

## Colorado AFNR Course Scope and Sequence

Course Name	Principles of Food Production		Course Details	Level 2 course following Introduction to Agriculture A & B in the Food Science pathway.		
			Course = 0.50 Carnegie Unit Credit			
<b>Course Description</b>	Students identify changes and trends in local and global food systems while understanding the selection, evaluation, and inspection of existing food systems. Learning more about the production and distribution channels of both animal and plant products while also recognizing the role of marketing in the food industry.					
<b>Note:</b>	This is a suggested scope and sequence for the course content. The content will work with any textbook or instructional resource. If locally adapted, make sure all essential knowledge and skills are covered.					
SCED Identification #	18301	Schedule calculation based on 60% of a semester instructional time. Scope and sequence allows for additional time for guest speakers, student presentations, field trips, remediation, or other content topics.				
All courses taught in an approved CTE program must include Essential Skills embedded into the course content. The Essential Skills Framework for this course can be found at <a href="https://www.cde.state.co.us/standardsandinstruction/essentialskills">https://www.cde.state.co.us/standardsandinstruction/essentialskills</a>						
Unit Number, Title and Brief Description	Suggested % of Instructional Time	CTE or Academic Standard Alignment	Competency / Performance Indicator	Outcome / Measurement	CTSO Integration	
<b>Unit 1: Food Production Systems</b>		<b>FPPS.0</b> Understand the Food Products and Processing Industry	<b>FPPS.01.04</b> Identify and evaluate food products and processing segments.  <b>FPPS.01.05</b> Identify and design distribution channels.	<b>FPPS.01.04.a</b> Define producers, packers/processors, distributors, and consumers.  <b>FPPS.01.04.b</b> Describe the interrelationship of processing segments.  <b>FPPS.01.05.a</b> Define wholesalers, local markets/direct markets (CSA), retailers, governments/institutional (school lunch and prison program), restaurants (catering)/hotel, fast food		

				<p><b>FPPS.01.05.b</b> Describe the movement of products through channels.</p>	
<p><b>Unit 2: Cultural Perspectives of Food &amp; Food Production Methods</b></p>		<p><b>FPPS.02</b> Understand World Food Needs</p>	<p><b>FPPS.02.03</b> Explain food related cultural practices and their impact on food supply.</p> <p><b>FPPS.02.04</b> Analyze the relationship between food supply and economic development.</p> <p><b>FPPS.02.05</b> Analyze food supply systems based on sustainability.</p>	<p><b>FPPS.02.03.a</b> Define and describe organic, natural, conventional, GMO's.</p> <p><b>FPPS.02.03.b</b> Research cultural practices and their impact on quantity and quality of food production.</p> <p><b>FPPS.02.04.a</b> Describe food supply and its impact on economic development.</p> <p><b>FPPS.02.04.b</b> Research food supply in developed and underdeveloped countries. SAMPLE ACTIVITY: World Hunger Challenge</p> <p><b>FPPS.02.05.a</b> Define sustainable food supply and identify sustainable food production practices.</p> <p><b>FPPS.02.05.b</b> Research current practices to improve sustainability in food supply.</p> <p><b>FPPS.02.05.c</b> Compare sustainability of food supplies in developed to developing countries</p>	
		<p><b>FPP.04</b> Explain the scope of the food industry and the historical and current developments of food products and processing.</p>	<p><b>FPP.04.01</b> Examine the scope of the food industry by evaluating local and global policies, trends, and customs for food production.</p>	<p><b>FPP.04.01.02.a</b> Examine the impact of consumer trends on food products and processing practices (e.g. health and nutrition,</p>	

			<u>SCIENCE:</u> <u>NGSS.HS.ETS1.3</u>	<p>organic, information about food products, local food movements, farm-to-form, supply chains, food system transparency, etc)</p> <p><b>FPP.04.01.03.a</b> Compare and contrast cultural differences regarding food products and processing practices.</p> <p><b>FPP.04.01.03.b</b> Analyze food production and distribution outcomes based on cultural customs.</p>	
<b>Unit 3: Food Processing</b>		<b>FPP.03</b> Select and process food products for storage, distribution, and consumption.	<b>FPP.03.02</b> Design and apply techniques of food processing, preservation, packaging, and presentation for distribution and consumption of food products.	<p><b>FPP.03.02.02.a</b> Differentiate between methods and materials used for processing food for different markets (e.g. fresh food products, ready to eat food products, etc)</p> <p><b>FPP.03.02.02.b</b> Outline appropriate methods and prepare foods for sale and distribution of different markets.</p> <p><b>FPP.03.02.04.a</b> Summarize types of materials and methods used in food packaging and presentation.</p> <p><b>FPP.03.02.04.b</b> Analyze the degree of desirable food qualities of foods stored in various packaging.</p>	
<b>Unit 4: Nutrition &amp; Food</b>		<b>FPP.02</b> Apply principles of nutrition, biology,	<b>FPP.02.01</b> Apply principles of nutrition and biology to	<b>FPP.02.01.01.a</b> Research and summarize properties	

