

Course Description

DEH2202 | Nutrition and Dental Health | 2.00 credits

This course provides a study of nutrients, their nature, source, and utilization. Students will learn the relationship between diet and oral health care and oral manifestations of nutritional deficiencies.

Course Competencies

Competency 1: The student will demonstrate knowledge and comprehension of healthy eating habits by:

1. Listing the physiologic functions of the six nutrient classifications of food
2. Explaining the strengths and weaknesses of MyPlate as an educational tool
3. Naming the primary food groups and listing the recommended number of servings and the significant nutrient contributions of each food group
4. Discussing the purpose of the Dietary Guidelines for Americans
5. Identifying dietary selections in each food group that affect intake of calories, fats, salt, and sugar
6. Analyzing a 3-Day dietary intake using the Dietary Guidelines for Americans and Supertracker
7. Describing dietary reference intakes (DRIs) and Daily Values (DV)
8. Identifying the components of a food label
9. Calculating the amount of sugar and fat per serving of a food and nutrients available
10. Identifying the Healthy People 2020 Nutrition Objectives
11. Defining Adequate Intake (AI) and Tolerable Upper Intake levels
12. Calculating the BMI
13. Defining acceptable macronutrient range (AMDR)
14. Differentiating between enriched and fortified foods
15. Defining the purpose of discretionary calories in a patient's diet
16. Using the components of MyPlate software to evaluate a 3-day diet
17. Describing common food portions in ways patients can understand

Competency 2: The student will demonstrate the knowledge and comprehension of human digestion and absorption by:

1. Discussing common factors that influence food intake
2. Explaining the primary functions of the digestive organs
3. Listing life-stage issues that need to be taken into consideration during nutritional counseling
4. Describing dietary recommendations to alleviate GERD
5. Describing how the digestion and absorption processes affect nutritional status and oral health
6. Describing the role of saliva in the digestive process and oral health
7. Describing the role of probiotics

Competency 3: The student will demonstrate the knowledge and comprehension of the function of carbohydrates by:

1. Stating the function of dietary carbohydrates and the RDA for adults and children
2. Identifying dietary sources of starches and other sugars
3. Explaining the roles and dietary sources of fiber
4. Calculating calories provided per gram of carbohydrate on a food label

5. Explaining the role of carbohydrates in the caries process
6. Identifying recommendations of carbohydrate intake for the prevention of caries
7. Stating the recommended daily AI of fiber for adults and children
8. Stating the consequences of carbohydrate excess and deficiency
9. Explaining the role of xylitol in caries prevention

10. Identifying the names of artificial sugar used in foods
11. Assessing carbohydrate consumption using the Dietary Guidelines for Americans

Competency 4: The student will demonstrate the knowledge and comprehension of the function of protein by:

1. Stating the physiological roles of amino acids
2. Identifying the essential amino acids
3. Classifying which foods are sources of high-quality and low-quality proteins
4. Explaining the use of complementary proteins in a diet
5. Explaining why various physiologic states require different amounts of protein
6. Identifying factors that make a person susceptible to sarcopenia, kwashiorkor, and marasmus
7. Discussing the health risks associated with a high protein or low protein diet
8. Assessing protein consumption using the Dietary Guidelines for Americans

Competency 5: The student will demonstrate the knowledge and comprehension of the function of dietary lipids by:

1. Identifying the basic structural units of dietary lipids
2. Describing how fats in the body affect oral health
3. Stating the number of kilocalories provided per gram of fat
4. Listing dietary sources for saturated, monounsaturated, polyunsaturated, omega-3, omega-6, trans fatty acids, and cholesterol
5. Describing the benefits and risks of a vegetarian diet
6. Assessing fat consumption using the Dietary Guidelines for Americans

Competency 6: The student will demonstrate the knowledge and comprehension of metabolism and balance by:

1. Calculating energy needs according to a patient's weight and level of activity
2. Identifying the various factors affecting the basal metabolic rate
3. Discussing the role of exercise in health
4. Discussing the functions of water and the risk factors for dehydration
5. Identifying the nutritional implications of caffeine, alcohol, and soft/sport drinks in the oral cavity

Competency 7: The student will demonstrate the knowledge and comprehension of Vitamins, water, and minerals required for calcified structures, soft tissue, and salivary glands by:

