Options EHS Food Products Processing & Development		Scope and Sequence
Unit	**Lesson**	**Objectives**
WHAT IS THE FOOD PRODUCTS AND PROCESSING SYSTEM?		
	Food Processing and Preservation Through the Ages	
		Define food processing and understand why it's needed.
		Explore careers in food products and processing systems.
		Understand the history of food processing and how it helped in our exploration of the world.
	Project: Take a Trip	
	Adding Value	
		Define value-added agricultural products.
		Explain commodity segregation and how it adds value to food production.
		Describe the ways agritourism adds value to food production.
		Create a project that sources local components to make a value-added product.
		Compare the ways that the Internet and social media might add value to products.
	Sustainability and Interdependence	
		Summarize interdependence and what it means to crops, people and wildlife.
		Explain and analyze the inter-related causes of Easter Island's collapse.
		Describe the five key elements of sustainability in the 1990 Farm Bill.
		Analyze a pollinator's role in food production.
		Examine safe practices of fertilizer and insecticide use.
	Supplying the Food Chain, Locally and Beyond	
		Define the global food system.

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Unit	**Lesson**	**Objectives**
		Compare and contrast a local food system with a global food system.
		Formulate a benefit-and-problem comparison of the global food system.
		Construct a comparative analysis of the locally and globally grown foods.
		Define and identify a local food supply chain.
	Ice Cream Processing and Farm to Fork	
		Construct a product-sourcing plan that identifies local and global commodity sources.
		Define the steps used to process milk.
		Define six benefits of the farm-to-fork concept.
		Analyze the steps that commodities undergo before they can become ingredients in a new product.
	Project: How Peanut Butter Is Made	
	Global Food Production and a Growing World	
		Explore a job as an international food production corporation CEO.
		Define a multinational company.
		Create a timeline showing global food production.
		Explain the forces that caused food price spikes.
		Describe the steps that go into coffee production.
	Test	
CONSUMER-DRIVEN MARKETING AND FOOD PRODUCT DEVELOPMENT		
	Push and Pull Marketing	
		Define the concept of push marketing.
		Illustrate the difference between push marketing and pull marketing.

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Unit	**Lesson**	**Objectives**
		Construct an analysis of a push marketing campaign.
		Compare advertising structures, including in video games.
		Examine the importance of a brand in marketing.
	Project: Push Marketing Analysis with 10 Foods	
	Learning from Failure	
		Describe the reasons that new food products fail.
		Evaluate the dynamics at play with the failure of the New Coke product in 1985.
		Explain the value of market testing.
		Identify the benefits and drawbacks of market testing.
	Project: Failure to Launch	
	Consumer Food Trends and Marketing	
		Explain how consumers drive food product trends.
		Identify current food product trends.
		Understand how marketing is important to food product development and sales.
	From Commodity to Processed Food	
		Define three ways agriculture has changed mankind's social structure.
		Compare the characteristics of commodities and differentiated products.
		Construct a chart that lists processed products created from a singular commodity.
		Explore a job as a food marketing manager.
	Project: Processed Foods Made from Basic Commodities	

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	Vertical Integration in Agriculture	
		Compare and define the differences between vertical coordination and vertical integration.
		Explain the benefits and drawbacks of vertical coordination for a farmer producer.
		Compare historic food costs with current food costs and analyze the differences.
		Calculate food costs based on historic contexts.
		Analyze the processing steps involved in creating a food product.
	Project: Deconstructing Processed Foods	
	A Food Product's Life Cycle and New Product Development	
		Define the four stages of a product life cycle.
		Analyze the development process of a new product.
		Define the seven stages of new product development.
		Differentiate between product ideas and concept testing.
	Test	
NUTRITION, FOOD CONSUMPTION, AND DIETARY TRENDS		
	FDA and Nutrition Labeling	
		Compare food labels for nutritional content.
		Understand the role of the Food and Drug Administration and how it came to be a regulating agency.
	Project: Keeping a Food Log for 24 Hours	
	Food Labeling and Dietary Guidelines	
		Identify a country of origin on a product label.

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Unit	**Lesson**	**Objectives**
		Define and explain organic certification on a product label.
		Compare and contrast portion sizes and serving sizes.
		Analyze and compare similar food products to determine their nutritional content.
		Explain portion sizes and apply these as they relate to MyPlate and healthy eating.
	Project: Pizza Party by the Nutritional Numbers	
	Servings, Calories, and Nutrients	
		Analyze food portion sizes and compare them to the serving sizes in dietary guidelines.
		Compare the nutritional values of foods for healthy eating choices.
		Contrast nutritional minimums and nutritional maximums for a healthy lifestyle.
		Understand the job of a food writer as a potential career choice.
	Overweight and Obesity Causes	
		Calculate body mass index to determine if a person is healthy, overweight, or obese.
		Compare food consumption levels and make recommendations for diet changes based on the FDA’s nutritional guidelines.
		Define the health risks associated with being overweight or obese.
	Diet Changes and the MyPlate Dietary Guidelines	
		Define MyPlate and apply its nutritional concepts to dietary needs.
		Compare and contrast nutritional outcomes from food consumption.
		Identify some of the causes of overweight and obesity in our society.
		Apply concepts of serving sizes when it comes to dietary guidelines.
		Explore the career of a biochemist.

