



2020-2021

PROGRAM GUIDE FOR:

AGRICULTURE,

FOOD AND NATURAL RESOURCES CLUSTER,

AND

ARGISCIENCE MIDDLE SCHOOL



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Agriculture, Food and Natural Resources Cluster Program Guides

Career Pathway Program	General Agriscience Program (Must teach three courses from this program list within two years)		
	This program is designed to deliver a variety of agricultural disciplines which will provide students a general understanding of the scope of agriculture as it relates to the following areas: animal science, plant science, food science, forestry and wildlife sciences, agricultural construction and agricultural mechanics.		
Code Number	Career Pathway Program Courses	Career Readiness Indicator (CRI)	Workforce Careers
420101	Fundamentals of Agriscience	<ul style="list-style-type: none"> • NCCER Core • Urban Forestry Technician • Landscape Management Technician • Landscape Design (LD) Permit • Landscape Design and Plant Materials Certification • Integrated Pest Management Certification • Forestry Worker Certification • Adult Beef Quality Assurance (BQA – all three areas required): <ul style="list-style-type: none"> • Cow/Calf • Feedyard • Stocker • Briggs and Stratton Technician (Two of the following areas REQUIRED) <ul style="list-style-type: none"> • Theory of Operation • Carburetors and Fuel Systems • Governors • Compression • Ignition Systems • Construction and Skilled Trade Assessment (CAST) • Specialty Crops 	<ul style="list-style-type: none"> • Agriscience Teacher • Construction Manager • Post-Secondary Agricultural Sciences Teacher • Agricultural Equipment Operator • Warehouse Facility Manager • Food Quality Assurance • USDA Inspector • Construction Laborer • Maintenance Technician • Agricultural Engineer • Welder • Plumber • Electrician • HVAC Technician • Industrial Maintenance Technician • Agricultural Sales
420102	Intermediate Agriscience		
420103	Advanced Agriscience		
420104	Applied Agricultural Mechanics		
420078	CTE Lab in Agriculture, Food and Natural Resources		
420077	Senior Pathway Project-Agriculture, Food & Nat Res		
Program Course Electives	<i>Elective courses may be added from within the Agriculture, Food and Natural Resources Cluster course list – See complete listing on page 4</i>		

Career Pathway Program	AgriConstruction Program (Must teach three courses from this program list within two years)		
	This program is designed to provide students with an understanding of modern construction and building practices along with a basic understanding of metal fabrication and welding.		
Code Number	Career Pathway Program Courses	Career Readiness Indicator (CRI)	Workforce Careers
420009	Agriscience 1 credit	<ul style="list-style-type: none"> • NCCER Core • NCCER Carpentry Level 1 • NCCER Welding Level 1 	<ul style="list-style-type: none"> • Construction Laborer • Agricultural Contractor • Pipe Layer • Welder • Electrician • Plumber • Industrial Maintenance Technician • HVAC Technician • Agricultural Engineer • Construction Manager • Mechanical Drafter
420010	Agriscience 1/2 credit		
410005	Introduction to Drafting Design		
410006	Construction Site Preparation and Foundations		
410007	Construction Framing		
410008	Construction Finishing and Interior Systems		
410009	Residential Wiring		
410010	Introduction to Masonry		
410011	Safety and Health Regulations		
420012	Introduction to Metal Fabrication 1 credit		
420013	Introduction to Metal Fabrication 1/2 credit		
420014	Introduction to Metal Inert Gas/Flux Cored Arc Welding		
420078	CTE Lab in Agriculture, Food and Natural Resources		
420077	Senior Pathway Project-Agriculture, Food & Nat Res		
Program Course Electives	<i>Elective courses may be added from within the Agriculture, Food and Natural Resources Cluster course list – See complete listing on page 4</i>		

