

Colorado Agriculture Course Scope and Sequence

| Course Name | Introduction to Agrisciences | | Course Details | This is a one semester course for 7th or 8th grade prior to an HS level Introduction to Agriculture course. |
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| | | | Course = 0.50 Carnegie Unit Credit | |
| Course Description | This course is NOT the level 1 high school Intro to Agriculture course. This course will scaffold basic content of understanding production agriculture, terminology, natural resources, and perceptions prior to the level 1 HS Introduction to Agriculture course. | | | |
| Note: | 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 # | | 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 https://www.cde.state.co.us/standardsandinstruction/essentialskills | | | | |
| Unit Number, Title and Brief Description | CTE or Academic Standard Alignment | Competency / Performance Indicator | Outcome / Measurement | Resources/Activities |
| Unit 1: Food Science Food Processing: Beef Chicken Egg Production Pork Milk Processing | FPP.03 Select and process food products for storage, distribution, and consumption. FPP.04 Explain the scope of the food industry and the historical and current developments of food products and processing. | FPP.03.02 Design and apply techniques for food processing, preservation, packaging, and presentation for distribution and consumption of food products. FPP.04.02 Evaluate the significance and implications of changes and trends in the food products and processing industry in the local and global food systems. | FPP.03.02.02.a Differentiate between methods and materials use for processing food for different markets (e.g. fresh food products, ready to eat food products, etc) FPP.03.02.02.b Outline appropriate methods and prepare foods for sale and distribution for different markets. FPP.04.02.01.a Describe and explain the components of the food products and processing industry (e.g., processing, distribution, byproducts, etc) FPP.04.02.02.a Identify and explain environmental and safety concerns about the food supply. FPP.04.02.03.a Research and describe current and emerging technologies related to food products and processing (e.g. high pressuring processing of foods, automation, biotechnology, etc.). | The Pork Check-off for Food and Agriculture Literacy is a great resources |

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| <p>Unit 2: Plant Science</p> | <p>PS.02 Apply principles of classification, plant anatomy, and plant physiology to plant production and management.</p> | <p>PS.02.02 Apply knowledge of plant anatomy and the functions of plant structures to activities associated with plant systems.</p> <p>PS.02.03 Apply knowledge of plant physiology and energy conversion to plant systems</p> | <p>PS.02.02.01.a Identify structures in a typical plant cell and summarize the function of plant cell organelles.</p> <p>PS.02.02.02.a Identify and summarize the components, the types, and the functions of plant roots.</p> <p>PS.02.02.03.a Identify and summarize the components and the functions of plant stems.</p> <p>PS.02.02.04.a Research and summarize leaf morphology and the functions of leaves.</p> <p>PS.02.02.05.a Identify and summarize the components of a flower, the function of a flower and the functions of flower components.</p> <p>PS.02.02.06.a Identify and summarize the functions and components of seeds and fruit.</p> <p>-Basic outline and review of photosynthesis and cellular respiration from their science courses.</p> | |
| <p>Unit 3: Animal Science Terminology Breeds of Exotic Animals Animal Evolution</p> | <p>AS.01 Analyze historic and current trends impacting the animal systems industry.</p> | <p>AS.01.01 Evaluate the development and implications of animal origin, domestication, and distribution on production practices and then environment.</p> | <p>AS.01.01.01.a Identify and summarize the origin, significance, distribution, and domestication of different animal species.</p> <p>AS.01.01.02.a Research and summarize major components of animal systems (e.g. livestock, companion animals, etc)</p> | |
| <p>Unit 4: Natural Resources Forestry Management - Deforestation -Species Extinction</p> | <p>NRS.02 Analyze the interrelationships between natural resources and humans.</p> <p>NRS.03 Develop plans to ensure sustainable production and processing of natural resources.</p> | <p>NRS.02.02 Assess the impact of human activities on the availability of natural resources.</p> <p>NRS.03.01 Sustainably produce, harvest, process, and use natural resource products (e.g. forest products, wildlife, minerals,</p> | <p>NRS.02.02.01.a Summarize the relationship between natural resources, ecosystems, and human activity.</p> <p>NRS.02.02.02.a Categorize the primary causes of extinction of living species due to human activity (e.g, overharvesting, habitat loss, invasive species, pollution, etc.)</p> <p>NRS.03.01.01.a Summarize forest harvesting methods.</p> | <p>https://docs.google.com/document/d/1-DpdyHsAX95sslkI6OzjG9I3V9novuva9AUbolqGuXM/copy</p> |

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| | | fossil fuels, shale oil, alternative energy, recreation, aquatic species, etc) | NRS.03.01.01.b Assess harvesting methods in regards to their economic value, environmental impacts, and other factors. | |
| Unit 5: Power, Structure, & Technical Systems Tool ID - handtools (if shop space exists in the program) | PST.01 Apply physical science principles and engineering applications to solve problems and improve performance in AFNR power, structural, and technical systems. PST.02 Operate and maintain AFNR mechanical equipment and power systems. | PST.01.02 Apply physical science and engineering principles to design, implement, and improve safe and efficient mechanical systems in AFNR situations. PST.02.02 Operate machinery and equipment while observing all safety precautions in ANFR settings. | PST.01.02.02.a Identify the tools, machines, and equipment needed to construct and/or fabricate a project in AFNR. PST.02.02.01.a Research and summarize the use of equipment, machinery, and power units for AFNR power, structural and technical systems. PST.02.02.02.b Examine and identify safety hazards associated with equipment, machinery, and power units used in AFNR power, structural, and technical systems (e.g. caution, warning, danger, etc) | Tool Scavenger Hunt https://docs.google.com/document/d/1Ai-dz-AnOo5tHcJXVTMEYuC UKF6Ybjj99eqdYWFw3rA/copy |
| Unit 6: Ag. Perceptions | CS.01 Analyze how issues, trends, technologies, and public policies impact systems in the Agriculture, Food, and Natural Resource Career Cluster CS.06 Analyze the interaction among AFNR systems in the production, processing, and management of food, fiber, and fuel and the sustainable use of natural resources. | CS.01.01 Research, examine, and discuss issues and trends that impact AFNR systems on local, state, national, and global levels. CS.01.02 Examine technologies and analyze their impact on AFNR systems. CS.06.02 Analyze and explain the connection and relationships between different AFNR systems on a national and global level. | CS.01.01.01.a Examine historical and current data to identify issues impacting AFNR systems. CS.01.01.02.a Research and summarize trends impacting AFNR systems. CS.01.02.01.a Research technologies used in AFNR systems. CS.01.02.02.b Compare and contrast AFNR systems before and after the integration of technology. CS.06.02.01.a Summarize how AFNR systems connect and relate on a national and global level (e.g. soil, water, economic, etc) CS.06.02.02.a Examine and summarize changes that happen in AFNR systems on a national and global level (e.g. using less irrigation water, reduction of inputs, etc) | |
| Unit 7: Career Ready Practices | CRP.01 Act as a responsible and contributing citizen and employees | CRP.01.01. Model personal responsibility in the workplace and community. | CRP.01.01.01.a Define personal responsibility and distinguish how it applies in the workplace and community (e.g., make educated choices, | |

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