

Food and Nutrition I

Revised 6-2011

Levels: 9-12

Units of Credit: .50

CIP Code: 20.0108

Core Code: 34-01-00-00-150

Prerequisite: None

Skill Test #340

COURSE DESCRIPTION

This course is designed for students who are interested in understanding the principles of nutrition and in maintaining a healthy life style. Attention will be given to the selection and preparation of food and personal health and well-being. (Standards 1-6 will be covered on Skill Certification Test # 340.)

CORE STANDARDS, OBJECTIVES, AND INDICATORS

STANDARD 1

Students will apply the skills of kitchen equipment and management.

Objective 1: Identify types, use and care of selected kitchen equipment.

- a. Identify various types of kitchen equipment.
- b. Select appropriate equipment for specific product preparation.
- c. Demonstrate the proper use and care of equipment.
- d. Employ standard safety procedures when using equipment.

Objective 2: Explain the basic principles of cooking in a microwave.

- a. Identify that microwaves are attracted to fat, sugar, and water molecules.
- b. Identify how microwaves cook food.
- c. Identify appropriate cooking containers.
- d. Discuss basic principles of microwave cooking:
 - Cooking time
 - Standing time
 - Ways to increase even cooking
 - Appropriate foods and limitations
- e. Discuss prevention of burns and exploding or splattering of food.

Objective 3: Identify appropriate abbreviations, food-measurement terminology, techniques, equivalents, and calculate recipe-size adjustments and demonstrate proper measuring techniques.

- a. Identify abbreviations.
- b. Compute equivalents.
- c. Identify measuring techniques and utensils.
- d. Double and cut recipe size in half.

Objective 4: Explain basic food-preparation terminology.

- a. Define cooking terms: chop, cream, cut in, dice, dredge, flour, fold in, grate, knead, mince, peel, sauté, simmer, steam and whip.

STANDARD 2

Students will consistently demonstrate kitchen safety procedures and sanitation techniques.

Objective 1: Apply established safety rules and guidelines to maintain a safe working environment.

- a. Identify safety practices for using electric appliances.
- b. Explain how to extinguish a grease fire.
- c. Demonstrate proper storage of cleaning supplies.
- d. Explain prevention of: burns, cuts, fires, falls, electrical safety, and lifting techniques.

Objective 2: Identify proper first-aid procedures for cuts, burns and electrical shock.

- a. Identify ways to prevent poisoning and chemical contamination.
- b. Identify basic first-aid for cuts and burns.
- c. Identify proper first-aid procedures for electrical shock.

Objective 3: Identify and apply sanitation rules and guidelines.

- a. Identify proper hand washing and dishwashing techniques.
- b. Discuss disinfecting of work surfaces.
- c. Discuss appropriate use of gloves.
- d. Identify appropriate clothing and hair coverings.

Objective 4: Identify methods that prevent food-borne illnesses and contamination.

- a. Define the characteristics of a food-borne illness.
- b. Identify types of food-borne illness and their symptoms:
 - Botulism
 - E-coli
 - Hepatitis
 - Salmonella
 - Staphylococci
- c. Explain prevention techniques including cross contamination.
- d. Identify proper temperatures:
 - Danger Zone: 41-135 degrees
 - Heating, reheating and serving foods: 165 degrees
 - Cold storage of foods: 40 degrees or below
 - Internal food temperatures:
 - Ground meats (pork, beef, veal, lamb) : 160 degrees
 - Seafood, beef, veal, lamb: at least 145 degrees
 - All poultry (whole or ground): 165 degrees
 - Pork: 160 degrees
- e. Explain how to correctly thaw foods.

STANDARD 3

Students will explore the current Dietary Guidelines and ChooseMyPlate.gov.

Objective 1: Identify the six Dietary Guidelines and the key recommendations for each. The guidelines are listed below:

- a. Eat nutrient dense foods.
- b. Balance calories to manage weight.
- c. Reduce sodium, fats and added sugars, refined grains and alcohol.
- d. Increase vegetables, fruits, whole grains, milk, seafood and use oils in place of solid fats.
- e. Build healthy eating patterns that meet nutritional needs over time at an appropriate calorie level.
- f. Include physical exercise as part of healthy eating patterns.
(Dietary Guidelines are revised every 5 years; Pending revision in 2015.)

Objective 2: Demonstrate knowledge of MyPlate. *(See ChooseMyPlate.gov.)*

- a. Identify the characteristics of MyPlate:
 - Grains Group
 - Protein Group
 - Vegetable Group
 - Fruit Group
 - Dairy Group

Objective 3: Demonstrate knowledge of healthy eating patterns. *(See ChooseMyPlate.gov)*

- a. Explain how all food groups are important to good health.
- b. Identify the characteristics of healthy eating patterns:
(These are the "Ten Tips to a Great Plate" from ChooseMyPlate.gov.)
 - Balance calories:
 - Enjoy your food, but eat less.

