Chapter 1
1. Discuss the major reasons people make food choices.
2. List the six nutrients contained in food and a major use of each nutrient.
3. Identify the energy-providing nutrients and calculate the energy available from foods.
4. Discuss Dietary Reference Intakes and the 4 parts of the DRI including the Estimated Average Requirements (EAR), Recommended Dietary Allowances (RDA), Adequate Intakes (AI), and Tolerable Upper Intake Levels (UL).
5. Discuss the Acceptable Macronutrient Distribution Ranges (AMDR) and how they relate to a healthy diet.
6. Identify the chronic diseases that are linked to diet or alcohol.
7. Identify accurate sources of nutrition information.
8. List the 8 red flags that identify nutrition misinformation.

Chapter 2
1. List and apply the six principles of diet-planning.
2. Explain the intent, focus, and recommendations of the 2010 Dietary Guidelines for Americans to promote health and prevent chronic disease.
3. Plan a balanced meal using the USDA Food Guide.
4. Identify foods that have a high nutrient density.
5. Identify the information required on the Nutrition Facts panel.
7. Recognize reliable health claims on food labels.
8. List the benefits of a vegetarian diet.

Chapter 3
1. List the segments of the digestive tract in order from the mouth to the colon.
2. Explain the mechanical processes of digestion in order of occurrence in the digestive tract.
3. List the five organs and their secretions which assist in the breakdown of food.
4. List the secretions that break down carbohydrates.
5. List the secretions that break down protein.
6. List the secretions that break down fat.
7. Describe the anatomy of the absorptive system.
8. Explain the role of the circulatory system and the lymphatic system in transport of nutrients.
9. Identify the hormones involved in digestive and absorptive processes.
10. Apply the concepts presented in the chapter to explain common digestive tract problems.

Chapter 4
1. Classify carbohydrates as mono-, di-, or polysaccharides.
2. Explain the two major types of dietary fibers and their uses in the body.
3. Trace the digestion and absorption of carbohydrates.
4. List the enzymes used in the digestion of carbohydrates.
6. List the major uses of glucose in the body.
7. Discuss the hormones used by the body to maintain normal blood glucose concentration.
8. List the major types of diabetes.
9. Identify the major sources of added sugars in the diet.
10. Describe the effect of added sugars on health including dental health.
11. Calculate the percentage of added sugars recommended to meet 2010 Dietary Guidelines.
12. List the common alternatives to sugar in the diet.
13. Identify the health benefits of a diet rich in starch and fiber.
14. Identify the Daily Value and DRI for fiber and methods to increase fiber in the diet.
15. Discuss the role of carbohydrates in weight gain and in weight-loss diets.
Chapter 5
1. Describe the structure of a fatty acid and the effects of chain length and saturation on the properties of the fat.
2. Describe the triglyceride and identify uses in the body
3. List and describe the three types of fatty acids found in foods.
4. Explain the structure of the omega-3 and -6 fatty acids and their roles in overall health
5. Explain the roles of phospholipids and sterols in foods and in the body.
6. Trace the digestion of lipids including identification of enzymes needed and the role of bile.
7. Describe the absorption of lipids into the intestine and the formation of the chylomicron.
8. Describe the role of the liver in the production of lipoproteins.
9. Explain the health implications of LDL and HDL and the factors that raise or lower levels of these lipoproteins.
10. Explain the role of fiber in the enterohepatic circulation of bile and management of serum cholesterol
11. Discuss the role of fat in the development of heart disease, cancer, and obesity.
12. Explain the recommended dietary intakes for fat, saturated fat, essential fatty acids, and cholesterol.

Chapter 6
1. Describe how the chemical structure of proteins differs from the structures of carbohydrates and fats.
2. Trace the digestion of protein and list the enzymes needed to complete the process.
3. Explain the process used by the body to synthesize new proteins.
4. List the major functions of protein in the body.
5. Describe nitrogen balance and provide examples of positive nitrogen balance, negative nitrogen balance, and equilibrium.
6. Describe deamination, where it occurs in the body, the products produced, and the fate of these products.
7. Describe the diseases that result from inadequate intake of protein and protein-kcalories.
8. Discuss the health effects of over-consumption of protein.
9. Calculate the protein needed daily using the RDA for protein.
10. Discuss the health risks of protein and amino acid supplements.