Career Pathway Program	Power Mechanics Program (Must teach three courses from this program list within two years)		
	This program is designed to provide students with a general understanding of agricultural power equipment.		
Code Number	Career Pathway Program Courses	Career Readiness Indicator (CRI)	Workforce Careers
420009	Agriscience 1 credit	<ul style="list-style-type: none"> • NCCER Core • Briggs and Stratton Technician (Two of the following areas REQUIRED) <ul style="list-style-type: none"> • Theory of Operation • Carburetors and Fuel Systems • Governors • Compression • Ignition Systems 	<ul style="list-style-type: none"> • Hydraulics Technician • Maintenance Technician • Agricultural Engineer • Agricultural Equipment Operator • Parts Salesperson • Storage and Distribution Manager • Transportation Inspector
420010	Agriscience 1/2 credit		
410001	Two- and Four-Stroke Engines 1 credit		
410002	Power Equipment Technology		
410022	Residential and Commercial Power Equipment		
420078	CTE Lab in Agriculture, Food and Natural Resources		
420011	Two- and Four-Stroke Engines 1/2 credit		
420077	Senior Pathway Project-Agriculture, Food & Nat Res		
Program Course Electives	<i>Elective courses may be added from within the Agriculture, Food and Natural Resources Cluster course list – See complete listing on page 4</i>		

Career Pathway Program	Animal Systems Program (Must teach three courses from this program list within two years)				
	This program is designed to provide students with an understanding of livestock management, veterinary science, poultry science, equine science and food processing.				
Code Number	Career Pathway Program Courses	Career Readiness Indicator (CRI)	Workforce Careers		
420009	Agriscience 1 credit	<ul style="list-style-type: none"> • NCCER Core • Adult Beef Quality Assurance (BQA – all three areas required): <ul style="list-style-type: none"> • Cow/Calf • Feedyard • Stocker 	<ul style="list-style-type: none"> • Food Science Technician • Farm Worker • Artificial Insemination Technician • Veterinarian • Veterinary Technician • Farm Products Purchasing Agent • Agricultural Sales • Non-Farm Animal Worker • Livestock Manager • Poultry Operator • Ag Field Service Representative • Food Quality Assurance • USDA Inspector 		
420010	Agriscience 1/2 credit				
420030	Animal Science 1 credit				
420031	Animal Science 1/2 credit				
420032	Animal Biotechnology				
420033	Poultry Science				
420034	Equine Science				
410003	Introduction to Veterinary Science				
410004	Veterinary Science				
420078	CTE Lab in Agriculture, Food and Natural Resources				
420077	Senior Pathway Project-Agriculture, Food & Nat Res				
Program Course Electives	<i>Elective courses may be added from within the Agriculture, Food and Natural Resources Cluster course list – See complete listing on page 4</i>				

Career Pathway Program	Plant Systems Program (Must teach three courses from this program list within two years)		
	This program is designed to provide students with an understanding of the greenhouse, horticulture and nursery/landscape industries.		
Code Number	Career Pathway Program Courses	Career Readiness Indicator (CRI)	Workforce Careers
420009	Agriscience 1 credit	<ul style="list-style-type: none"> • NCCER Core • Landscape Management Technician • Urban Forestry Technician • Setting of Landscape Plans (SLP) Permit • Tree Surgery (TS) Permit • Landscape Design (LD) Permit • Landscape Design and Plant Materials Certification • Forestry Worker Certification • Turfgrass Management Certification • Specialty Crops 	<ul style="list-style-type: none"> • Chemical Engineer • Soil Scientist • Pesticide Handler/Applicator • Pest Control Worker • Landscape Designer • Landscape Worker • Agronomy Sales • Golf Course Superintendent • Turfgrass Producer • Lab Technician
420010	Agriscience 1/2 credit		
420051	Horticultural Science 1 credit		
420052	Horticultural Science 1/2 credit		
410053	Plant Biotechnology		
410054	Greenhouse Production and Management		
420055	Nursery Production and Management		
420056	Sports Turfgrass Production and Management		
420057	Landscape Design & Management 1 credit		
420058	Landscape Design & Management 1/2 credit		
420059	Residential Landscape Establishment & Management		
420078	CTE Lab in Agriculture, Food and Natural Resources		
420077	Senior Pathway Project-Agriculture, Food & Nat Res		
Program Course Electives	<i>Elective courses may be added from within the Agriculture, Food and Natural Resources Cluster course list – See complete listing on page 4</i>		

Career Pathway Program	Floral Design Program (Must teach three courses from this program list within two years)		
	This program is designed to provide students with an understanding of the floral design and interior design industries.		
Code Number	Career Pathway Program Courses	Career Readiness Indicator (CRI)	Workforce Careers
420060	Creative Floral Design	• None	<ul style="list-style-type: none"> • Florist • Florist Worker • Event Planner
420061	Specialty Floral Design and Management		
420062	Floral Design and Interiorscaping		
420078	CTE Lab in Agriculture, Food and Natural Resources		
420077	Senior Pathway Project-Agriculture, Food & Nat Res		
Program Course Electives	<i>Elective courses may be added from within the Agriculture, Food and Natural Resources Cluster course list – See complete listing on page 4</i>		

