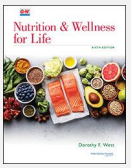
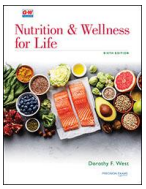
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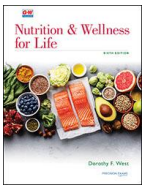
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C19H15 Nutrition Across the Lifespan
Grades 9-12 (High School)



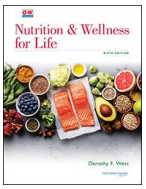
Course Standard		Correlating Text Pages
Course Description *Nutrition Across the Lifespan* is for students interested in learning more about becoming a dietitian, nutritionist, counselor, or pursuing a variety of scientific, health, or culinary arts professions. Upon completion of this course, proficient students will understand human anatomy and physiological systems, nutrition requirements, as well as social, cultural, and other impacts on food preparation and integrity.		
1. Safety & Sanitation		
1.1	Common Lab Safety Procedures: Demonstrate **safety and sanitation procedures** related to handling, preparing, storing, and serving food. Identify and review **general common laboratory safety procedures** including but not limited to prevention and control procedures and **personal hygiene expectations**. Incorporate safety procedures and complete a teacher made safety test with 100 percent accuracy.	
	a. Demonstrate proper and safe handling of knives, tools, and equipment.	**Instruction:** 470 Chapter 19 Knife Safety and Skills 470 First rule of safety (bottom of page) 471 Set up the Work Area 471 Grip the Knife 471 Figure 19.6 Knife Grips 472 Learn the Cutting Motion **Application:** 512 Chapter 19 Summary 512 Chapter Vocabulary 512 Critical Thinking 513 Core Skills- Math, Technology Literacy and Writing, Science and Writing, Writing and Speaking, Technology Literacy, Career Readiness Practice
	b. Apply the fundamentals of time, temperature and cooking methods to cooking, cooling, reheating and holding of a variety of foods.	**Instruction:** 472 Chapter 19 Cooking Food 473 Figure 19.7 Preparation Terms and Techniques 474 Figure 19.7 Preparation Terms and Techniques cont'd. 474 Heat Transfer 474 Heat Transfer Methods 474 Conduction 475 Convention 475 Radiation 475 Cooking Methods 475 Moist-heat cooking method 475 Dry-heat cooking method 475 Maillard reaction 475 Sear or brown foods 477 Caramelization 477 Combination cooking method



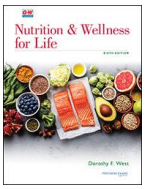
Course Standard		Correlating Text Pages
		477 Figure 19.11 Browned surface of meat, browned surface of crème brulé **Application:** 512 Chapter 19 Summary 512 Chapter Vocabulary 512 Critical Thinking 513 Core Skills- Math, Technology Literacy and Writing, Science and Writing, Writing and Speaking, Technology Literacy, Career Readiness Practice
	c. Demonstrate cooking methods that increase nutritional value, and lower calorie and fat content.	**Instruction:** 489 Eggs should be cooked at 160 degree F to avoid salmonella 489 After handling raw eggs always was your hands 495 Reduce Fat when cooking poultry parts, remove skin and trim off visible fat before cooking 495 If using dry-heat cooking remove skin after cooking to help retain moisture 499 Cooking Meat- regardless of the cooking method, trim all visible fat from meat before cooking to reduce fat content 508 Healthy Cooking Methods 508 Preferred heathier cooking methods include roasting, baking, grilling, broiling, poaching, sauteing, braising, steaming, and stir frying 510 Reduction – way to make healthier sauces 510 Cooking Washed fruits and Vegetable – keep them in larger pieces and avoid peeling – helps keep nutrients 510 High heat and long cooking results in vitamin losses 511 Figure 19.42 Quick and Healthy Snack Ideas **Application:** 512 Chapter 19 Summary 512 Chapter Vocabulary 512 Critical Thinking 513 Core Skills- Math, Technology Literacy and Writing, Science and Writing, Writing and Speaking, Technology Literacy, Career Readiness Practice
2. Nutrition and Health Overview		
2.1	Dietary Guidelines for Americans: Summarize the **Dietary Guidelines for Americans** and its relationship to optimum physical, mental, and social well-being at all stages of development across the life span as outlined by the USDA and HHS. Illustrating findings on	**Instruction:** 104 Chapter 5 Dietary Guidelines for Americans 104 Guidelines are revised every five years, the Guidelines (list middle of page)



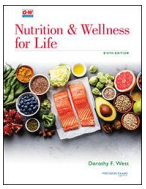
	Course Standard	Correlating Text Pages
	the **nutritional needs of individuals and families** in relation to age, gender, activity level, and health status.	104 Figure 5.2 Dietary reference standards are used by government agencies such as school lunch programs 105 Feature: Extend Your Knowledge: Nutrition Evidence Systematic Review (NESR) 105 Four guidelines that promote health dietary patterns (list middle of page) 105 Follow a Dietary Pattern at Every Life Stage 106 Customize and Enjoy Nutrient-Dense Food and Beverage Choices to Reflect Personal Preferences, Cultural Traditions, and Budgetary Considerations 106 Focus on Meeting Food Group Needs with Nutrient-Dense Foods and Beverages and stay within Calorie Limits 106 Feature: Extend Your Knowledge- Nutrient-Dense Foods 107 Limit Foods and Beverages that are Higher in Added Sugars, Saturated Fat, and Sodium and Limit Alcoholic Beverages 107 Limits on Added Sugars, Saturated Fat, and Sodium (list) 107 MyPlate – USDA food guidance system 107 MyPlate Food Groups 108 Fruits, Grains, Vegetables- five subgroups, Protein foods, Dairy, Oils 109 Figure 5.4 MyPlate Plan: 2000 Calories, 14+ **Application:** 126 Chapter 5 Summary 126 Chapter Vocabulary 126 Review Learning 126 Critical Thinking 127 Core Skills- History, Research and Listening, Speaking, Writing, Math, Listening, Career Readiness Practice
3.	**Anatomy and Physiology of Nutrition**	
3.1	Anatomy and Physiology of the Gastrointestinal System: Create a model or graphic illustration that identifies the major **anatomic structures and accessory organs of the gastrointestinal (GI) system**. Explain the **function of each structure**, including the accessory organs, in the process of digestion, absorption, transport of nutrients in the body including the conversion of glucose to ATP. Also describe common gastrointestinal complications and digestive diseases, including how the body deals with deficiencies and excess nutrients and the impact on overall health.	**Instruction:** 82 The Process of Digestion 82 Digestion 82 Enzymes 82 Gastrointestinal (GI) tract 82 Feature: Wellness Tip: Chew on This 83 Figure 4.4 Digestive system Diagram 83 In the Mouth 83 Mastication – or chewing- first step in the digestive process 84 Salivary Amylase 85 Neutralize



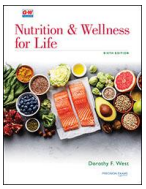
Course Standard	Correlating Text Pages
	84 Figure 4.5 Diagram of how food travels through body 85 Feature: Extend Your Knowledge: What Affects the Sense of Taste? 85 In the Esophagus 85 Trachea – Wind pipe 85 Epiglottis 85 Peristalsis 85 In the Stomach 85 Gastric Juices – Chyme 85 Pepsin 86 In the Small Intestine 86 Duodenum 86 Jejunum 86 Ileum 86 Pancreas 86 Liver 86 Gallbladder 87 In the Large Intestine 87 Colon 87 Chyme 87 Feature: The Movement Connection: Nutrient Squats 88 Absorption of Nutrients 88 Figure 4.9 Wall of small intestine 89 Metabolism 89 ATP – Adenosine Triphosphate 90 Featured Career – Clinical Dietitian 90 Factors Affecting Digestion and Absorption 90 Eating Habits - Fiber 91 Emotions 91 Food Allergies and Intolerances 92 Case Study: Adjusting to Food Intolerance 93 Physical Activity 93 Digestive Disorders 93 Diarrhea 94 Feature: Extend Your Knowledge: What is Crohn's Disease 94 Constipation 94 Indigestion 95 Heartburn 95 Ulcer 96 Gallstones 96 Feature: Food and the Environment: Air Pollution and the Impact on Food Digestion 97 Diverticulosis **Application:** 98 Chapter 4 Summary 98 Chapter Vocabulary 98 Review Learning



