# Tennessee Specific Industry Certification for

# Dietetics and Nutrition Content Areas and Learning Outcomes

\*Percentages represent the number of questions on the exam in that content area.

**Content Areas**

1. Nutrition for the Lifespan
2. Dietary Guidelines and Meal Planning
3. Micronutrients and Macronutrients
4. Digestion and Metabolism
5. Medical Nutrition Therapy
6. Nutritional Assessment and Behavior Change
7. Socio-Ecological Nutrition
8. Food Safety and Sanitation
9. Professionalism and Employment

Content Area: **Nutrition for the Lifespan** (25%)

**Learning Outcomes**

1. Summarize the importance of proper infant nutrition to promote healthy growth.
2. Identify the nutrient and caloric needs of infants from birth to twelve months of age, and state the roles that they play in normal growth and development.
3. Calculate the energy and protein needs of toddlers and preschool-age children.
4. Analyze the importance of certain vitamins and minerals during the preschool, school-age, and adolescent life span.
5. Differentiate early adulthood caloric and nutritional needs with adolescent nutritional needs.
6. Explain the importance of proper nutrition for pregnant/lactating females.
7. Plan a one-week menu that provides the folate, iron, and calories needed during pregnancy.
8. Describe the importance of fitness and exercise during each stage of the lifespan.
9. Research and determine common nutritional excesses and deficiencies at various stages of the lifespan.
10. Summarize the physiological changes that may occur in older adults that affect nutritional status.
11. Explain and justify how nutritional needs change throughout the lifespan.
12. Research and summarize the factors that impact food choices at various stages of the lifespan.

Content Area: **Dietary Guidelines and Meal Planning** (15%)

**Learning Outcomes**

1. Accurately read and interpret nutrition labels using correct symbols and terminology.
2. Explain the concept of an energy-dense food versus caloric-dense foods.
3. List and explain the summary of Dietary Guidelines for Americans on diet and optimum physical health as outlined by the United States Department of Agriculture (USDA) and U.S. Department of Health and Human Services (HHS).
4. Analyze nutrition labels in correlation to specific dietary needs.
5. Compare and contrast meal plans and dietary guidelines based on factors such as physical activity, religious values, and psychological needs.
6. Analyze and modify food journals to create meal plans that address deficiencies and excesses while meeting caloric and nutritional recommended daily allowances.
7. Quantify the nutrient intake of individuals based on food journals, observations, or other reports and assess the results based on the recommended intake of each nutrient.
8. Create a daily meal plan that does not exceed 2,300mg per day of sodium.
9. Create a meal plan that addresses the nutritional needs of a specific individual based on their age, gender, activity level, and other factors according to USDA Dietary Guidelines.

Content Area: **Micronutrients and Macronutrients** (15%)

**Learning Outcomes**

1. Identify specific food sources of vitamins and minerals.
2. Distinguish between water-soluble and fat-soluble vitamins.
3. Explain the main roles of vitamins in the human body.
4. Distinguish between essential and nonessential nutrients, including essential amino acids and essential fatty acids.
5. Explain the functions of water in the human body as related to digestion and maintenance of body tissue.
6. Recognize structural differences between sugars, starch, glycogen and fibers.
7. Differentiate between saturated and unsaturated fats and the roles that they have on health.
8. Describe the basic structure of carbohydrates, and how they are used, stored, digested, and absorbed in the body.
9. Describe the basic structure of proteins, and how they are used, stored, digested, absorbed, and produced by the body.
10. Describe the basic structure of fats, and how they are used, stored, digested, absorbed, and produced by the body.
11. Identify food additives that contribute to the sodium intake of the American diet, and explain why the additives are used by the food industry.
12. Describe vitamin and mineral deficiency diseases and how to treat them.

Content Area: **Digestion and Metabolism** (12%)

**Learning Outcomes**

1. Identify the sections of the gastrointestinal (GI) tract from the mouth to the anus.
2. Describe the roles that each section of the GI tract has in digestion, absorption, and transportation.
3. Compare the digestion, absorption, and transport of carbohydrates, fats, and proteins.
4. Define the following terms: glycolysis, Kreb’s cycle, electron transport chain, and fermentation.
5. Explain the chemical processes that occur when glucose is converted to Adenosine Tri-Phosphate.
6. Describe common GI complications and digestive problems.
7. Describe the role of the accessory organs.

