# Scope & Sequence

|  |  |  |  |
| --- | --- | --- | --- |
| Course Name: Food Technology and Safety **TSDS PEIMS Code:** 13001300 | | | **Course Credit:** 1.0  **Course Requirements:** Recommended for Grades 10-12.  **Prerequisites:** None. |
| **Course Description:** Food Technology and Safety examines the food technology industry as it relates to food production, handling, and safety. To prepare for careers in value-added and food processing systems, students must attain academic skills and knowledge, acquire technical knowledge and skills related to value-added and food processing and the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations. | | | |
| **NOTE:** This is a suggested scope and sequence for the course content. This content will work with any textbook or instructional materials. If locally adapted, make sure all TEKS are covered. | | | |
| **Total Number of Periods**  **Total Number of Minutes**  **Total Number of Hours** | 175 Periods  7,875 Minutes  131.25 Hours\* | \*Schedule calculations based on 175/180 calendar days. For 0.5 credit courses, schedule is calculated out of 88/90 days. Scope and sequence allows additional time for guest speakers, student presentations, field trips, remediation, extended learning activities, etc. | |
| **Unit Number, Title, and Brief Description** | **# of Class Periods\***  (assumes 45-minute periods)  Total minutes per unit | **TEKS Covered**  **130.15. (c) Knowledge and skills** | |
| **Unit 1: Professional Standards/Employability**  Students will discuss the professional standards and employability skills, identify and locate career opportunities that appeal to personal career goals, apply competencies related to resources, information, interpersonal skills, and systems of operation in food processing. Students will further develop and demonstrate these skills and attributes throughout the course. In small groups and/or in other classroom activities, students will demonstrate knowledge of personal and occupational health and safety in the workplace, identify appropriate work habits, ethical conduct and legal responsibilities, and characteristics of good citizenship skills. Students will research career topics using technology such as the Internet. | 10 periods  450 minutes | (1) The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:  (A) identify and locate career opportunities that appeal to personal career goals;  (B) apply competencies related to resources, information, interpersonal skills, and systems of operation in food processing;  (C) demonstrate knowledge of personal and occupational health and safety practices in the workplace;  (D) identify employers' expectations, including appropriate work habits, ethical conduct, and legal responsibilities;  (E) demonstrate characteristics of good citizenship such as stewardship, advocacy, and community leadership; and  (F) research career topics using technology such as the Internet. | |
| **Unit 2: Sanitation and Safety**  Students will discuss procedures and regulations for sanitation and safety in the food industry. In small groups and/or in other classroom activities, students will identify food industry inspection standards, including hazard analysis and critical control points, describe procedures for insect and rodent control, identify appropriate chemicals used in the food industry, assess conditions with regard to safety and health, and identify specific regulation for organic animal products, grains, and produce. | 15 periods  675 minutes | (5) The student identifies procedures and regulations for sanitation and safety in the food industry. The student is expected to:  (A) identify food industry inspection standards, including hazard analysis and critical control points;  (B) describe procedures for insect and rodent control;  (C) identify appropriate chemicals used in the food industry;  (D) assess conditions with regard to safety and health; and  (E) identify specific regulation for organic animal products, grains, and produce. | |
| **Unit 3: Safety and Governmental Regulations**  Students will discuss safety and governmental regulations involved in processing and labeling foods. In small groups and/or in other classroom activities, students will research regulations dealing with preserving red meat, poultry, and fish, describe packaging, labeling, and storage requirements for red meat, poultry, and fish, explain the impact of temperature in food preservation, compare and contrast packaging requirements, and evaluate cultural practices and exotic species in food harvesting and processing. | 20 periods  900 minutes | (6) The student identifies safety and governmental regulations involved in the processing and labeling of foods. The student is expected to:  (A) research regulations dealing with preserving red meat, poultry, and fish;  (B) describe packaging, labeling, and storage requirements for red meat, poultry, and fish;  (C) explain the impact of temperature in food preservation;  (D) compare and contrast packaging requirements; and  (E) evaluate cultural practices and exotic species in food harvesting and processing. | |
| **Unit 4: Trends and Issues**  Students will discuss the trends and issues important to careers in the food science industry. In small groups and/or in other classroom activities, students will select solutions for different environmental issues, identify issues affecting food science, research history and policies related to food science issues, analyze and defend solutions for different environmental issues, and apply economic principles such as supply, demand, and profit to food science systems. | 20 periods  900 minutes | (7) The student demonstrates an understanding of the trends and issues important to careers in the food science industry by comparing and contrasting issues affecting the food science industry, including biotechnology, employment, safety, environmental, and animal welfare issues. The student is expected to:  (A) select solutions for different environmental issues;  (B) identify issues affecting food science;  (C) research history and policies related to food science issues;  (D) analyze and defend solutions for different environmental issues; and  (E) apply economic principles such as supply, demand, and profit to food science systems. | |
| **Unit 5: Food Science Systems**  Students will discuss the impact of food science systems. In small groups and/or in other classroom activities, students will explain the significance of food science systems, define trends in food production, world population, and supply and demand for food products, research trends in animal and food science research, and evaluate the relationship between biotechnology and the food science industry. | 15 periods  675 minutes | (3) The student explains the impact of food science systems. The student is expected to:  (A) explain the significance of food science systems;  (B) define trends in food production, world population, and supply and demand for food products;  (C) research trends in animal and food science research; and  (D) evaluate the relationship between biotechnology and the food science industry. | |