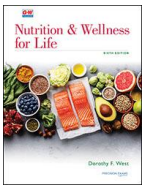
Course Standard		Correlating Text Pages
		98 Critical Thinking 99 Core Skills-Technology Literacy, Science, Speaking, Math, Listening, Speech, Writing, Career Readiness Practice
3.2	3.2 Macronutrients, Micronutrients, and Water: Identify, analyze, and visually represent the **macronutrients, micronutrients, and water** required in the **human diet**. Include the common food sources of those nutrients, their chemical properties, and function in the body, as well as the influence upon biological systems in reference to maintenance and growth.	**Instruction:** 78 Chapter 4 The Six Nutrient Groups 78 Macronutrients – Carbohydrates, protein, lipids, and water 78 Micronutrients- vitamins and minerals 78 Figure 4.1 Food Sources of the Six Nutrient Groups 78 The Chemistry of Nutrition 79 The Functions of Nutrients 80 Build and Repair Body Tissues 80 Regulate Body Processes 81 Provide Energy 103 Acceptable Macronutrient Distribution Ranges (AMDR) **Application:** 98 Chapter 4 Summary 98 Chapter Vocabulary 98 Review Learning 98 Critical Thinking 99 Core Skills-Technology Literacy, Science, Speaking, Math, Listening, Speech, Writing, Career Readiness Practice
	a. Macronutrients include carbohydrates, lipids, proteins;	**Instruction:** 78 Chapter 4 The Six Nutrient Groups 78 Macronutrients – Carbohydrates, protein, lipids, and water 78 Micronutrients- vitamins and minerals 78 Figure 4.1 Food Sources of the Six Nutrient Groups 78 The Chemistry of Nutrition 79 The Functions of Nutrients 80 Build and Repair Body Tissues 80 Regulate Body Processes 81 Provide Energy 103 Acceptable Macronutrient Distribution Ranges (AMDR) **Application:** 98 Chapter 4 Summary 98 Chapter Vocabulary 98 Review Learning 98 Critical Thinking 99 Core Skills-Technology Literacy, Science, Speaking, Math, Listening, Speech, Writing,



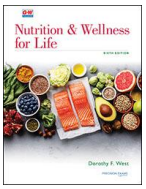
Course Standard		Correlating Text Pages
	b. Micronutrients include minerals, vitamins; and	**Instruction:** 78 Chapter 4 The Six Nutrient Groups 78 Macronutrients – Carbohydrates, protein, lipids, and water 78 Micronutrients- vitamins and minerals 78 Figure 4.1 Food Sources of the Six Nutrient Groups 78 The Chemistry of Nutrition 79 The Functions of Nutrients 80 Build and Repair Body Tissues 80 Regulate Body Processes 81 Provide Energy 103 Acceptable Macronutrient Distribution Ranges (AMDR) **Application:** 98 Chapter 4 Summary 98 Chapter Vocabulary 98 Review Learning 98 Critical Thinking 99 Core Skills-Technology Literacy, Science, Speaking, Math, Listening, Speech, Writing, Career Readiness Practice Career Readiness Practice
	c. Water.	**Instruction:** 262 Chapter 11 The Vital Function of Water 263 Facilitates Chemical Reactions 263 Reactant 263 Figure 11.2 Water as Reactant 264 Wellness Tip: Emergency Preparedness 264 Transports Nutrients and Waste Products 264 Lubricates Surfaces 264 Regulates Body Temperature 265 Food and The Environment: Practice Water Conservation as You Garden 266 Keeping Water in Balance 266 Cellular Water Balance 266 Intracellular Water and Extracellular water 266 Water Intake 266 How Much Water? 266 Needs Across the Life Span 267 Supplying the body's Water Needs 267 Water Loss 267 Figure 11.5 Water Content of Common Foods 268 Weather Conditions and Altitude 268 Physical Activity 269 Case Study: Losing the Hydration Game 269 Use of Diuretics 269 Illness 269 Fluid Imbalance 270 The Movement Connection: A Fluid Spine



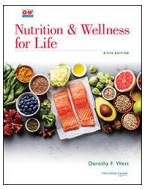
	Course Standard	Correlating Text Pages
		270 Effects of Water Loss 270 Dehydration 271 Can You Drink Too Much Water? 271 Water Intoxication 271 Featured Career: Hydrologist 272 Better Water? 272 Bottled vs Tap Water 272 Enhanced Water 273 Figure 11.8 Difference in cost of tap water and bottled water **Application:** 276 Chapter 11 Summary 276 Chapter Vocabulary 276 Review Learning 276 Critical Thinking 277 Core Skills – Listening, Technology Literacy, Research, Math, Speaking, Science and Technology Literacy, Career Readiness Practice
4.	**Nutritional Requirements Across the Lifespan**	
4.1	USDA Guidance: Accurately read, interpret, and communicate understanding of **guidance from the U.S. Food and Drug Administration (FDA)**, such as nutrition labels and daily value recommendations using accurate symbols, key terms, and other domain-specific words and phrases.	
	a. Accurately read and interpret nutrition labels using correct symbols and terminology.	**Instruction:** 107 MyPlate – USDA food guidance system 107 MyPlate Food Groups 108 Fruits, Grains, Vegetables- five subgroups, Protein foods, Dairy, Oils 109 Figure 5.4 MyPlate Plan: 2000 Calories, 14+ 111 Figure 5.5 Measuring Amounts with MyPlate 114 Food Labels 114 Nutrition Labeling 114 Figure 5.7 Nutrition Facts Label 115 Figure 5.8 Nutrition Facts Label 115 Percent Daily Value 117-119 Product Claims – Nutrient Content Claims, Health Claims, Qualified Health Claims, Structure/Function Claims 117 Figure 5.9 Nutrient Content Claims 118 Figure 5.10 Product Claims 119 Ingredient Labeling 119 Product Dating 119 Figure 5.11 Major Food Allergens 120 Other Basic Food Label Information 120 Country-of-Origin Labeling 120 5.12 Foods Covered by Country-of-Origin Labeling 121 Extend Your Knowledge: Modified Food Labels



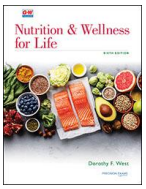
Course Standard		Correlating Text Pages
		Application: 126 Chapter 5 Summary 126 Chapter Vocabulary 126 Review Learning 126 Critical Thinking 127 Core Skills- History, Research and Listening, Speaking, Writing, Math, Listening, Career Readiness Practice
	b. Analyze nutrition labels in correlation to specific dietary needs.	**Instruction:** 142 Using Food Labels to Meet Your Carbohydrate Needs 142 Figure 6.9 Identifying Added Sugars on the Label 161 Meeting Your Lipid Needs 161 Figure 7.8 Fat Intake Recommendations 164 Wellness Tip: Check the Fat 165 Figure 7.10 Comparing Saturated Fat and Calories in Foods 177 Critical Thinking 177 Core Skills – Math 184 Meeting Your Protein Needs 185 Protein Intake Recommendations 185 Figure 8.4 Calculating Individual Protein Requirements 186 Meeting the Protein RDA 204 How Much is Needed 206 Meeting Vitamin A Needs 207 Meeting Vitamin D Needs 210 Meeting Vitamin E Needs 210 Meeting Vitamin K Needs 211 Figure 9.9 Meeting Daily Fat-Soluble Vitamin Needs 212 Meeting Thiamin Needs 213 Meeting Riboflavin Needs 214 Meeting Niacin Needs 216 Meeting Vitamin B6 Needs 216 Meeting Biotin Needs 217 Meeting Folate Needs 219 Meeting Vitamin B12 Needs 220 Meeting Vitamin C Needs 221 Figure 9.16 Meeting Daily Water-Soluble Vitamin Needs 236 Amount of Calcium Needed 240 Meeting Phosphorus Needs 241 Meeting Magnesium Needs 244 Meeting Sodium, Potassium, and Chloride Needs 245 Figure 10.10 Sodium Content of Popular Foods 247 Ways to Reduce Sodium in Your Diet