Career Pathway Program	Agribusiness Systems Program (Must teach three courses from this program list within two years)		
	This program is designed to provide students with a general understanding of agricultural communications, management and the marketing of agricultural products in today's global business environment.		
Code Number	Career Pathway Program Courses	Career Readiness Indicator (CRI)	Workforce Careers
420009	Agriscience 1 credit	• NCCER Core	<ul style="list-style-type: none"> • Farm and Home Management Advisor • Agricultural Sales • Agriscience Teacher • Agribusiness Marketing Manager • Post-Secondary Agricultural Sciences Teacher • Agricultural Appraiser • Agricultural Insurance Specialist • Agricultural Loan Officer • Agricultural Economist • Public Relations/Ag Communications
420010	Agriscience 1/2 credit		
420071	Agribusiness Technology		
420072	Agribusiness Marketing		
420073	Agricultural Communications 1 credit		
420074	Agricultural Communications 1/2 credit		
420075	Agribusiness Management 1 credit		
420076	Agribusiness Management 1/2 credit		
420078	CTE Lab in Agriculture, Food and Natural Resources		
420077	Senior Pathway Project-Agriculture, Food & Nat Res		
Program Course Electives	<i>Elective courses may be added from within the Agriculture, Food and Natural Resources Cluster course list – See complete listing on page 4</i>		

Career Pathway Program	Environmental and Natural Resources Systems Program (Must teach three courses from this program list within two years)		
	This program is designed to provide students with a general understanding of the ecology, forestry and wildlife management industries as they relate to agriculture.		
Code Number	Career Pathway Program Courses	Career Readiness Indicator (CRI)	Workforce Careers
420009	Agriscience 1 credit	<ul style="list-style-type: none"> • NCCER Core • Urban Forestry Technician • Integrated Pest Management Certification • Forestry Worker Certification • Tree Surgery (TS) Permit 	<ul style="list-style-type: none"> • Forester • Environmental Engineer • Forest and Conservation Worker • Conservation Officer • Lab Technician • Hunters and Trappers • Wildlife Biologist • Soil Scientist • Professional Fisherman • Logger • Recreation Worker
420010	Agriscience 1/2 credit		
420026	Environmental Management		
420024	Fish and Wildlife Management 1 credit		
420025	Fish and Wildlife Management 1/2 credit		
420020	Forestry 1 credit		
420021	Forestry 1/2 credit		
420023	Forestry Equipment		
420022	Urban Forestry		
420027	Arboriculture		
420028	Dendrology		
420029	Wildland Firefighting and Controlled Fire		
420078	CTE Lab in Agriculture, Food and Natural Resources		
420077	Senior Pathway Project-Agriculture, Food & Nat Res		
Program Course Electives	<i>Elective courses may be added from within the Agriculture, Food and Natural Resources Cluster course list – See complete listing on page 4</i>		

Aquaculture Program			
(Must teach three courses from this program list within two years)			
This program is designed to provide students with a general understanding of the aquaculture industry through fisheries technology.			
Code Number	Career Pathway Program Courses	Career Readiness Indicator (CRI)	Workforce Careers
420009	Agriscience 1 credit	<ul style="list-style-type: none"> • NCCER Core • Aquaculture Training and Online Learning (ATOLL) Aquaculture or Aquaponics 	<ul style="list-style-type: none"> • Wildlife Biologist • Catfish Producer • Professional Fisherman • Pump/Wellhead Operators • Fishers/Related Fishing Workers • Water/Wastewater Treatment Plant Operator • Non-Farm Animal Caretaker
420010	Agriscience 1/2 credit		
420035	Aqua Experience 1 credit		
420036	Aqua Experience 1/2 credit		
420037	Aquaculture Science		
420038	Aquatic Biology		
410020	Introduction to Fisheries Technology		
410021	Advanced Fisheries Technology		
420078	CTE Lab in Agriculture, Food and Natural Resources		
420077	Senior Pathway Project-Agriculture, Food & Nat Res		
Program Course Electives	<i>Elective courses may be added from within the Agriculture, Food and Natural Resources Cluster course list – See complete listing on page 4</i>		