- Avoid oversized portions.
- Foods to increase:
 - Make half your plate fruits and vegetables.
 - Switch to fat-free or low-fat (1%) milk.
 - Make at least half your grains whole grains.
- Foods to reduce:
 - Compare sodium in foods like soup, bread, and frozen meals and choose the foods with lower numbers.
 - Drink water instead of sugary drinks.
- c. Explain empty calories.
- d. Explain how people have different caloric needs depending on age, gender and activity level.

STANDARD 4

Students will identify the sources and function of carbohydrates and fiber and apply appropriate food preparation techniques.

Objective 1: Identify carbohydrates, their sources and functions and the importance of whole grains in the body.

- a. Define simple and complex carbohydrates.
- b. Identify functions, food sources and caloric content of simple and complex carbohydrates.
- c. Describe how carbohydrates are broken down, or metabolized, during the digestion process.

Objective 2: Identify fiber, its sources and functions.

- a. Identify the functions and food sources of fiber.
- b. Identify cellulose/non-digestible fiber.
- c. Discuss the importance of liquids in the role of bowel function.
- d. Discuss why the National Cancer Institute recommends 20-35 grams of daily fiber.
- e. Identify foods high in natural fiber and how to increase the bulk in low-fiber foods.

Objective 3: Apply food selection and preparation guidelines related to quick breads, rice, grains and pasta.

- a. Identify examples of quick breads: muffins, pancakes, waffles, biscuits, cornbread and nut/fruit bread.
- b. Identify basic mixing techniques for quick breads.
- c. Identify the role of each ingredient contained in quick breads: flour, liquid, leavening agents, fat, salt and sugar.
- d. Identify types of rice (brown, instant, long grain and short grain), and cooking methods for rice.
- e. Identify cooking methods for pasta.

STANDARD 5

Students will identify the sources and functions of proteins and fats and apply appropriate food preparation techniques.

Objective 1: Identify proteins (complete and incomplete), their sources and functions in the body.

- a. Identify the function of protein in the body and its caloric content.
- b. Define amino acids, complete and incomplete proteins.
- c. Identify examples of complete proteins and incomplete proteins.

Objective 2: Apply food selection and preparation guidelines related to egg products.

- a. Identify functions of eggs: binder, thickener, coating, leavening agent and emulsifier.
- b. Identify egg cooking temperatures and techniques/methods: hard cooked, soft cooked, scrambled, fried, and poached.
- c. Identify appropriate storage of eggs.

Objective 3: Apply food selections and preparation guidelines related to milk and milk products.

- a. Identify serving sizes and amounts for milk and dairy products.
- b. Define pasteurization, homogenization and fortified milk.
- c. Identify methods of lowering fat in recipes by using lower fat content milk or milk products.

Objective 4: Identify fats, their sources, functions and related health concerns.

- a. Identify the functions of fats:
 - Carrier for vitamins A, D, E, and K.
 - Reserve supply of energy.
 - Adds flavor in food.
 - Satisfies hunger.
 - Protects internal organs from shock and injury.
 - Insulates the body from shock and temperature changes.
 - Promotes healthy skin.
 - Satisfies hunger and helps you feel full longer.
- b. Explain the role of cholesterol, including HDL and LDL factors.
- c. Identify the differences between saturated, monounsaturated, polyunsaturated fats and trans-fatty acids. Discuss the effect of each type of fat on HDL and LDL levels.
- d. Identify caloric content and methods of lowering fat content of prepared foods.

STANDARD 6

Students will identify the sources, function of vitamins, minerals and water and apply appropriate food preparation techniques

Objective 1: Identify vitamins, their food sources, functions and deficiencies in the body.

- a. Identify the body processes that are regulated by vitamins: nerves, muscles and skin all require vitamins to function properly.
- b. Discuss the importance of folate (folacin/folic acid) in preventing neural tube birth disorders.
- c. Identify water soluble vitamins:
 - Vitamin C
 - B-Vitamins: thiamin, riboflavin, niacin, folate
- e. Identify fat soluble vitamins:
 - A, D, E, and K.

Objective 2: Identify minerals, their sources, functions and deficiencies in the body.

- a. Discuss macro minerals, electrolytes and trace minerals.
- b. Identify the problems associated with calcium and iron deficiencies.

Objective 3: Identify the functions of water in the body.

- a. Identify the functions of water:
 - Carries water soluble vitamins.
 - Carries waste through the body.
 - Regulates body temperature.
 - Prevents dehydration.
- b. Discuss why water is the most important of all the essential nutrients.
- c. Identify symptoms of dehydration and how to prevent it based on current daily recommendations.

Objective 4: Apply food selection and preparation guidelines related to fruits and vegetables.

- a. Identify the nutrients provided by fruits and vegetables.
- b. Identify how to preserve nutrients in the storage process of fruits and vegetables.
- c. Identify preparation methods to preserve the most nutrients for vegetables and/or fruits:
 - Microwave
 - Bake
 - Steam
 - Stir fry
 - Simmer
 - Sauté
- d. Identify how to select fresh fruits and vegetables.
- e. Discuss how to prevent oxidation of fresh fruits.