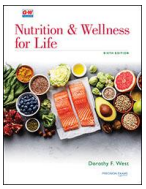
Course Standard		Correlating Text Pages
		250 Meeting Iron Needs 251 Meeting Zinc Needs 252 Meeting Iodine Needs **Application:** 151 Critical Thinking 151 Core Skills – Math 199 Critical Thinking 231 Critical Thinking 259 Critical Thinking 259 Core Skills - Math
4.2	Life Span Nutritional Guidelines: Research and prepare informational artifacts for consumers that present the **specific nutritional guidelines for each stage of the life span** using scientifically accurate terms and symbols. For each life span phase, include the following:	
	a. how nutritional needs change throughout the lifespan,	**Instruction:** 237 Effects of Calcium Deficiencies and Excesses 237 Calcium and Bone Health – Osteoporosis 348 Preserving Bone health 238 Figure 10.4 Osteoporosis Affects Height 324 Chapter 14 Nutrition Across the Life Span 326 Nutrient Needs Change – Life Cycle 326 Figure 14.1 Nutrient Needs 327 Pregnancy and Lactation 328 Health Needs Before Pregnancy – Low-Birthweight Baby, Premature Baby 328 Weight Gain During Pregnancy 329 Nutrient Needs During Pregnancy 329 Protein 329 Vitamins 330 Minerals 330 Calories 331 Figure 14.5 Accounting for Pregnancy Weight Gain 332 Nutrient Needs During Lactation 332 Figure 14.6 Benefits of Breast-Feeding 335 Concerns Related to Teen Pregnancy 338 Infancy and Toddlerhood 339 Growth Patterns of Infants and Toddlers 339 Nutrient Needs of Infants and Toddlers 340 Figure 14.13 Toddler Diet 340 Feeding Schedule for Infants 340 Figure 14:14 Stages of Breast Milk 340 Foods for Infants 341 Infant Formula 341 Nutrients of Concern 342 Solid Food 342 Fluids 344 Foods for Toddlers 344 Dairy Group 345 Protein Foods Group



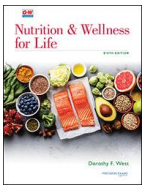
Course Standard		Correlating Text Pages
		345 Fruit and Vegetable Groups 346 Grains Group 346 Meals and Snacks 347 Childhood 348 Nutrient Needs During Childhood 350 Adolescence 351 Nutrient Needs During Adolescence 351 Figure 14.24 Students who Eat Breakfast 353-354 Adulthood 355 Nutrient Needs During Adulthood **Application:** 360 Chapter 14 Summary 360 Chapter Vocabulary 360-361 Review Learning 361 Critical Thinking 361 Core Skills – Science and Writing, Listening, Speaking,
	b. factors that impact food choices at various stages of the lifespan,	**Instruction:** 239 Case Study: Fast-Food Choices 329 Case Study: A Healthy Pregnancy 333 Special Dietary Concerns 333 Craving Nonfood Substances – Pica 334 Nausea 334 Heartburn 334 Constipation 335 Diabetes and High Blood Pressure 335 Fish 335 Artificial Sweeteners 335 Pesticides 335 Concerns Related to Teen Pregnancy 335 Figure 14.9 Wash Fruits and Vegetables 337 Substances to Limit or Avoid 337 Figure 14.11 Limit Caffeine 338 Wellness Tip: Preventing Infant Botulism 339 Nutrient Needs of Infants and Toddlers 340 Figure 14.13 A Toddler's Diet 340 Foods for Infants 340 Figure 14.14 Stages of Breast Milk 341 Infant Formula 341 Nutrients of Concern 342 Figure 14.16 Caregiver Attitude 342 Solid Food 342 Fluids 342 Allergies and Intolerances 342 Commercially Prepared Versus Homemade Food 344 Food Amount and Texture 344 Feeding Problems During Infancy 346 Eating Problems of Toddlers 346 Chewing Difficulty



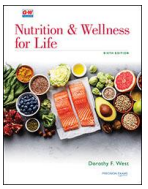
Course Standard		Correlating Text Pages
		346 Exploring While Eating 347 Short Attention Span 347 Picky Eating 348 Nutrient Needs During Childhood 349 Meals for Children 349 Nutritional and Fitness Problems of Childhood 351 Nutrient Needs During Adolescence 351 Meals for Adolescents 352 Nutritional and Fitness Problems of Adolescence 352 Figure 14.25 Teen Diets 355 Adult Food Choices 356 Nutritional and Fitness Problems During Adulthood – Menopause 358 Special Problems of Older Adults 358 Health Issues 358 Digestive Issues 358 Limited Income and Isolation 358 Figure 14.29 Companionship **Application:** 239 Case Review 329 Case Review 360 Chapter 14 Summary 360 Chapter Vocabulary 360-361 Review Learning 361 Critical Thinking 361 Core Skills – Math, Listening, Career Readiness Practice
	c. common nutritional excesses and deficiencies at various stages of the lifespan,	**Instruction:** 204 How Much is Needed? 205 Vitamin Classifications - Toxicity 206 Effects of Vitamin A Deficiencies and Excesses 208 Effects of Vitamin D Deficiencies and Excesses – Rickets, Osteomalacia 208 Figure 9.6 Sunscreen 210 Effects of Vitamin E Deficiencies and Excesses – Erythrocyte Hemolysis 210 Figure 9.8 Newborns may lack Vitamin K 211 Effects of Vitamin K Deficiencies and Excesses 213 Effects of Thiamin Deficiencies and Excesses – Beriberi 213 Effects of Riboflavin Deficiencies and Excesses 214 Effects of Niacin Deficiencies and Excesses – Pellagra 215 Effects of Pantothenic Acid Deficiencies and Excesses



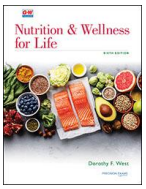
Course Standard	Correlating Text Pages
	216 Effects of Vitamin B6 Deficiencies and Excesses 217 Extend Your Knowledge: Alcohol's Effect on Vitamins 217 Effects of Biotin Deficiencies and Excesses 218 Effects of Folate Deficiencies and Excesses 219 Effects of Vitamin B12 Deficiencies and Excesses – Pernicious Anemia 219 Figure 9.15 Pernicious Anemia 220 Effects of Vitamin C Deficiencies and Excesses 234 How Minerals are Classified 234 Figure 10.1 Classification of Minerals 237 Effects of Calcium Deficiencies and Excesses 237 Calcium and Bone Health – Osteoporosis 348 Preserving Bone health 238 Figure 10.4 Osteoporosis Affects Height 239 Calcium Supplements 240 Effects of Phosphorus Deficiencies and Excesses 240 Figure 10.6 Carbonated Soft Drinks and Bone Density 241 Effects of Magnesium Deficiencies and Excesses 242 Wellness Tip: Support Bone Health - Limit Soft Drinks 242 Effects of Sulfur Deficiencies and Excesses 246 Effects of Sodium, Potassium, and Chloride Deficiencies and Excesses 247 Sodium and Hypertension 247 Figure 10.11 Ways to Reduce Sodium in Your Diet 250 Effects of Iron Deficiencies and Excesses – Iron-Deficiency Anemia 252 Effects of Zinc Deficiencies and Excesses 252 Figure 10.15 Goiter 252 Effects of Iodine Deficiencies and Excesses – Cretinism 253 Fluoride – Fluorosis 253 Selenium 253-255 Other Microminerals 256 Mineral Absorption and Availability 256 Fiber Affects Absorption 257 Medications and Caffeine Affect Absorption 257 Vitamins Affect Absorption **Application:** 230 Chapter Vocabulary 230 Review Learning 231 Critical Thinking 258 Chapter 10 Summary 258 Chapter Vocabulary



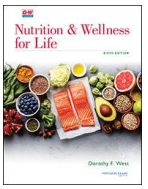
	Course Standard	Correlating Text Pages
		258 Review Learning 259 Critical Thinking 259 Core Skills – Career Readiness Practice
	d. importance of fitness and exercise during each stage of the lifespan, and	**Instruction:** 329 Case Study: A Healthy Pregnancy 332 Pregnancy and Physical Activity 334 Figure 14.8 Physical Activity During Pregnancy 347 Growth Patterns During Childhood 349 Nutritional and Fitness Problems of Childhood 352 Nutritional and Fitness Problems of Adolescence 356 Nutritional and Fitness Problems During Adulthood – Menopause 359 Physical Activity in Older Adulthood **Application:** 329 Case Review 360 Chapter 14 Summary 360 Chapter Vocabulary 360-361 Review Learning 361 Critical Thinking 361 Core Skills – Technology Literacy, Listening, Speaking
	e. plan meals for each stage of the lifespan.	**Instruction:** 333 Meals to Meet Nutritional Needs 345 Figure 14.18 Food Plan for a two-year-old 348 Figure 14.21 Food Plan for a 6-year-old boy 349 Meals for Children 351 Meals for Adolescents 351 Breakfast Needs 352 Other Meals 353 Figure 14.26 Food Plan for a 17-year-old male 355 Figure 14.27 Sample Menu for an Adult Female **Application:** 259 Core Skills – Career Readiness Practice 360 Chapter 14 Summary 360 Chapter Vocabulary 360-361 Review Learning 361 Critical Thinking 361 Core Skills – Career Readiness Practice
4.3	Meal Planning: Analyze various meal plans that meet the **2020-2025 Dietary Guidelines for Americans** recommended by the U.S. Department of Agriculture. Create a meal plan that addresses the nutritional needs of a specific individual based on their age, gender, activity level, and other factors and justify choices using evidence.	**Instruction:** 109 A Personalized Food Plan 109 Figure 5.4 MyPlate Plan 110 Measuring Food Amounts 110 Extend Your Knowledge: Mediterranean-Style Eating Pattern