1. Differentiating between fat-soluble and water-soluble vitamins
2. Identifying functions, deficiencies, toxicities, and oral symptoms for A, D, E, K, C, and B-Complex vitamins
3. Listing food sources for A, D, E, K, C, and B-Complex vitamins
4. Listing the minerals found in collagen, bones, and teeth and their prominent physiologic roles and sources
5. Describing the general manifestations of mineral deficiencies in the mouth
6. Describing the oral manifestations of mineral deficiencies
7. Discussing dental considerations regarding the intake of calcium, phosphorous, magnesium, and fluoride
8. Identifying the trace elements present in the body
9. Listing factors that could interfere with mineral absorption
10. Describing oral soft tissue changes that occur in a B-complex deficiency
11. Discussing the role of and sources of vitamin B 12 for vegetarians
12. Comparing and contrasting the function, sources, toxicities, and associated symptoms of vitamins and minerals important for healthy oral soft tissues
13. Identifying the oral signs of iron deficiency anemia
14. Describing oral signs and symptoms of water, iron, zinc, sodium, and iodine deficiencies
15. Describing dietary supplements with effects on oral health
16. Discussing the difference between evidence-based versus food fads concerning supplements

Competency 8: The student will demonstrate the knowledge and comprehension of nutritional requirements through the life cycle and eating habits affecting oral health by:

1. Discussing nutrition education needs for patients in different stages of the life cycle
2. Describing factors that influence the food intake of older patients
3. Explaining dietary changes that can be made to provide optimum nutrient intake for elderly patients
4. Identifying the recommended BMI for children to prevent obesity
5. Describing factors associated with the development of obesity in children
6. Describing the role of snacks in the diet of toddlers and children
7. Identifying snacks of low carcinogenicity
8. Discussing strategies for diet education appropriate for adolescents

Competency 9: The student will demonstrate the knowledge and comprehension of nutritional requirements affecting oral health in women by:

1. Discussing the role of nutrition in conception, pregnancy, and lactation
2. Describing the health benefits of breastfeeding for the infant and mother
3. Identifying nutritional problems pregnant women may have that affect oral health and the oral development of infants
4. Comparing the nutritional needs of pregnant teenagers and older mothers
5. Identifying which nutrients are affected by oral contraceptive agents
6. Describing the nutritional requirements women have during menopause
7. Identifying the causes and oral manifestations of fetal alcohol syndrome
8. Explaining the effects of bulimia nervosa, binge eating, and anorexia nervosa on the oral cavity

Competency 10: The student will demonstrate the knowledge and comprehension of factors affecting nutrient intake by:

1. Listing common food allergens
2. Describing the difference between a food allergy and intolerance
3. Discussing the relationship between poverty, health, society, environment and food

Competency 11: The student will demonstrate the knowledge and comprehension of the effects of systemic disease on the nutritional status of oral health by:

1. Identifying diseases, conditions, and treatments that may have oral signs and symptoms
2. Discussing appropriate dental hygiene interventions for patients with systemic diseases or conditions with oral manifestations
3. Discussing the nutritional implications of oral conditions such as orthodontia, extractions and orthognathic surgery, dentures, dysphagia, and temporomandibular disorders
4. Discussing the appropriate use of liquid dietary supplements
5. Identifying foods to avoid for patients with GERD, gluten allergy, hypertension, hyperlipidemia, hypothyroidism, renal disease

Competency 12: The student will demonstrate the knowledge and comprehension of the nutritional aspect of dental caries and periodontal disease by:

1. Identifying foods that stimulate salivary flow
2. Identifying anti-cariogenic foods to modify a patient's cariogenic diet
3. Identifying factors that protect against or reduce the rate of demineralization of enamel
4. Identifying food choices and frequency of carbohydrates to reduce caries
5. Using Scoring the Sweets to determine an individual's caries risk
6. Identifying the role of nutrition in periodontal health and disease.
7. Discussing the components of nutritional counseling for the periodontal client
8. Discussing nutritional options for patients with periodontal conditions

Competency 13: The student will demonstrate the knowledge and comprehension of nutritional aspects of alterations in the oral cavity by:

1. Describing appropriate dietary recommendations for patients with xerostomia, root caries, and

removable appliances

2. Identifying dietary guidelines given to new denture patients pre- and post-insertion
3. Listing the common oral dysfunctions seen in people with special health care needs and the nutritional implications of these problems
4. Discussing different feeding strategies to enhance food intake and overall health of people with special needs

Competency 14: The student will demonstrate the knowledge and comprehension of nutritional assessment and counseling for the dental hygiene patient by:

1. Discussing the importance of taking a thorough health, social, and dental history before nutritional counseling
2. Identifying the components needed to assess the nutritional status of a patient
3. Completing dietary recommendations for a patient with a dental problem influenced by nutrition
4. Identifying the steps and considerations in implementing dietary recommendations
5. Discussing practical communication skills when giving nutritional counseling to a patient
6. Using MyPlate to make recommendations for an adult and child/adolescent
7. Explaining how motivational interviewing can be used in nutritional counseling to change behaviors that contribute to oral diseases
8. Listing the major barriers to change
9. Describing strategies to assist patients to maintain change over time

Learning Outcomes:

- Communicate effectively using listening, speaking, reading, and writing skills
- Solve problems using critical and creative thinking and scientific reasoning
- Demonstrate knowledge of ethical thinking and its application to issues in society