Chapter 7
1. Discuss the chemical reactions that occur within the body, including metabolism, anabolism, and catabolism.
2. Describe how carbohydrates, proteins, and fats are used to meet the energy needs of the body.
3. Explain the process of glycolysis.
4. Explain the process of deamination and the synthesis of non-essential amino acids.
5. Discuss the TCA cycle and the electron transport chain.
6. Explain what happens in the body during feasting and fasting.
7. Discuss the term moderation in reference to alcohol consumption.
8. Explain how the body metabolizes alcohol.
9. Discuss the role of the liver in alcohol metabolism.
10. Discuss the short- and long-term effects of alcohol on health.

Chapter 8
1. List the factors that contribute to the body's energy budget.
2. Discuss the factors that regulate food intake and satiety.
3. Explain the basal metabolic rate and the factors that affect it.
4. Discuss the role of physical activity in balancing the energy budget.
5. Use equations and tables to determine energy requirements.
7. Explain the methods used to assess body composition, including BMI and waist circumference.
8. Identify the health risks for underweight.
9. Discuss the health risks for overweight, including heart disease, diabetes, and cancer.
10. Identify eating disorders in the athlete including the female athlete triad and disordered eating.
11. Discuss the characteristics and the treatment of the eating disorders anorexia nervosa and bulimia
Chapter 9
1. Define overweight and obesity using the body mass index.
2. Explain fat cell development and its role in obesity.
3. Discuss the role of lipoprotein lipase in obesity.
4. Discuss the set point theory of obesity.
5. Discuss the role of genetics, leptin, and ghrelin in the development of obesity.
6. Identify environmental causes of obesity.
7. Describe the consequences of obesity including health, social, and psychological problems.
10. Explain the role of exercise in weight management.
11. Discuss the causes and treatment of underweight.
12. Evaluate fad diets for effectiveness, safety, and long-term weight control.

Chapter 10
1. Define a vitamin and classify vitamins as water soluble or fat soluble.
2. List the B vitamins and identify the major functions of each vitamin in the body.
3. Describe the role of B vitamins in metabolism.
4. List a major food source of each of the B vitamins.
5. Identify the major deficiency disease associated with each B vitamin.
6. List the major uses of vitamin C in the body.
7. Identify the vitamin C requirement of the body and factors that may increase this requirement.
8. Identify the signs and symptoms of vitamin C deficiency and toxicity.
9. Identify major food sources of vitamin C.
10. Discuss the arguments for and against the use of vitamin supplements.
11. Explain the Dietary Supplement Health and Education Act of 1994 and how the consumer can use the act in the selection of a nutrient supplement.

Chapter 11
1. Identify the roles of all the fat soluble vitamins and the effects of deficiency and toxicity
2. List food and nonfood sources of all fat soluble vitamins
3. Define the term free radical and explain its role in the development of disease.
4. Describe the role of an antioxidant and identify dietary antioxidants.
5. Discuss the roles of food and supplements as sources of dietary antioxidants.

Chapter 12
1. List the uses of water in the body.
2. Describe water balance and the sources of water for the body.
3. Describe the effects of inadequate and excessive intakes of water.
4. Identify the daily Adequate Intake for total water.
5. Explain the hormonal regulation of body water to maintain blood volume and blood pressure.
6. Explain the role of electrolytes in maintaining water and acid-base balance.
7. Describe the role of the kidneys in maintaining homeostasis.
8. Describe minerals, and classify them as major or trace minerals.
9. Identify the role of major and trace minerals in the diet effects of excessive deficiency or toxicity
10. Identify the food sources of sodium and the daily Tolerable Upper Intake Level.
11. Identify food sources of potassium.
12. Describe the DASH diet, nutrients to consume and the importance of it in controlling hypertension.

Chapter 13
1. List food and nonfood sources of all the following major minerals: Calcium, Magnesium, Sodium Potassium, Phosphorus, Iron, Zinc, Iodine, Selenium, Copper, Fluoride, Chromium
2. Differentiate between heme and nonheme iron
Chapter 14
1. List the benefits of regular physical activity.
2. Explain the components of fitness and conditioning.
3. Describe the energy systems of physical activity, including ATP and CP.
4. Describe the use of glucose and glycogen as body fuels during exercise.
5. Describe a diet to minimize glucose depletion during exercise.
6. Explain the principle recovery nutrition to build glycogen stores and repair muscle.
7. Explain the role of dietary and body fats during prolonged exercise.
8. Describe the uses of protein during exercise and determine the protein needs of the athlete.
9. Discuss fluid needs of the athlete and the symptoms and consequences of inadequate intake.
10. Describe the hydration schedule for physical activity and the need for electrolyte replacement.
11. Discuss the effects of caffeine and alcohol on an athlete’s performance.
12. Plan meals for pre-game and post-game to promote health and performance.
13. Define ergogenic and identify products classified as ergogenic aids.
14. Identify supplements commonly used by the athlete and discuss their safety and efficacy.
15. Identify the hormonal supplements that are promoted to athletes and are illegal or dangerous.