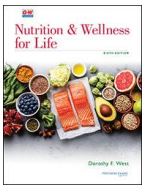
Course Standard	Correlating Text Pages
Select, prepare, and serve food(s) from the **meal plan** following recipes precisely, including defining and utilizing specific **culinary and measurement terms** as needed. Practice proper **serving and etiquette principles** during appropriate situations.	111 Figure 5.5 Measuring Amounts with MyPlate 111 DASH Diet 112 Figure 5.6 DASH Eating Plan Goals 122 Analyze Your Diet 122 MyPlate Plan 122 USDA Food Data Central 123 Figure 5.13 Serving-Size Comparison Chart 124 Calculate Manually 124 Figure 5.14 Recipe Nutrient Analysis Spinach Omelet 124 Plan Menus Using MyPlate 422 Creating Meal Plans 422 Appealing Meals 422 Figure 17.9 Anatomy of an Appealing Meal 423 Flavor 423 Color 423 Texture 424 Temperature 424 Shape and Size 424 Healthy Meals 425 Address Special Needs 425 Figure 17.10 Meal Planning Tips for Older Adults 426 Use Resources for Planning Healthy Meals 426 Figure 17.11 Resources for Planning 427 Weely Menu 428 Managing Time for Meal Preparation 430 Wellness Tip: Healthful Quick Cooking 430 Prepare Items in Advance 430 Figure 17.14 Meal Preparation 430 Use Time-Saving Devices 431 Select Quick and Easy Menu Items 431 Consider Minimally Processed Foods 432 Eating Healthy Meals Away from Home 432 Packing a Lunch 432 Figure 17.16 Healthy Lunch Option 433 Choosing from a Menu 433 Figure 17.17 Menu Terms Provide Clue to Content 434 Figure 17.18 Fast Food – Choose Wisely 435 Case Study: Latrell's Lunch Makeover 466 Using a Recipe – Mise En Place 466 Recipe Components 466 Figure 19.1 Recipe Formats 467 Measurement Units and Abbreviations 467 Figure 19.2 Common Recipe Abbreviations 468 Figure 19.3 Measurement Equivalents 468 Changing Recipe Yield – Conversion Factor 469 Figure 19.4 Recipe Yield 469 Substitutions 470 Food Preparation Techniques and Terms



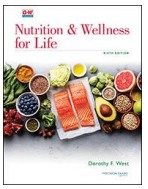
Course Standard		Correlating Text Pages
		470 Measurement Techniques 470 Figure 19.5 Measuring Dry Ingredients 470 Knife Safety and Skills 472 Cooking Food 473 Figure 19.7 Preparation Terms and Techniques 473 Heat Transfer 473 Heat Transfer Methods – Conduction, Convection, Radiation 475 Cooking Methods – Moist-Heat Cooking Method, Dry-Heat Cooking Method, Maillard Reaction, Sear, Caramelization, Combination Cooking Method 476 Figure 19.10 Cooking Methods 480 Cooking with Grains 480 Basic Grain Preparation Techniques 481 Pasta Preparation 482 Figure 19.16 Use Sufficient Water to Cook Pasta 487 Cooking with Dairy Products 489 Cooking Eggs 489 Separating the Egg 490 Beating Egg Whites 490 Figure 19.26 Egg White Peak Stages 491 Cooking in the Shell 491 Cooking Without the Shell 492 Custard 494 Figure 19.30 Poultry Pieces 495 Purchasing and Storing Poultry 495 Cooking Poultry 497 Figure 19.32 Beef Cuts 499 Cooking Meat 499 Figure 19.35 Trim Visible Fat From Meat 499 Searing and Sauteing 499 Grilling, Broiling, and Roasting 500 Braising and Stewing 501 Purchasing and Storing Fish and Shellfish 501 Figure 19.37 Fish Cuts 502 Cooking Fish and Shellfish 502 Dry-Heat Cooking Methods 502 Moist-Heat Cooking Methods 504 Choosing and Storing Fruits and Vegetables 505 Cooking with Fruits and Vegetables 505 Dry-Heat Cooking Methods 506 Moist-Heat Cooking Methods 507 Cooking Legumes 507 Recipe Makeover 508 Healthy Ingredients 508 Healthy Cooking Methods 510 Figure 19.41 Grilling Vegetables 510 Do It Yourself



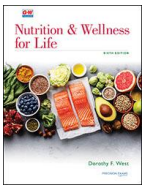
Course Standard		Correlating Text Pages
		Application: 126 Chapter 5 Summary 126 Review Learning 126-127 Critical Thinking 127 Core Learning - Math 435 Case Review 436 Chapter 17 Summary 436 Chapter Vocabulary 436 Review Learning 437 Critical Thinking 512 Chapter 19 Summary 512 Chapter Vocabulary 512 Review Learning 512-513 Critical Thinking 513 Core Skills – Math, Technology Literacy
4.4	Food Journal Analysis: Keep a **food journal**. Analyze the **nutrient content** of food consumed using a **nutrient analysis program** based on age, gender, activity level, and health status. Summarize the findings and include conclusions drawn on recommendations of how the diet could be modified to align with the current edition of the Dietary Guidelines for Americans more closely**.**	**Instruction:** 121 Keep a Food Journal 122 Analyze Your Diet 122 MyPlate Plan 122 USDA Food Data Central 123 Figure 5.13 Serving-Size Comparison Chart 124 Calculate Manually 124 Plan Menus Using MyPlate 166-167 Making Dietary Changes 167 Figure 7.12 A Food Journal 185 Protein Intake Recommendations 281 Wellness Tip: Keep a Food Journal 308-309 Estimating Calorie Intake 316 Change Eating Habits 319 Maintain Weight Loss **Application:** 126 Chapter 5 Summary 126 Chapter Vocabulary 126 Review Learning 126-127 Critical Thinking 127 Core Skills – Math, Career Readiness Practice 231 Critical Thinking 259 Core Skills - Math 322 Review Learning
4.5	Alternative Diet and Lifestyle Approaches: Compare and contrast **alternative diet and lifestyle approaches to the Dietary Guidelines for Americans** for individuals of the same age and gender. Explain the reasons for the dietary differences summarizing information to describe the **physiological differences of the lifestyles**, including, but not limited to:	
	a. differences in physical activity (e.g., athletic training);	**Instruction:** 364 Fueling Muscle for Performance 364 Energy Production in the Body – Aerobic, Anaerobic, Lactic Acid 364 Figure 15.1 Aerobic and Anaerobic Energy Systems 365 Improving Energy Production – Endurance Athletes



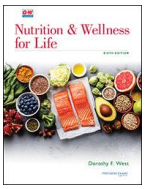
Course Standard		Correlating Text Pages
		366 The Nutrient Needs of an Athlete 366 Carbohydrate – Carbohydrate Loading 366 Figure 15.2 Guidelines for Daily Carbohydrate Intake by Athletes 367 Figure 15.3 An Athlete's Guide to Estimating Carbohydrates 368 Fat 368 Protein 368 Figure 15.4 Protein Requirements Based on Activity Level 369 Vitamins and Minerals 370 Calories – Expend 371 Figure 15.5 Calorie Expenditure (per minute) by Body Weight 372 Planning Meals for the Athlete in Training 372 Maintenance Eating Patterns 372 Figure 15.6 Weight Goals 373 Case Study: Plan for Peak Performance 373 Meal Management for Athletic Events 373 Figure 15.7 Nutrient Rich Snacks 374 Meals Before an Athletic Event 374 Figure 15.8 Pre-Event Sample Meals 375 Snacks Before an Athletic Event 375 Eating During an Athletic event 375 Post-Athletic Event Nutrition 375 Figure 15.9 Hydration 378 Athlete's Need for Fluids 378 Fluid Loss 378 Fluid Intake Guidelines 378 Figure 15.11 Determining Water Loss 379 Figure 15.12 Evaluating Beverage Choices for Timing and Effectiveness 380 Fluid Loss and Sodium 380 Weight Concerns of Athletes 380 Losing Weight for Competition 382 Gaining Weight for Competition 383 Harmful Performance Aids 384 Figure 15.15 Harmful Effects of Performance Aids **Application:** 363 Case Review 386 Chapter 15 Summary 387 Chapter Vocabulary 386 Review Learning 386-387 Critical Thinking 387 Core Skills – Technology Literacy, Listening and Writing, Write, Math, History and Writing, Write, Math, Career Readiness Practice



