

Curriculum Content Framework

**FOOD SCIENCE TECHNOLOGY**

**Grade Level: 11,12**  
**CIP Code: 01.0401**

**Semester**

**Prerequisites: None**  
**Course Code: 01.219**

Course Description: Examines the food industry in production, manufacturing/processing, distribution and marketing. Also, explores careers, consumer consumption, food safety, global commodities and food companies.

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**Unit 6: Value-Added Products**

10 Hours

VOCATIONAL AND TECHNICAL SKILLS What The Student Should Be Able To Do		ACADEMIC AND WORKPLACE SKILLS What The Instruction Should Reinforce		
Knowledge	Application	Skill Group	Skill	Description
1.1 (discuss) The development of food science from prehistoric to modern times		Foundation	Speaking	Asks questions to clarify information [1.5.3]; asks questions to obtain information [1.5.4]
		Thinking	Knowing How to Learn	Locates appropriate learning resources to acquire or improve knowledge and skills [4.3.3]
1.2 (compare) Food availability in the United States to that of other countries		Foundation	Reading	Comprehends written information for main ideas [1.3.7]; draws conclusions from what is read [1.3.12]
		Thinking	Reasoning	Determines which conclusions are correct when given a set of facts and a set of conclusions [4.5.3]
1.3 (discuss) Careers in the food science industry	1.3.1 Research a career in food science to determine education requirements, working conditions, and salary.	Foundation	Reading	Uses standard occupational resource materials [1.3.22]
		Personal Management	Career Awareness, Development, and Mobility	Develops skills to locate, evaluate, and interpret career information [3.1.4]; explores career opportunities [3.1.6]
1.4 (explain) FFA opportunities available to students with an interest in food science		Foundation	Speaking	Communicates a thought, idea, or fact in spoken form [1.5.5]; participates in conversation, discussion, and group presentation [1.5.8]
		Personal Management	Career Awareness, Development, and Mobility	Sets well-defined and realistic personal/career goals (short-term and long-term) [3.1.11]
2.1 (define) Food industry		Foundation	Writing	Uses words appropriately [1.6.21]; writes/prints legibly [1.6.24]
		Thinking	Seeing Things	Imagines the flow of work activities from narrative

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Knowledge	Application	Skill Group	Skill	Description
			in the Mind's Eye	descriptions [4.6.1]
2.2 (describe) The economic scope of the food industry	2.2.1 Trace the path food travels from the farm to the consumer.  2.2.2 Determine the breakdown of each dollar spent on food in the United States.  2.3 Compare the amount of food exported from the United States to that imported each year.	Foundation  Thinking	Arithmetic/ Mathematics  Reasoning	Calculates percentages, ratios, proportions, decimals, and common fractions [1.1.10]  Sees relationship between two or more ideas, objects, or situations [4.5.5]; uses logic to draw conclusions from available information [4.5.6]
3.1 (analyze) The risks involved in the use of pesticides in food production		Foundation  Thinking	Reading  Decision Making	Analyzes and applies what has been read to a specific task [1.3.2]; identifies relevant details, facts, and specifications [1.3.16]  Considers risks when making a decision [4.2.3]
3.2 (evaluate) The risks involved in the use of hormones and antibiotics on animals raised for food		Foundation  Thinking	Speaking  Decision Making	Participates in conversation, discussion, and group presentation [1.5.8]  Evaluates information/data to make best decision [4.2.5]
3.3 (discuss) The use of chemical preservatives in		Foundation	Science	Applies scientific principles related to food preservation [1.4.5]

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Knowledge	Application	Skill Group	Skill	Description
food		Thinking	Reasoning	Sees relationship between two or more ideas, objects, or situations [4.5.5]
3.4 (identify) Government agencies in charge of quality assurance in the food supply	3.4.1 Match grades of food commodities given by the USDA to their symbols and meanings.	Foundation	Reading	Interprets drawings to obtain factual information [1.3.17]; locates pertinent information in documents such as manuals, graphs, and schedules to perform tasks [1.3.18]
		Thinking	Knowing How to Learn	Develops personal learning strategies -- notetaking, clustering related items, flashcards, etc. [4.3.2]
4.1 (discuss) The importance of food preservation		Foundation	Speaking	Speaks effectively using appropriate eye contact, gestures, and posture [1.5.11]
		Thinking	Creative Thinking	Makes connections between seemingly unrelated ideas [4.1.6]
4.2 (explain) How the growth of molds is inhibited in baked goods		Foundation	Science	Applies a scientific principle to solve a problem [1.4.8]
		Thinking	Problem Solving	Identifies possible reasons for problem [4.4.6]
4.3 (explain) What causes milk to sour	4.3.1 Conduct a test of several samples of milk to determine quality.	Foundation	Science	Acquires and process scientific data [1.4.1]; constructs hypothesis [1.4.11]
		Thinking	Problem Solving	Extracts rules or principles from written information [4.5.4]
4.4 (compare) Nutritional values of canned, frozen, and fresh foods		Foundation	Reading	Distinguishes between fact and opinion [1.3.11]; identifies relevant facts, details, and specifications [1.3.16]
		Thinking	Reasoning	Determines which conclusions are correct when given a set of