Chapter 15
1. List the health habits a woman should develop prior to pregnancy.
2. Describe placental and fetal development and the importance of critical periods.
3. Explain the risk factors for the development of neural tube defects.
4. Describe the expected weight gain during pregnancy and components of the gained weight.
5. Describe exercise recommendations for pregnant women.
6. Discuss the prenatal requirements for kilocalories, proteins, vitamins, and minerals.
7. Discuss the need for prenatal vitamin and mineral supplementation.
8. Describe the treatments for the common discomforts of pregnancy.
9. Describe the programs available to women with high-risk pregnancies.
10. Discuss the medical problems that can occur during pregnancies, including gestational diabetes and preeclampsia.
11. Describe the lifestyle practices that can have an adverse effect on pregnancy.
12. Describe the nutritional needs during lactation.

Chapter 16
1. Describe growth patterns of infants and demonstrate the ability to use growth charts.
2. Identify nutritional and other health benefits of breast feeding.
3. Discuss the factors used in the selection of an infant formula.
4. Discuss the appropriate age and procedure used for the introduction of cow’s milk and solids into an infant’s diet.
5. Explain the nutritional needs of young children, including energy, protein, lipids, vitamins, minerals, and water.
6. Discuss the effect of nutritional deficiency on behavior.
7. Discuss food allergies and intolerances in children and identify common allergens.
8. Describe the incidence of childhood obesity and the role of heredity and environmental factors in obesity development.
9. Discuss the nutritional programs in schools, including the school lunch program.
10. Describe the nutritional needs of adolescents.
11. Discuss the role of childhood obesity in the early development of type 2 diabetes and cardiovascular disease.
Chapter 17
1. List the lifestyle behaviors that have an impact on health and aging.
2. Discuss the research on energy restriction and aging.
3. Define sarcopenia and explain the importance of exercise in its prevention.
4. Describe physiological aging and lifestyle factors which can modify the process.
5. Describe the energy and nutritional needs of older adults.
6. Discuss the nutrition recommendations for vision changes that occur with aging.
7. Discuss the role of nutrition in the prevention and treatment of arthritic conditions.
8. Identify food assistance programs available for older adults.
9. Describe meal planning for single, older adults and the risks of foodborne illness.
10. Describe the medications that increase excretion of, alter requirements of, or interact with nutrients and the dietary changes recommended.

Chapter 18
1. Describe the immune system and the cells that compose it.
2. Identify nutrients that are known to enhance immunity.
3. Discuss the role of nutrition and lifestyle in the development of chronic diseases: cardiovascular disease, hypertension, cancer, diabetes, obesity, inflammation.
4. Identify herbal remedies and the risks and benefits of each.

Chapter 19
1. Discuss foodborne infections and intoxications and common pathogens in each classification.
2. List methods to prevent foodborne illness during food production and service.
3. Discuss food irradiation, including benefits and risks.
4. Identify environmental contaminants in the food supply and methods to reduce risk.
5. Discuss the health hazards associated with pesticides, pesticide monitoring techniques, and the risks and benefits of organic foods.
6. Discuss common additives in the food supply and the risks and benefits of each.
7. Discuss intentional food additives and indirect food additives and their risks and benefits in food.
8. Describe sources of drinking water, harmful contaminants, and methods to ensure water safety.

Chapter 20
1. Discuss food insecurity and hunger in the United States and their causes.
2. Identify the federal, state, and community programs available to combat hunger.
3. Discuss the prevalence of world hunger, populations at risk, and political and environmental causes of hunger.
4. Describe malnutrition, nutrients most often deficient, and the health consequences.
5. List the environmental problems that are decreasing food production.
6. Discuss solutions to the world’s hunger, poverty, and environmental problems.
7. Identify environmental and social costs of agriculture and the food industry.
8. Discuss sustainable agriculture, low-input agriculture, and precision agriculture.
9. Describe consumer food choices to save energy in food production, including locally grown foods.