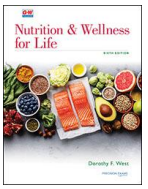
Course Standard		Correlating Text Pages
	b. differences in religious or ethical values (e.g., vegetarian, vegan, kosher);	**Instruction:** 28 Cultural Influences on Food Habits 29 Food Norms and Traditions 30 Food Taboos 30 Religion – Kosher Foods 113 Food and the Environment: What is Your Dietary "Food Print"? 192 Vegetarian Diet 192 Figure 8.9 Types of Vegetarians 193 Figure 8.10 Vegetarian Eating Patterns 308 Food and the Environment: Environmental Sustainability through Mindful Eating 333 Meals to Meet Nutritional Needs 441 Extend Your Knowledge: Shopping for Fair Trade 493 Types of Poultry – Free-Range, Kosher **Application?** 49 Core Skills – Speaking, Writing 113 Think Critically 150 Core Skills - Research 198 Critical Thinking 308 Think Critically 361 Critical Thinking
	c. differences based on disease or physiological need (e.g., gluten free and low sodium diets); and	**Instruction:** 91-92 Food Allergies and Intolerances 92 Case Study: Adjusting to Food Intolerance 94 Extend Your Knowledge: What is Crohn's Disease? 147 What is Hypoglycemia 147 What is Lactose Intolerance 148 Extend Your Knowledge: What are FODMAPs? 237 Calcium and Bone Health – Osteoporosis 237 Preserving Bone Health **Application:** 92 Case Review 99 Core Skills – Listening 259 Critical Thinking 259 Core Skills – Career Readiness Practice
	d. common diet related diseases such as diabetes and/or cardiovascular disease.	**Instruction:** 93 Digestive Disorders 93 Diarrhea 94 Constipation 94 Indigestion 95 Heartburn – Reflux, Gastroesophageal Reflux Disease (GERD) 95 Ulcer 96 Gallstones 97 Diverticulosis



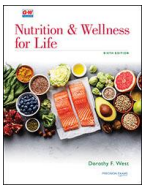
Course Standard		Correlating Text Pages
		112 DASH Diet 112 Figure 5.6 DASH Eating Plan Goals 146 Does Eating Too Much Sugar Cause Diabetes? 169 Health Questions Related to Lipids 169 Are Fats Bad for Heart Health – Cardiovascular Disease (CVD), Plaque, Atherosclerosis, Heart Attack, Stroke 171 The Controllable Heart-Health Risk Factors – Smoking, High Blood Pressure, Hypertension, High Blood Cholesterol, Diabetes Mellitus, Excess Weight Physical Inactivity, Stress 171 Case Study: A Healthier Lifestyle Choice 172 Extend Your Knowledge: Women and Heart Health 174 Does Fat Cause Cancer? 247-248 Sodium and Hypertension 247 Figure 10.11 Ways to Reduce Sodium in Your Diet **Application:** 97-98 Critical Thinking 99 Core Skills – Career Readiness Practice 171 Case Review 177 Critical Thinking 177 Core Skills – Research and Writing, Speaking, Writing 259 Critical Thinking
5.	**Food Preferences and Choices**	
5.1	Food Choices and Preferences: Research and summarize the **factors that contribute to food choices and preferences,** including cultural, geographical, economic, psychological, and social influences. Describe the most likely results of preferences and external factors on nutritional intake.	
	a. Example of geographical external factor on nutritional needs: Individual living in an area without adequate sunlight exposure may need to eat a diet rich in Vitamin D to make up for vitamin deficiency. b. Example of geographical preference on food choice: Individual living in a colder climate might prefer methods of cooking that keep heat in the living area, while an individual living in a warmer climate might prefer preparation methods that reduce heat.	**Instruction:** 28 Cultural Influences on Food Habits 28 Heritage - Emigrate 28 Figure 2.1 Recipes and Food Traditions 29 Food Norms and Traditions 30 Food Taboos 30 Religion – Kosher Foods 32 Case Study: Future Food Taboo 31 Growing Exposure and Access 31 Social Influences on Food Habits 31 Figure 2.3 Floating Markets in Thailand 31 Family – Values 32-33 Friends 32 Figure 2.4 Family Dinners 34 Prestige 34 Media – Social Media 35 Figure 2.7 Uploading Meal Photos 35 Emotions Affect Food Habits 35 Figure 2.7 Mental Connections with Foods and Eating Patterns



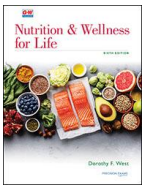
Course Standard		Correlating Text Pages
		36 Emotional Responses to Foods 36 Extend Your Knowledge: Does Gender Affect Food Choices 37 Using Food to Deal with Emotions 37 Figure 2.8 Sharing Food 37 Case Study: Teaching Eating Behavior 38 Food Used for Rewards or Punishment 38 Individual Preferences Affect Food Habits 39 The Influences of Agriculture, Technology, Economics, and Politics 39 Agriculture and Land Use – Staple Food, Prevalent 39 Figure 2.9 Potatoes Grown in the Andes Mountains 40 Figure 2.10 Freshwater 40 Extend Your Knowledge: Food and Agriculture Organization (FAO) 41 Technology 41 Figure 2.11 Drone Technology 42 Food and the Environment: Nutrition from Edible Insects 44 The Economics of Food 45 Extend Your Knowledge: The Power of Food 45 The Politics of Food 45 Figure 2.14 Food Production during War 46 Nutrition Knowledge Affects Food Habits 47 Reliable Information **Application:** 31 Case Review 37 Case Review 43 Think Critically 48 Chapter 2 Summary 48 Chapter Vocabulary 48 Review Learning 49 Critical Thinking 49 Core Skills – Speaking, Math, Technology Literacy, Science, History, Speaking and Listening, Career Readiness Skills
5.2	<u>Choices Related to the Senses and Preparation Techniques</u>: Form a hypothesis and design and conduct an experiment to identify the **role of the senses and/or food preparation techniques in food choices**. Summarize and defend results.	**Instruction:** 422 Creating Meal Plans 422 Appealing Meals 422 Figure 17.9 Anatomy of an Appealing Meal 423 Flavor 423 Color – Monochromatic 423 Texture – Homogenous 424 Extend Your Knowledge: The Fifth Basic Taste 424 Temperature 424 Shape and Size **Application:**



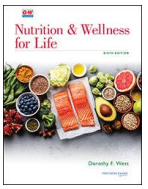
Course Standard		Correlating Text Pages
		436 Review Learning 436-437 Critical Thinking 437 Core Skills – Science and Writing
5.3	Nutritional Claims of Various Diets: Research **nutritional claims of various diets** and use appropriate/reliable sources of nutritional information to determine the validity of those claims. Use nutritional databases, food label information, and other sources to analyze the **nutrient composition** of one day of foods on each diet investigated. Compare and contrast two plans for an individual with specific characteristics, noting similarities and differences in two diets	**Instruction:** 102 Tools for Planning Healthy Eating 102 Dietary Reference Intakes (DRI) 102-103 Types of DRI – Estimated Average Requirement (EAR), Recommended Dietary Allowance (RDA), Adequate Intake (AI), Tolerable Upper Intake Level (UL), Chronic Disease Risk Reduction Intake (CDRR), Estimated Energy Requirement (EER), Acceptable Macronutrient Distribution Ranges (AMDR) 103 Intended Use 104 Dietary Guidelines for Americans 105 Follow a Dietary Pattern at Every Life Stage 106 Customize and Enjoy Nutrient-Dense Food and Beverage Choices to Reflect Personal Preferences, Cultural Traditions, and Budgetary Considerations 106 Focus on Meeting Food Group Needs with Nutrient-Dense Foods and Beverages, and Stay Within Calorie Limits 106 Extend Your Knowledge: Choose Nutrient Dense Foods 107 Limit Foods and Beverages that are higher in Added Sugars, Saturated Fat, and Sodium, and Limit Alcoholic Beverages 107 MyPlate 107 Figure 5.3 MyPlate.gov 107 MyPlate Food Groups – Fruits, Grains, Vegetables, Protein Foods, Dairy, Oils 108 Wellness Tip: Healthy Eating for Life 109 A Personalized Food Plan 109 Figure 5.4 Your MyPlate Plan 110 Measuring Food Amounts 110 Extend Your Knowledge: Mediterranean-Style Eating Pattern 111 Figure 5.5 Measuring Amounts with MyPlate 112 DASH Diet 112 Figure 5.6 Dash Eating Plan Goals* 113 Food Lists 114 Food Labels 114 Nutrition Labeling 114 Figure 5.7 The Nutrition Facts Label 115 Percent Daily Value 115 Figure 5.8 The Nutrition Facts Label 122 Analyze Your Diet 122 MyPlate Plan 122 USDA Food Data Central