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Unit	**Lesson**	**Objectives**
	Advertising's Effect on Buying Choices	
		Evaluate product marketing claims and compare those claims to nutritional value.
		Compare percent of daily value to a food product's nutritional values to determine whether a product is a healthy choice.
		Evaluate the differences between minimally processed foods and ultra-processed foods.
	Test	
AGRIBUSINESS MARKETING AND SALES		
	How Is My Food Processed?	
		Understand the need for processing food.
		Draw conclusions about foodborne illness and the need for food safety.
		Compare the types of food processing and their benefits in food safety.
		Compare the risks of consuming unpasteurized milk with those of consuming pasteurized milk.
	Preserving Our Foods	
		Identify the cause of food oxidation.
		Compare the categories of food preservation.
		Evaluate a food label to identify food preservatives and the reason for their use.
		Understand the importance of food preservation.
		Identify the causes of foodborne illnesses.
	Project: Investigating Ingredients in Food Products	
	Processed vs. Raw Foods	
		Differentiate between a whole food and a processed food.

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Unit	**Lesson**	**Objectives**
		Compare nutritional values between whole foods and processed foods.
		Understand why nutritional value is lost during flour milling.
		Explain the nutritional benefit of fiber in a diet.
	Project: Food Log for Whole and Processed Foods	
	Food Packaging History and Advancements	
		Understand the historic context of food packaging, production, and its importance.
		Understand new technology in food packaging, in particular nanotechnology.
		Compare and contrast the technology that was used two hundred years ago to the technology used today.
		Describe the technological advancements in food packaging that include the ability to sense when a food has spoiled and the ability to create microbe barriers that help to prolong shelf life.
	Advances in Food Technology	
		Define and explain four benefits to food irradiation.
		Explain the process of cloning, along with reasons that a farmer might chose to clone livestock.
		Understand genetically modified organisms and why a grower might choose to use such crops.
		Determine possible future advancements in food technology.
	Project: The Next Big Thing in Food Technology	
	Genetically Modified Organisms in Food Production	
		Compare and contrast the benefits and potential drawback of genetically modified foods.
		Explain why the introduction of genetically modified organisms into the environment could be an issue for farmers who grow non-GMO food.
		Determine whether or not GMO foods are widely used today and argue for or against their safety.

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Unit	**Lesson**	**Objectives**
		Explain the history of GMOs and their prevalence today.
	Project: Food Log of GMOs in Your Diet	
	Test	
STANDARDS, REGULATIONS, AND SAFE FOOD PRODUCTION		
	Food Inspections and Foodborne Illness	
		Identify which food products are regulated by different federal agencies.
		Write a list of the challenges that face both inspectors and the public as food imports increase to the United States while the number of food inspectors remains constant.
		Understand and know how to look up allowable contaminants in food and apply that knowledge to personal food consumption.
	Project: Who's Responsible for the Safety of Your Food?	
	USDA Inspections and Branding	
		Understand how meat is graded by the USDA for both quality and product yield.
		Compare and contrast USDA quality grades with marketing techniques that many retailers employ in an attempt to set their products apart from the competition.
		Write an overview of a career in food safety and quality management.
	Food Recall and Traceability	
		Understand food recalls and why they happen.
		Identify the top ten most dangerous, and most recalled, food products.
		Understand the importance of food traceability.
		Describe and explain technology that will allow consumers to easily trace a product.

Options EHS Food Products Processing & Development		Scope and Sequence
Unit	**Lesson**	**Objectives**
	Project: Follow a Food Product Through a Recall	
	Space Exploration: Its Earthly Impact on Food Safety	
		Understand how the exacting standards of NASA's space program led to improvements in food safety.
		Explain the concepts and seven principles of hazard analysis & critical control points.
		Compare the needs of food for astronauts with popular food that was spawned by the creation of space food.
		Write a food safety analysis and report.
	Project: Problem Spots Making a PB&J Sandwich	
	Hand Washing and Hygiene in Food Production	
		Understand the importance of personal hygiene, especially as it relates to health and the safety of food during production and home cooking.
		Write an overview of a career in food safety and quality assurance.
		Explain federal sanitation standards in food production.
		Understand the historical context of hand washing and how it relates to the spread of disease and infection.
	Recall Management	
		Understand how food recalls happen in a food production company.
		Write about the implications of a food recall.
		Explain how a food recall can impact consumers' trust.
		Understand how information is distributed during a food recall.
	Test	
COURSE PROJECT, REVIEW, AND EXAM		

Options EHS Food Products Processing & Development		Scope and Sequence
Unit	**Lesson**	**Objectives**
	Review	
	Exam	