<ul style="list-style-type: none"> <li>• Nutrient Classification</li> <li>• Nutrient Requirement</li> <li>• Impact of Nutrition on Societies</li> </ul>		<p>microbiology, chemistry, and human behavior to the development of food products.</p>	<p>develop food products that provide a safe, wholesome, and nutritious food supply for local and global food systems.</p> <p><b>FPPS.02.02</b> Analyze the relationship between diet and population health.</p>	<p>of common food constituents (e.g. proteins, carbohydrates, fats, vitamins, minerals)</p> <p><b>FPP.02.01.02.a</b> Research and report methods of nutritional planning to meet essential needs for the human diet (e.g. MyPlate)</p> <p><b>FPP.02.01.02.b</b> Compare and contrast the nutritional needs of different human diets.</p> <p><b>FPPS.02.02.a</b> Identify nutritional diseases/deficiencies.</p> <p><b>FPPS.02.02.b</b> Determine causes of diseases/deficiencies.</p> <p><b>FPPS.02.02.c</b> Explore societal impacts of diet and health.</p>	
<p><b>Unit 5: Food labeling</b></p>		<p><b>FPP.02</b> Apply principles of nutrition, biology, microbiology, chemistry, and human behavior to the development of food products.</p>	<p><b>FPP.02.03</b> Apply principles of human behavior to develop food products to provide a safe, wholesome, and nutritious food supply for local and global food systems.</p>	<p><b>FPP.02.03.0.a</b> Examine and explain the importance of food labeling to the consumer.</p> <p><b>FPP.02.03.01.b</b> Examine, interpret, and explain the meaning of required components on a food label.</p>	
<p><b>Unit 6: Food Inspection &amp; Quality Evaluation</b></p>		<p><b>FPP.03</b> Select and process food products for storage, distribution, and consumption.</p>	<p><b>FPP.03.01</b> Implement selection, evaluation, and inspection techniques to ensure safe and quality food products.</p>	<p><b>FPP.03.01.01.a</b> Summarize characteristics of quality and yield grades of food products.</p>	

<ul style="list-style-type: none"> <li>Meat, Milk, Eggs, Fruits, Vegetables</li> </ul>				<p><b>FPP.03.01.01.b</b> Analyze factors that affect quality and yield grades of food products.</p> <p><b>FPP.03.01.01.c</b> Outline procedures to assign quality and yield grades to food products according to industry standards.</p> <p><b>FPP.03.01.02.a</b> Summarize procedures to select raw food products based on yield grades and quality grades.</p> <p><b>FPP.03.02.03.a</b> Identify and describe protocols for inspection and harvesting techniques for animal food products (e.g. pre-mortem and post-mortem inspections, Food Safety Inspection Service Guidelines FSIS, etc)</p> <p><b>FPP.03.01.03.b</b> Examine and evaluate inspection and harvesting of animals using regulatory agency approved or industry approved techniques.</p>	
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**CAS Academic Standards Alignment:** Online Version: <https://www.cde.state.co.us/apps/standards/>; Download version: <https://www.cde.state.co.us/apps/standards/>

**Reading, Writing, and Communicating:**

**Math:**

### Science:

- NGSS.HS.ETS.1.3 – Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, and aesthetics, as well as possible social, cultural, and environmental impacts.

### Essential Skills:

#### Problem Solver:

- Critical Thinking and Analysis: The ability to apply a deliberate process of identifying problems, gathering information, and weighing possible solutions, including: making choices rooted in understanding patterns, cause-and-effect relationships, and the impacts that a decision can have on the individual and others.

#### Community Member:

- Global and cultural awareness: the ability to collaborate with individuals from diverse backgrounds and/or cultures to address national and global issues, and to develop complex, appropriate, and workable solutions.

#### Communicator:

- Interpersonal communication: the ability to establish and maintain healthy and supportive relationships, including: the capacity to communicate clearly by successfully conveying information and feelings, listening actively, setting boundaries, negotiating conflict constructively, and seeking or offering support and help when needed.

#### Empowered Individual:

- Self-management: the ability to manage one's emotions, thoughts, and behaviors effectively in different situations and to achieve goals and aspirations, including: the capacity to delay gratification, manage stress, stay productive and accountable, and feel motivation & agency to accomplish personal/collective goals.
- Career Awareness: The ability to apply the knowledge and understanding of how one's dreams, experiences, and interests translate into career fulfillment and lifelong pursuits in local, regional, national, and global career pathways and opportunities.