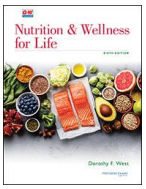
Course Standard		Correlating Text Pages
		123 Figure 5.13 Serving-Size Comparison Chart 124 Calculate Manually 124 Plan Menus Using MyPlate 124 Recipe Nutrient Analysis **Application:** 126 Chapter 5 Summary 126 Chapter Vocabulary 126 Review Learning 126-127 Critical Thinking 127 Core Skills – Math
6. Nutritional Issues and Controversies		
6.1	Topics in Nutrition: Synthesize evidence from multiple sources to analyze **topics in nutrition**, including but not limited to:	
	a. genetically modified foods,	**Instruction:** 41 Developing New Foods – Food Biotechnology, Genetically Modified (GM) Foods 41 Featured Career – Food Technologist 42 Extend Your Knowledge – Labeling Biotech Foods 42 Figure 2.12 Food Biotechnology **Application:** 48 Chapter 2 Summary 48 Chapter Vocabulary 48 Review Learning 49 Critical Thinking 49 Core Skills – Math, Science, Writing, Speaking and Listening
	b. artificial sweeteners versus natural sugar,	**Instruction:** 138 Sugars 139 Sources of Added Sugar 139 Extend Your Knowledge: Nonnutritive Sweeteners 140 Added Sugar Recommendation 140 Figure 6.7 Added Sugar in Foods 146 Case Study: Too Much Sugar? 305 Wellness Tip: Are Diet Sodas a Better Choice? 335 Artificial Sweeteners **Application:** 130 Search the Internet 146 Case Review 150 Review Learning 151 Core Skills - Science
	c. organic and local food movements,	**Instruction:** 456 Locally Grown 457 Organically Grown 457 Extend Your Knowledge: Organic Labeling 458 Figure 18.13 Benefits of Buying Local



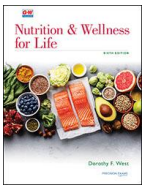
Course Standard		Correlating Text Pages
		459 Figure 18.14 USDA Organic Seal **Application:** 462 Chapter 18 Summary 462 Chapter Vocabulary 462 Review Learning 462 Critical Thinking
	d. benefits and risk of different forms of dieting, and	**Instruction:** 305 Wellness Tip: Are Diet Sodas a Better Choice? 307 Losing Excess Body Fat 308 Consider Health Status 308 Consider Age 309 Consider Motivation 309 Consider Support 309 The Math of Losing One Pound of Fat 309 Estimating Calorie Needs 309 Estimating Calorie Intake 309 Figure 13.8 Exercise 310 Case Study: Kim's Weight-Loss Plan 310 Comparing Calorie Needs with Calorie Intake 310 Figure 13.9 Restricting Calories 310 Unsafe Weight-Loss Practices 311 Fad Diets and Other Weight-Loss Gimmicks 311 Dangers of Rapid Weight-Loss Plans – Fasting, Crash Diets, MyPlate.gov 311 Figure 13.10 Consult a Health Professional 311 Ineffectiveness of Rapid Weight-Loss Plans – Recidivism, Weight Cycling 312 Figure 13.11 Weight Cycling 313 Safe Fat-Loss Guidelines 313 Evaluate Programs Safely 313 Figure 13.12 Effective weight-loss plans 314 Extend Your Knowledge: Heavily-Processed Foods and Weight Gain 315 Plan Food Choices 315 Figure 13.13 Substitutions to Reduce Calories from Saturated Fats 316 Change Eating Habits 316 Figure 13.14 Taking Your Mind off Food 316 Use a Behavior-Change Contract 317 Use a Point System 317 Increase Levels of Daily Activity 318 Tips for Healthy Weight Loss 318 Figure 13.15 Physical Activity 319 Maintain Weight Loss 319 Figure 13.16 Sufficient Sleep **Application:** 310 Case Review 322 Chapter 13 Summary 322 Chapter Vocabulary



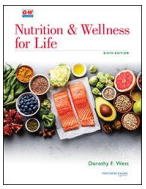
Course Standard		Correlating Text Pages
		322 Review Learning 322 Critical Thinking 323 Core Skills – Speaking, Writing, Math, Career Readiness Practice
	e. use of probiotics.	**Instruction:** 225 Probiotics and Prebiotics 225 Figure 9.18 Probiotics and Prebiotics **Application:** 230 Chapter 9 Summary 230 Chapter Vocabulary 231 Core Skills – Reading and Writing
Evaluate the validity and credibility of source materials and deduce the principal arguments for each, carefully weighing the author's evidence against potential biases.		
6.2	Obesity in America: Describe the correlation of **energy balance, lifestyle, diet, age, gender, and metabolism** to the obesity epidemic in America. Compare and contrast how different diets, habits, heredity, and physical characteristics contribute to obesity. Analyze the **government's role in the food supply** and research various **initiatives to fight obesity** and improve nutrition across the nation including government assistance programs.	**Instruction:** 104 Dietary Guidelines for Americans 104 Extend Your Knowledge: Nutrition Evidence Systematic Review (NESR) 105 Follow a Dietary Pattern at Every Life Stage 107 MyPlate 107 MyPlate Food Groups 108 Wellness Tip: Healthy Eating for Life 109 A Personalized Food Plan 109 Figure 5.4 MyPlate Plan 113 Food Lists 113 Food Labels 113 Nutrition Labeling 114 Figure 5.7 Nutrition Facts Label 115 Figure 5.8 Nutrition Facts Label 116 Product Claims – Nutrient Content Claims, Health Claims, Qualified Health Claims, Structure/Function Claims 117 Figure 5.9 Nutrient Content Claims 118 Figure 5.10 Claims on Food Labels 121 Extend Your Knowledge: Modified Food Labels 278 Chapter 12 Energy Balance 280 Energy Intake 280 Figure 12.1 Energy Balance Expressed in Calories 281 Measuring Energy in Food 281 Figure 12.2 Bomb Calorimeter 281 Consider Calorie Density 281 Wellness Tip: Keep a Food Journal 252 Energy Output 282 Basal Metabolism 282 Measuring Energy Use to Support Basal Metabolism - Basal Metabolic Rate (BMR), Resting Metabolic Rate (RMR) 282 Figure 12.4 Basal Metabolic Energy Needs 283 What Affects BMR – Body Composition



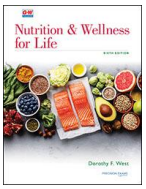
Course Standard	Correlating Text Pages
	283 Figure 12.5 Staying Physically Active 284 Changing BMR 285 Physical Activity 285 What Affect Energy Output During Physical Activity – Sedentary Activities 285 Add Physical Activity to Your Daily Routine 285 Determining Calorie Needs for Physical Activity 286 Figure 12.7 Energy Use for Various Activities 286 Thermic Effective of Food (TEF) 286 Extend Your Knowledge: "NEAT" Information 287 Energy Imbalance 287 Figure 12.8 Energy Output 288 Energy Deficiency – Ketone Bodies, Ketosis 289 Energy Excess 289 Figure 12.9 Energy Deficient Diet 303 Factors Affecting Your Weight Status 303 Heredity 303 Hormones and Weight Status 304 Can Heredity be Overridden? 304 Eating Habits 304 Caregivers Instill Healthy Eating Habits 305 Environmental Cues 306 Figure 13.6 Daily Calorie Intake by Country 307 Psychological Factors 307 Mindful Eating 307 Activity Level 307 Figure 13.7 Daily Physical Activity 307 Losing Excess Body Fat 314 Extend Your Knowledge: Heavily-Processed Foods and Weight Gain **Application:** 126 Chapter 5 Summary 126 Chapter Vocabulary 126 Review Learning 126-127 Critical Thinking 127 Core Skills – History, Research and Listening, Writing 296 Chapter 12 Summary 296 Chapter vocabulary 296 Review Learning 296-297 Critical Thinking 297 Core Skills - Speaking, Research, Math, Career Readiness Practice 322 Chapter 13 Summary 322 Chapter Vocabulary 322 Review Learning 322 Critical Thinking 323 Core Skills –Speaking, Writing, Math, Writing, Career Readiness Practice