| **Unit 6: Nutritive Value of Food Constituents**  Students will discuss the nutritive value of food constituents. In small groups and/or in other classroom activities, students will define the terms used in food technology, compare and contrast the nutritive value of food groups, and apply data and measurements to solve a problem related to food processing. | 10 periods  450 minutes | (4) The student analyzes the nutritive value of food constituents. The student is expected to:  (A) define the terms used in food technology;  (B) compare and contrast the nutritive value of food groups; and  (C) apply data and measurements to solve a problem related to food processing. | |
| **Unit 7: Red Meats and Their By-Products**  Students will discuss the processing, packaging, quality analysis, and marketing of red meats and their by-products. In small groups and/or in other classroom activities, students will describe preparing livestock carcasses for market, describe the U.S. Department of Agriculture's inspection and grading procedures, identify wholesale and retail cuts, and identify methods of fabricating and marketing processed meats. As a culminating activity for this unit, students will produce a report that evaluates and grades beef, pork, lamb, and goat carcasses and wholesale cuts. | 20 periods  900 minutes | (8) The student describes the processing, packaging, quality analysis, and marketing of red meats and their by-products. The student is expected to:  (A) describe preparing livestock carcasses for market;  (B) describe the U.S. Department of Agriculture's inspection and grading procedures;  (C) identify wholesale and retail cuts;  (D) evaluate and grade beef, pork, lamb, and goat carcasses and wholesale cuts; and  (E) identify methods of fabricating and marketing processed meats. | |
| **Unit 8: Eggs, Poultry, and Fish and Their By-Products**  Students will discuss the processing, packaging, quality analysis, and marketing of eggs, poultry, and fish and their by-products.  In small groups and/or in other classroom activities, students will describe processing techniques, demonstrate poultry and retail cuts evaluation, fabricate specialty and value-added products, demonstrate an understanding of quality and portion control procedures, and describe marketing procedures for eggs, poultry, fish, and seafood. As a culminating activity for this unit, students will produce a report that identifies grades and classes of eggs, poultry, fish, and seafood. | 20 periods  900 minutes | (9) The student describes the processing, packaging, quality analysis, and marketing of eggs, poultry, and fish and their by-products. The student is expected to:  (A) describe processing techniques;  (B) demonstrate poultry and retail cuts evaluation;  (C) identify grades and classes of eggs, poultry, fish, and seafood;  (D) fabricate specialty and value-added products;  (E) demonstrate an understanding of quality and portion control procedures; and  (F) describe marketing procedures for eggs, poultry, fish, and seafood. | |
| **Unit 9: Fruits, Nuts, and Vegetables and Their By-Products**  Students will discuss the processing, packaging, quality analysis, and marketing of fruits, nuts, and vegetables and their by-products. In small groups and/or in other classroom activities, students will demonstrate trimming, washing, waxing, peeling, blanching, and other marketing techniques, research critical issues in transporting, receiving, and storing fruits, nuts, and vegetables, and discuss preserving, packaging, and storing fruits, nuts, and vegetables. As a culminating activity for this unit, students will produce a report that identifies, classifies, and grades fruits, nuts, and vegetables. | 15 periods  675 minutes | (10) The student describes the processing, packaging, quality analysis, and marketing of fruits, nuts, and vegetables and their by-products. The student is expected to:  (A) identify, classify, and grade fruits, nuts, and vegetables;  (B) demonstrate trimming, washing, waxing, peeling, blanching, and other marketing techniques;  (C) research critical issues in transporting, receiving, and storing fruits, nuts, and vegetables; and  (D) discuss preserving, packaging, and storing fruits, nuts, and vegetables. | |
| **Unit 10: Milk and Dairy Distribution**  Students will discuss the processing, packaging, quality analysis, and marketing of milk and dairy products for distribution. In small groups and/or in other classroom activities, students will describe methods of preparing milk for processing, evaluate methods of processing milk and dairy products, and process, classify, and grade cheese. As a culminating activity for this unit, students will produce a report that identifies dairy products, including cultured milk products and frozen dairy desserts. | 15 periods  675 minutes | (11) The student describes the processing, packaging, quality analysis, and marketing of milk and dairy products for distribution. The student is expected to:  (A) describe methods of preparing milk for processing;  (B) evaluate methods of processing milk and dairy products;  (C) identify dairy products, including cultured milk products and frozen dairy desserts; and  (D) process, classify, and grade cheese. | |
| **Unit 11: Supervised Agriculture Experience Program**  Students will discuss and develop all components of a supervised agriculture experience. Through a variety of classroom activities, students will utilize appropriate technology to plan, propose, conduct, document and evaluate their supervised agriculture experience program, apply appropriate record-keeping skills, and participate in leadership opportunities. As a culminating unit activity, students will produce and participate in a local program of activities using a strategic planning process. | 15 periods  675 minutes | (2) The student develops a supervised agriculture experience program. The student is expected to:  (A) plan, propose, conduct, document, and evaluate a supervised agriculture experience program as an experiential learning activity;  (B) apply proper record-keeping skills as they relate to the supervised agriculture experience;  (C) participate in youth leadership opportunities to create a well-rounded experience program; and  (D) produce and participate in a local program of activities using a strategic planning process. | |