system
    - List the main digestive organs and describe the function of each
    - Describe the primary function of digestion enzymes
    - Describe how fats, carbohydrates and proteins are digested
    - List and describe the major digestive disorders to include possible causes and treatment
- Carbohydrates, Proteins and Fats
    - Discuss the role of carbohydrates, protein, and fat in the body
    - Distinguish between simple and complex carbohydrates
    - Discuss the health benefits of a high fiber diet
    - Dispel the myth that "carbs are bad" and discuss the health benefits of eating complex carbohydrates
    - Distinguish between complete and incomplete proteins

    - Explain the concept of complementary proteins
    - Discuss the consequences of too little and too much protein
    - Distinguish among saturated, trans and unsaturated fats
    - Discuss the health benefits of a diet rich in unsaturated fats and the adverse health effects of saturated and trans fats
    - Distinguish between "good" and "bad" cholesterol
    - List the recommended amount of calories from fat, carbohydrates and protein
    - Identify food sources for carbohydrates, proteins and fats
- Vitamins, Minerals, and Water
    - Distinguish between water soluble and fat soluble vitamins
    - Explain the function of vitamins and minerals in the body
    - Identify food sources for vitamins
    - Describe recommendations for preventing vitamin deficiencies and toxicities
    - Explain the health benefits of calcium, iron, and potassium
    - Discuss the relationship between sodium intake and hypertension
    - Discuss the role of water as an essential nutrient
    - Discuss the health benefits of water
    - Discuss the risks of water deficiency and water toxicity
- Energy Balance and Weight Management
    - Define basal metabolic rate (BMR), non-exercise thermogenesis, exercise thermogenesis, and diet-induced thermogenesis
    - Discuss the concept of energy balance
    - Calculate energy needs based on the DRI method.
    - Explain how weight status is defined in adults and children
    - Calculate body mass index (BMI)
    - Define BMI classifications in adults and children
    - Discuss the influences of obesity on health status
    - Distinguish between types and location of fat as it pertains to health risk
    - List methods for measuring body fat
    - Discuss various theories of obesity
    - List the health effects of being underweight
    - Discuss the strategies for achieving and maintaining a healthy body weight to include food and lifestyle choices
    - Identify the pros and cons of popular diet plans
    - Define medical treatment of obesity
- Diet and Disease
    - Define the three types of diabetes
    - Describe the characteristics of Type 1 and Type 2 diabetes
    - Explain the health consequences of Type 2 diabetes
    - Describe pre-diabetes and Metabolic Syndrome
    - Identify dietary and lifestyle factors to prevent and manage Type 2 diabetes
    - Discuss the major risk factors for heart disease
    - Distinguish between HDL and LDL cholesterol
    - Identify strategies to prevent and manage heart disease
    - Define acceptable blood lipid levels
    - Define cancer and explain how it develops
    - Identify the causes of cancer, genetic and environmental
    - Identify cancers amenable to dietary intervention
    - Describe a diet that will lower the risk of cancer
- Performance Nutrition
    - Define physical activity and performance nutrition
    - Explain the health benefits of physical activity
    - List the physical activity guidelines for Americans

    - Describe the components of physical fitness (cardiorespiratory endurance, muscular strength and endurance, and flexibility)
    - Identify the key nutrient needs for physical performance
    - Identify healthy foods choices for various types of physical performance
- Life Cycle Nutrition: Mother and Infant
    - Identify critical periods of fetal development
    - Discuss the importance of pregnancy weight status and prenatal weight gain
    - Discuss energy needs during pregnancy
    - Identify key nutrient needs during pregnancy and the health implications of deficiencies
    - Discuss the effects of alcohol and tobacco consumption during pregnancy
    - Discuss the benefits of breastfeeding
    - Identify nutrient needs for breastfeeding
    - Discuss current infant feeding recommendations
- Life Cycle Nutrition: Children, Teens, and Older Adults
    - Identify nutrient needs during each stage of childhood (early childhood, school-age, and adolescence)
    - Discuss food preference development in children
    - Discuss recommendations for healthy diets in children and youth
    - Distinguish between food allergies and food intolerance
    - Describe how food allergies and food intolerances develop
    - Describe the most common symptoms of intolerance and allergic reactions to food
    - List the foods most likely to cause intolerance symptoms or allergic reactions
    - Discuss the effects of alcohol and tobacco consumption.
    - Review the recommended nutrient intake ranges for older adults
    - Discuss key nutrition issues for older adults
    - Identify key nutrient needs for middle age and older adults
- Food Safety
    - Define foodborne illness
    - Distinguish between food infection and food intoxication
    - Identify potential sources of food contamination
    - Discuss the causes and risks of foodborne illness
    - Discuss food safety regulations
    - Discuss the consumer's role in preventing foodborne illness
    - Explain regulation of food additives
    - Discuss the benefits and potential risks of food additives
- U.S. and Global Nutrition Issues
    - Define food insecurity
    - Identify socio-economic factors that affect access to food, food choice and food quality
    - Identify strategies for addressing food insecurity
    - Identify the leading problem areas related to malnutrition and hunger
    - Discuss strategies for tackling the global nutrition crisis
    - Identify threats to the global food supply
    - Discuss strategies for protecting the US and global food supply

Major Topics to be Included

- Introduction to Nutrition Concepts
- Nutrition Standards, Guidelines, and Healthy Eating Patterns
- Body Systems and Nutrition
- Carbohydrates, Proteins, & Fats

- Vitamins, Minerals, and Water
- Energy Balance and Weight Management
- Diet and Disease
- Performance Nutrition
- Life Cycle Nutrition: Mother and Infant
- Life Cycle Nutrition: Children, Teens, and Older Adults
- Food Safety
- U.S. and Global Nutrition Issues

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