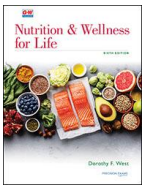
Course Standard		Correlating Text Pages
7. Food Preparation and Integrity		
7.1	Food Supply: Investigate the **food supply chain from point of origin to the point of sale** – analyzing handling, transportation, storage, processing, and packaging – to identify where **food safety and nutritional value** could be compromised. Determine where food is most susceptible to contamination, food-borne illness, spoilage, and nutrient loss.	**Instruction:** 68 People and Public Food Safety – Hazard Analysis Critical Control Point System (HACCP) 68 Food and the Environment - Pesticides and Food: A Question of Sustainability 69 Figure 3.15 Developing a HACCP Plan 69 Food Producers 69 Food Processors and Distributors 69 Government Agencies 70 Case Study: Contaminated Peanut Butter 70 US Department of Agriculture (USDA) and Food Safety and Inspection Service (FSIS) 70 Figure 3.16 USDA Certification 70 US Food and Drug Administration (FDA) 71 National Oceanic and Atmospheric Administration (NOAA) 71 Figure 3.17 Fish Food Safety 71 Extend Your Knowledge: Protecting the Food Supply 72 US Environmental Protection Agency (EPA) 72 Federal Trade Commission (FTC) 72 State and Local Agencies 72 Food Consumers 72 Figure 3.18 Perishable Groceries **Application:** 68 Think Critically 70 Case Review 74 Chapter 3 Summary 74 Chapter Vocabulary 74 Review Learning 74-75 Critical Thinking 75 Core Skills – Speaking, Technology Literacy
7.2	Selection and Preparation of Food: Demonstrate **food selection and preparation methods** that maximize the nutritional value of foods while minimizing dietary health risks. Plan and conduct nutrition laboratory experiments to determine the **physical and chemical changes of food structure through chemical reactions** then compare and contrast the results. Demonstrate relationships among concepts including, but not limited to:	
	a. Heat,	**Instruction:** Nutrition and Wellness for Life Companion Website Chapter 19, Preparing Food 472 Cooking Food 474 Heat Transfer 474 Figure 19.8 Heat is Transferred to Food 474 Heat Transfer Methods – Conduction, Mediums, Convection, Radiation 475 Figure 19.9 Convection 475 Cooking Methods – Moist-Heat Cooking Method, Dry-Heat Cooking Method



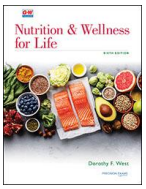
Course Standard		Correlating Text Pages
		476 Figure 19.10 Cooking Methods 477 Understanding Grains 477 Figure 19.12 Forms of Grains 480 Cooking with Grains 480 Basic Grain Preparation Techniques 481 Flour and Baked Goods 481 Figure 19.15 Bread 482 Understanding Dairy Products 482 Milk and Cream – Pasteurization, Homogenization 487 Cooking with Dairy Products – Curdle, Scorches, Tempering 489 Egg Properties – Binder, Emulsifier 489 Cooking Eggs 489 Figure 19.25 Heating Egg Proteins 491 Cooking in the Shell 491 Cooking Without the Shell 492 Custard 493 Figure 19.29 Poultry 495 Cooking Poultry 495 Figure 19.31 Moist-Heat Cooking Methods 496 Food Safety and Ground Meat 470 Figure 19.32 Beef Cuts and Recommended Cooking Methods 499 Cooking Meat 499 Searing and Sauteing 499 Grilling, Broiling, and Roasting 500 Braising and Stewing 500 Figure 19.36 Grill Marks 502 Cooking Fish and Shellfish 503 Figure 19.38 502 Dry-Heat Cooking Methods 502 Moist-Heat Cooking Methods 505 Cooking with Fruits and Vegetables 505 Dry-Cooking Methods 505-506 Figure 19.40 Washing Fruits & Vegetables 506 Moist-Heat Cooking Methods 507 Cooking Legumes 507 Recipe Makeover 507 Healthy Cooking Methods **Application:** 512 Chapter 19 Summary 512 Chapter Vocabulary 512 Review Learning 512-13 Critical Thinking 513 Core Skills – Math, Technology Literacy and Writing, Science and Writing, Technology Literacy, Career Readiness Practice



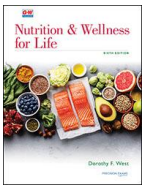
Course Standard		Correlating Text Pages
	b. acidity level,	**Instruction:** 181 Changing Protein Structure – Denaturation 181 Figure 8.1 Factors that Denature Protein 487 Cooking with Dairy Products – Curdle, Scorches, Tempering **Application:** 198 Chapter Vocabulary 512 Chapter Vocabulary 512 Review Learning
	c. fermentation,	**Instruction:** 472 Wellness Tip: Fermented Foods 484 Cultured Milk Products **Application:** 512 Review Learning
	d. Maillard reactions,	**Instruction:** 475 Cooking Methods – Maillard Reaction, Sear **Application:** 512 Chapter 19 Summary 512 Chapter Vocabulary 512 Review Learning
	e. chemically processed foods, and	**Instruction:** 431 Consider Minimally Processed Foods 431 Figure 17.15 A Continuum of Processing 314 Extend Your Knowledge: Heavily-Processed Foods and Weight Gain 247 Figure 10.11 Ways to Reduce Sodium in Your Diet 452 Food Processing 452 Advantages 452 Figure 18.10 Effects of Food Processing 452 Disadvantages 452 Weighing the Factors 453 Food Irradiation 454 Figure 18.11 Radura 455 Food Additives 455 The Delaney Clause **Application:** 462 Chapter 18 Summary 462 Chapter Vocabulary 463 Core Skills – Speaking, Math
	f. preparation techniques and product yield.	**Instruction:** 466-467 Recipe Components 466 Figure 19.1 Recipe Components 468 Changing Recipe Yield – Conversion Factor 469 Figure 19.4 Changing Yield: Pastry Crust Recipe 484 Frozen Dairy Products – Overrun



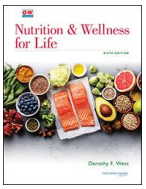
Course Standard		Correlating Text Pages
		484 Figure 19.19 Overrun in Ice Cream 500 Braising and Stewing 507 Recipe Makeover **Application:** 512 Chapter 19 Summary 512 Chapter Vocabulary 512 Review Learning 512 Critical Thinking 513 Core Skills – Math
8. Socioecological Nutrition		
8.1	Government Nutrition Programs: Analyze the **roles and responsibilities of the USDA, FNS, DHS, FDA** in relation to food and nutrition. Research various government programs that aim to **improve the nutrition of low-income families**.	**Instruction:** 70 US Department of Agriculture (USDA) and Food Safety and Inspection Service (FSIS) 70 Figure 3.16 USDA certification 71 US Food and Drug Administration (FDA) 71 National Oceanic and Atmospheric Administration (NOAA) 71 Figure 3.17 Fish Inspection 71 Extend Your Knowledge: Protecting the Food Supply 104-105 Dietary Guidelines for Americans 105 Extend Your Knowledge: Nutrition Evidence Systematic Review (SESR) 105 Follow a Dietary Pattern at Every Life Stage 105 Customize and Enjoy Nutrient-Dense Food and Beverage Choices 107 MyPlate 107 Figure 5.3 MyPlate.gov 107-108 MyPlate Food Groups 108 Wellness Tip: Healthy Eating for Life 108 A Personalized Food Plan 109 Figure 5.4 Your MyPlate Plan 110 Extend Your Knowledge: Mediterranean Style Eating Pattern 111 Figure 5.5 Measuring Amounts with MyPlate 116 Product Claims – Nutrient Content Claims, Health Claims, Qualified Health Claims, Structure/Function Claims 117 Nutrient Content Claims 118 Figure 5.10 Food Label Claims 119 Ingredient Labeling 119 Figure 5.11 Major Food Allergens 119 Product Dating 120 Other Basic Food Label Information 120 Country-of-Origin Labeling (COOL) 120 Figure 5.12 Foods Covered by Country-of-Origin Labeling Law 120 Extend Your Knowledge: Modified Food Labels 122 MyPlate Plan