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Knowledge	Application	Skill Group	Skill	Description
				facts and a set of conclusions [4.5.3]
5.1 (discuss) Sanitation concerns involved in slaughtering meat animals		Foundation  Personal Management	Science  Integrity/ Honesty/ Work Ethic	Observes health code/sanitation requirements [1.4.19]  Complies with safety and health rules in a given work environment [3.2.2]
5.2 (list) The steps involved in slaughtering the following types of meat animals: - Beef - Sheep - Hogs - Poultry - Fish	5.2.1 Demonstrate the process of slaughtering the following types of meat animals: - beef - sheep - hogs - poultry - fish.	Foundation  Personal Management	Reading  Organizational Effectiveness	Applies information to job performance [1.3.4]; follows written directions [1.3.13]  Presents personal skills as benefit for company objective [3.3.7]
5.3 (discuss) The process of Kosher slaughter		Foundation  Interpersonal	Reading  Cultural Diversity	Uses appropriate materials and techniques as specified [1.3.20]  Comprehends ideas and concepts related to Jewish dietary requirements [2.2.1]; respects others' personal values, cultures, and traditions [2.2.4]
5.4 (identify) Primal and retail cuts from the following types of meat animals: - Beef - Sheep - Hogs		Foundation  Thinking	Reading  Knowing How to Learn	Locates pertinent information in documents such as manuals, graphs, and schedules to perform tasks [1.3.18]  Develops personal learning strategies -- notetaking, clustering related items, flashcards, etc. [4.3.2]
5.5 (identify)	5.5.1	Foundation	Speaking	Speaks effectively using appropriate eye contact, gestures,

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Knowledge	Application	Skill Group	Skill	Description
Products made from animal by-products	Debate the issue of using animals for food vs. animal rights groups' beliefs.	Interpersonal	Negotiation	and posture [1.5.11]; uses proper voice inflection [1.5.13]  Assists in reaching a settlement/conclusion through compromise [2.5.1]; works to resolve conflict between two or more individuals [2.5.3]
6.1 (define) Value-added product		Foundation  Thinking	Reading  Seeing Things in the Mind's Eye	Uses written resources (books, dictionaries, directories) to obtain factual information [1.3.23]  Visualizes a finished product [4.6.4]
6.2 (discuss) Trends in the American lifestyle which have increased demand for value-added products		Foundation  Thinking	Writing  Reasoning	Presents own opinion in written form in a clear, concise manner [1.6.14]  Sees relationship between two or more ideas, objects, or situations [4.5.5]
6.3 (list) Examples of popular value-added products	6.3.1 Compare price per pound of value-added products to that of unprocessed forms of the same food.	Foundation  Interpersonal	Speaking  Teamwork	Communicates a thought, idea, or fact in spoken form [1.5.5]  Contributes to group with ideas, suggestions, and effort [2.6.2]
7.1 (determine) The percentage of each food dollar that is spent on marketing		Foundation  Thinking	Arithmetic/Mathematics  Problem Solving	Calculates percentages, ratios, proportions, decimals, and common fractions [1.1.10]; demonstrates mathematical calculation [1.1.19]  Devises and implements a plan of action to resolve problem [4.4.3]
7.2 (discuss) The effect of advertising on	7.2.1 Analyze advertisements for various	Foundation	Speaking	Interprets nonverbal cues such as eye contact, posture, and gestures for meaning [1.5.6]

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<b>Knowledge</b>	<b>Application</b>	<b>Skill Group</b>	<b>Skill</b>	<b>Description</b>
consumers	food products, including those from the beef, pork, milk, and potato boards.	Thinking	Reasoning	Determines which conclusions are correct when given a set of facts and a set of conclusions [4.5.3]
7.3 (appraise) The importance of computers in the marketing process		Foundation	Writing	Produces neat, legible document from typewriter or computer [1.6.15]
		Thinking	Knowing How to Learn	Processes new information as related to workplace [4.3.5]