Content Area: **Medical Nutrition Therapy** (10%)

**Learning Outcomes**

1. Compare the symptoms, causes, and treatments of Type 1 diabetes to Type 2 diabetes.
2. Describe how manipulating carbohydrates in the diet affects blood glucose levels and the management of diabetes.
3. List dietary and lifestyle recommendations that will reduce the risk of coronary artery disease.
4. Identify markers for various types of heart disease and how they are impacted by dietary manipulation/intervention.
5. Explain how dietary manipulation can help control and reduce risk for heart disease.
6. Name foods and other lifestyle choices that increase the risk of cancers.
7. Analyze how nutritional interventions aid in treatment of cancer.
8. Identify dietary interventions involved in the treatment of osteoporosis.
9. Recite common food allergies/intolerances and how to manipulate diet to manage these conditions.
10. Evaluate celiac disease and the types of starchy foods a person with the condition should avoid.
11. Recognize conditions/diseases which impact the digestive process and describe the dietary changes to manage these conditions.
12. Describe the causes of obesity, identify methods of treatment for this condition, and define obesity treatments for effectiveness.
13. Recall the main types of eating disorders and the importance of a health care team in patient treatment.
14. Identify special diets and their potential impact on nutrition at various stages of the lifespan.
15. Identify markers of renal disease and how they are impacted by dietary intervention.

Content Area: **Nutrition Assessment and Behavior Change** (7%)

**Learning Outcomes**

1. Explain the four types of nutrition assessments and the insights they give to the nutritional status of a client.
2. Describe the most accurate measurement of energy expenditure.
3. Determine the differences in the following components of energy expenditure: basal energy expenditure (BEE), total energy expenditure (TEE), and resting energy expenditure (REE).
4. Define body mass index (BMI) and identify the four weight group categories.
5. List steps and information necessary to calculate BMI.
6. Describe the steps and information needed to calculate energy needs and ideal body weight (IBW) for an individual.
7. Analyze available lab data necessary for assessment related to: protein status, iron status, diabetes, heart disease, and kidney disease.
8. Define: total cholesterol, triglyceride, high-density lipoprotein cholesterol (HDL), and low-density lipoprotein cholesterol (LDL).
9. Synthesize the components of a care plan written using the Nutrition Care Process.
10. Explain the importance of nutrition assessment in the Nutrition Care Process.
11. Employ the various types of nutrition assessment to analyze and revise a client’s diet and meal plan.
12. Perform a nutrition assessment on clients varying in age, gender, activity level, and dietary restrictions.
13. Critically analyze nutrition assessment data gathered from client information to formulate nutrition diagnoses and an intervention plan.
14. Calculate calorie and nutrient needs for clients having a variety of needs and health-related conditions.
15. Synthesize information used to calculate energy balance using available tools and equations to calculate estimated energy requirement (EER) for an individual.
16. Explain active listening and reasons it is helpful during interactions with others.
17. Describe the difference between and exhibit proficient formation of open and closed ended questions.
18. Explain the purpose of follow-up visits and the link to continuity of care as related to the Nutrition Care Process.
19. Practice gathering data needed for nutrition assessment such as height, weight, body mass index (BMI), and/or food journals.
20. Evaluate interviewing clients about dietary and lifestyle habits.
21. Identify and explain the impact of cultural influences on dietary choices and habits related to eating.
22. Express empathy and understanding when counseling clients regarding food and dietary choices.

Content Area: **Socio-Ecological Nutrition** (6%)

**Learning Outcomes**

1. Describe the United States Department of Agriculture (USDA), Food and Nutrition Services (FNS), and U.S. Department of Human Services (DHS).
2. Discuss community health programs.
3. Define Food and Drug Administration (FDA) and explain its responsibilities.
4. Describe characteristics that would likely place a community at risk for experiencing food insecurity, food scarcity, or becoming a food desert.
5. Describe strategies that can be implemented at a worksite/workplace that can promote the consumption of healthy foods and beverages.
6. Evaluate social or cultural norms (rules that govern thoughts, beliefs, and behaviors) that influence a specific eating behavior.

Content Area: **Food Safety and Sanitation** (5%)

**Learning Outcomes**

1. Identify authoritative sources for food safety and sanitation procedures such as industry-approved technical manuals and government published fact sheets.
2. Identify personal hygiene expectations in food preparation areas.
3. Identify safety procedures in the food preparation areas.
4. Summarize the process for proper hand washing before and after handling food.
5. Analyze the process of cross-contamination and explain methods of prevention.
6. Explain the danger zone and predict its effect of temperature on the growth of bacteria.
7. Describe factors that promote the growth of bacteria in food.
8. Demonstrate safe food storage techniques to reduce the risk of foodborne illness.
9. State the minimum internal temperatures of cooked beef, pork, lamb, and veal steaks, chops, and roasts, ground beef, pork, lamb, and veal, and poultry.
10. Describe sources of foodborne illnesses associated with improper food handling techniques.
11. Describe the food supply from point of origin to point of sale and identify where food safety could be compromised.
12. Explain special considerations for food safety for at risk populations.

Content Area: **Professionalism and Employment** (5%)

**Learning Outcomes**

1. Evaluate labor market data, including economic and demographic trends in nutrition related occupations.
2. Identify the requirements for career advancement to plan for continuing education and training in the nutrition field.
3. Describe the code of ethics for dietetic practitioners published by the Academy of Nutrition and Dietetics or other health and nutritional organizations.
4. Apply communication skills and describe its importance in the nutrition field.
5. Evaluate personal stress level and stressors associated with counseling fields.
6. Explain qualities of a professional including punctuality, dress code, attitude, respect, and responsibility.