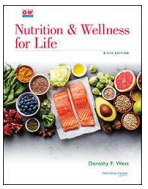
Course Standard		Correlating Text Pages
		122 USDA Food Data Central 123 Calculate Manually 124 Plan Menus using MyPlate 426 Use Resources for Planning Healthy Meals – USDA Food and Nutrition Service, USDA Snap-Ed 426 Figure 17.11 Thrifty Meal Plan 449 Food Assistance Resources 449 Supplemental Nutrition Assistance Program (SNAP) 449 Figure 18.7 SNAP vouchers 449 Child and Adult Care Food Program (CACFP) 449 National School Programs 450 Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) 450 Elderly Nutrition Program 450 Figure 18.8 Congregate Meals 450 Commodity Supplemental Food Program (FSFP) 450 Expanded Food and Nutrition Education Program (EFNEP) 455 Food Additives – Generally Recognized as Safe (GRAS) List, FDA 457 Extend Your Knowledge: Organic Labeling 457-458 Organically Grown – Organic Foods, Verified, United States Department of Agriculture (USDA) 459 Figure 18.14 USDA Organic Seal 517 Good Health – Us Department of Health and Human Services, Physical Activity Guidelines for Americans 517 Figure 20.2 Physical Activity Recommendations **Application:** 74 Review Learning 126 Chapter5 Review 126 Chapter Vocabulary 126 Review Learning 126 Critical Thinking 127 Core Skills – History, Research and Listening, Writing, Math, Career Readiness Practice 323 Core Skills – Career Readiness Practice 462 Chapter 18 Review 462 Chapter Vocabulary 462 Review Learning 462 Critical Thinking 462 Core Skills – Writing 539 Core Skills – Career Readiness Practice



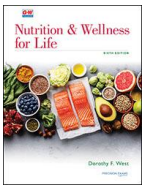
	Course Standard	Correlating Text Pages
8.2	Healthy Living Strategies: Describe **strategies** that can be implemented at a workplace or in the community to **promote the consumption of healthy foods and beverages**.	**Instruction:** 432 Eating Healthy Meals Away from Home 432 Packing a Lunch 432 Figure 17.16 Healthy Lunch Options 433-434 Choosing from a Menu 433 Figure 17.17 Menu Terms Provide Clue to Content 434 Figure 17.18 Fast Food – Choose Wisely! 435 Case Study: Latrell's Lunch Makeover **Application:** 435 Case Review 436 Chapter 17 Summary 436 Review Learning 436-437 Critical Thinking
9.	**Final Project**	
9.1	Team Project with Data Analysis: As a team, **identify a problem** related to the program of study as a whole. **Research and utilize the Engineering Design Process** to design a solution. Document the following steps in an engineering design notebook for inclusion in the program portfolio. When possible, connect the problem to an existing FCCLA event.	
	a. Problem Identification: Brainstorm specific problems and challenges within the program of study. Conduct basic research to understand the scope and implications of the identified problem. Identify one problem as a focus area.	**Instruction:** 17 The Science of Nutrition and Wellness 18 Figure 1.13 Scientists in Health and Wellness **Application:** 24-25 Critical Thinking 49 Critical Thinking 49 Core Skills – Career Readiness Practice 75 Core Skills – Technology Literacy 99 Core Skills – Career Readiness Practice 127 Core Skills – Career Readiness Practice 151 Core Skills – Career Readiness Practice 177 Core Skills – Career Readiness Practice 199 Core Skills – Career Readiness Practice 231 Core Skills – Career Readiness Practice 259 Core Skills – Career Readiness Practice 276 Critical Thinking 297 Core Skills – Career Readiness Practice 323 Core Skills – Career Readiness Practice 361 Core Skills – Career Readiness Practice 385-386 Critical Thinking 436 Critical Thinking 463 Research 512 Critical Thinking 539 Core Skills – Career Readiness Practice 565 Core Skills – Writing
	b. Research and Analysis: Conduct in-depth research on chosen topics related to the problem. Locate and analyze a dataset related to the problem.	**Instruction:** 20 Evaluating Research Reports 21 Evaluating Social Media Reports on Health and Wellness



Course Standard		Correlating Text Pages
		21 Figure 1.15 Sources of Nutrition and Wellness Information **Application:** 24-25 Critical Thinking 49 Critical Thinking 49 Core Skills – Career Readiness Practice 75 Core Skills – Technology Literacy 99 Core Skills – Career Readiness Practice 127 Core Skills – Career Readiness Practice 151 Core Skills – Career Readiness Practice 177 Core Skills – Career Readiness Practice 199 Core Skills – Career Readiness Practice 231 Core Skills – Career Readiness Practice 259 Core Skills – Career Readiness Practice 276 Critical Thinking 297 Core Skills – Career Readiness Practice 323 Core Skills – Career Readiness Practice 361 Core Skills – Career Readiness Practice 385-386 Critical Thinking 436 Critical Thinking 463 Research 512 Critical Thinking 539 Core Skills – Career Readiness Practice 565 Core Skills – Writing
	c. Review the stages of Engineering Design Process: Define the problem, research, brainstorm solutions, develop prototypes, test, and evaluate, and iterate. Consider constraints such as cost, efficiency, and environmental impact during the design process.	**Instruction:** 19 Using the Scientific Method to Study Nutrition and Wellness 19 The Scientific Method **Application:** 24-25 Critical Thinking 49 Critical Thinking 49 Core Skills – Career Readiness Practice 75 Core Skills – Technology Literacy 99 Core Skills – Career Readiness Practice 127 Core Skills – Career Readiness Practice 151 Core Skills – Career Readiness Practice 177 Core Skills – Career Readiness Practice 199 Core Skills – Career Readiness Practice 231 Core Skills – Career Readiness Practice 259 Core Skills – Career Readiness Practice 276 Critical Thinking 297 Core Skills – Career Readiness Practice 323 Core Skills – Career Readiness Practice 361 Core Skills – Career Readiness Practice 385-386 Critical Thinking 436 Critical Thinking 463 Research 512 Critical Thinking 539 Core Skills – Career Readiness Practice



Course Standard		Correlating Text Pages
		565 Core Skills – Writing
	d. Project Implementation: Assign specific roles within the design teams (e.g., project manager, researcher, designer, tester). Design a solution tailored to address the identified problem or scenario. Document progress through design journals, sketches, diagrams, and digital presentations. (Note: Prototype is optional in the Level II course.)	**Instruction:** 20 Extend Your Knowledge: Consider Becoming a Participant in a Clinical Study **Application:** 24-25 Critical Thinking 49 Critical Thinking 49 Core Skills – Career Readiness Practice 75 Core Skills – Technology Literacy 99 Core Skills – Career Readiness Practice 127 Core Skills – Career Readiness Practice 151 Core Skills – Career Readiness Practice 177 Core Skills – Career Readiness Practice 199 Core Skills – Career Readiness Practice 231 Core Skills – Career Readiness Practice 259 Core Skills – Career Readiness Practice 276 Critical Thinking 297 Core Skills – Career Readiness Practice 323 Core Skills – Career Readiness Practice 361 Core Skills – Career Readiness Practice 385-386 Critical Thinking 436 Critical Thinking 463 Research 512 Critical Thinking 539 Core Skills – Career Readiness Practice 565 Core Skills – Writing
	e. Presentation and Reflection: Showcase the problem and solution to the class. Share the data that was analyzed and how it affected the solution. Discuss the design process and challenges. As a class, critically evaluate the effectiveness and feasibility of the solutions and propose potential improvements.	**Instruction:** 22-23 Healthful Living in the United States **Application:** 24-25 Critical Thinking 49 Critical Thinking 49 Core Skills – Career Readiness Practice 75 Core Skills – Technology Literacy 99 Core Skills – Career Readiness Practice 127 Core Skills – Career Readiness Practice 151 Core Skills – Career Readiness Practice 177 Core Skills – Career Readiness Practice 199 Core Skills – Career Readiness Practice 231 Core Skills – Career Readiness Practice 259 Core Skills – Career Readiness Practice 276 Critical Thinking 297 Core Skills – Career Readiness Practice 323 Core Skills – Career Readiness Practice 361 Core Skills – Career Readiness Practice 385-386 Critical Thinking 436 Critical Thinking 463 Research



Course Standard		Correlating Text Pages
		512 Critical Thinking 539 Core Skills – Career Readiness Practice 565 Core Skills – Writing