Revised 08/2022

NOVA COLLEGE-WIDE COURSE CONTENT SUMMARY
HLT 230 – PRINCIPLES OF NUTRITION (3 CR.)

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.

General Course Purpose

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

Course Prerequisites/Corequisites

None

Course Objectives

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

Extra Topics to be Included

Food as medicine
Energy drinks/soda
Sports nutrition

Cellular respiration
Specialty diets