Subject and Personnel Codes Agriculture, Food and Natural Resources and Agriscience Middle School Program

This cluster prepares students for employment in career pathways that relate to the \$70.4 billion industry of agriculture. The mission of agriscience education is prepare students for successful careers and a lifetime of informed choices in the global agriculture, food, fiber and natural resources systems. There are ten program areas in this cluster: General Agriscience, AgriConstruction, Power Mechanics, Animal Systems, Plant Systems, Floral Design, Agribusiness Systems, Environmental and Natural Resource Systems, Aquaculture and Middle School Agriscience.

Agriculture, Food and Natural Resources Cluster Courses (Grades 9-12)			
Code Number	Course Name	Code Number	Course Name
420101	Fundamentals of Agriscience	420056	Sports Turfgrass Production and Management
420102	Intermediate Agriscience	420057	Landscape Design & Management 1 credit
420103	Advanced Agriscience	420058	Landscape Design & Management 1/2 credit
420104	Applied Agricultural Mechanics	420059	Residential Landscape Establishment & Management
420009	Agriscience 1 credit	420062	Floral Design and Interiorscaping
420010	Agriscience 1/2 credit	420060	Creative Floral Design
410005	Introduction to Drafting Design	420061	Specialty Floral Design and Management
410006	Construction Site Preparation and Foundations	420071	Agribusiness Technology
410007	Construction Framing	420072	Agribusiness Marketing
410008	Construction Finishing and Interior Systems	420073	Agricultural Communications 1 credit
410009	Residential Wiring	420074	Agricultural Communications 1/2 credit
410010	Introduction to Masonry	420075	Agribusiness Management 1 credit
410011	Safety and Health Regulations	420076	Agribusiness Management 1/2 credit
420012	Introduction to Metal Fabrication 1 credit	420026	Environmental Management
420013	Introduction to Metal Fabrication 1/2 credit	420024	Fish and Wildlife Management 1 credit
420014	Introduction to Metal Inert Gas/Flux Cored Arc Welding	420025	Fish and Wildlife Management 1/2 credit
410001	Two- and Four-Stroke Engines 1 credit	420020	Forestry 1 credit
420011	Two- and Four-Stroke Engines 1/2 credit	420021	Forestry 1/2 credit
410002	Power Equipment Technology	420023	Forestry Equipment
410022	Residential and Commercial Power Equipment	420022	Urban Forestry
420030	Animal Science 1 credit	420027	Arboriculture
420031	Animal Science 1/2 credit	420028	Dendrology
420032	Animal Biotechnology	420029	Wildland Firefighting and Controlled Fire
420033	Poultry Science	420035	Aqua Experience 1 credit
420034	Equine Science	420036	Aqua Experience 1/2 credit
410003	Introduction to Veterinary Science	420037	Aquaculture Science
410004	Veterinary Science	420038	Aquatic Biology
420051	Horticultural Science 1 credit	410020	Introduction to Fisheries Technology
420052	Horticultural Science 1/2 credit	410021	Advanced Fisheries Technology
420053	Plant Biotechnology	420078	CTE Lab in Agriculture, Food and Natural Resources
420054	Greenhouse Production and Management		
420055	Nursery Production and Management		
420077	Senior Pathway Project-Agriculture, Food & Nat Res		
Middle School Agriscience Courses (Grades 6-8)			
Courses are designed to deliver diverse agricultural exploratory experiences to students in grades 6-8.			
Code Number	Course Name		
420004	Introduction to Agriscience (35 instructional-hour course) Grade 7		
420005	Introduction to Agriscience (70 instructional-hour course) Grade 7		
420006	Introduction to Agriscience (140 instructional-hour course) Grade 7		
420007	Agriscience Exploration (70 instructional-hour course) Grade 8		
420008	Agriscience Exploration (140 instructional-hour course) Grade 8		
420100	Career Clusters Exploration Through Agriscience (140 instructional-hour course) Grade 6-8		
400001	Career Clusters Exploration: Grade 6-8		

Note:

The course of study with content standards are located on the agriscience program page:

<https://www.alsde.edu/sec/cte/Pages/generalag-all.aspx>