



Programs of Study Information



About

The Agriculture, Food, and Natural Resources (AFNR) pathways focus on the essentials of life – food, water, land, and air. Students learn how we grow food, care for animals, protect natural resources, and support the industries that keep our communities running. AFNR offers a wide range of hands-on, science-based, and people-focused careers.

AGRIBUSINESS, LEADERSHIP, AND COMMUNICATIONS

Aligned Occupations

- Ag Finance Specialist or Commodity Buyer
- Agriculture Science Teacher
- Marketing and Advertising Account Manager

AGRICULTURAL TECHNOLOGY/MECHANICAL SYSTEMS

Aligned Occupations

- Farm Equipment Mechanics and Service Technicians
- Mobile Heavy Equipment Mechanic
- Welder

ANIMAL SCIENCE

Aligned Occupations

- Veterinarian/ Veterinary Assistant
- Animal Nutritionist
- Farm or Ranch Manager
- Animal Genetics & Breeding Specialist

PLANT SCIENCE

Aligned Occupations

- Floral Designer
- Sports Turfgrass Manager
- Botanist or Laboratory Researcher
- Landscape Architect



Programs of Study

AGRIBUSINESS, LEADERSHIP, AND COMMUNICATIONS

The Agriculture Business, Leadership, and Communications program of study focuses on occupational and educational opportunities associated with farming and agriculturally related businesses that supply farm inputs, such as machinery and seeds. This program of study includes exploration of farm product marketing, the purchase of farm products either for processing or resale, and the process of grading or classifying unprocessed food or other agricultural products.



AGRICULTURAL TECHNOLOGY AND MECHANICAL SYSTEMS

The Agricultural Technology and Mechanical Systems program of study focuses on occupational and educational opportunities associated with applying engineering technology and biological science to agricultural problems related to power and machinery, electrification, structures, soil and water use, and processing agricultural products. This program of study includes diagnosing, repairing, or overhauling farm machinery and vehicles, such as tractors, harvesters, dairy equipment, and irrigation systems.



ANIMAL SCIENCE

The Animal Science program of study focuses on occupational and educational opportunities associated with the science, research, and business of animals and other living organisms. This program of study includes applying biology and life science to real-world life processes of animals and wildlife, either in laboratories or in the field, which could include a veterinary office, a farm or ranch, or any outdoor area harboring animal life. Students will research and analyze the growth and destruction of species and research or diagnose diseases and injuries of animals.



PLANT SCIENCE

The Plant Science program of study focuses on occupational and educational opportunities associated with the science, research, and business of plants and other living organisms. This program of study includes the application of biology and life science to real-world life processes of plants and vegetation, either in laboratories or in the field.





AGRICULTURE, FOOD, AND NATURAL RESOURCES

An asterisk (*) - Indicates a course with a prerequisite.

Sequence	AGRIBUSINESS, LEADERSHIP, AND COMMUNICATIONS	AGRICULTURAL TECHNOLOGY AND MECHANICAL SYSTEMS	ANIMAL SCIENCE (Vet Focus)	ANIMAL SCIENCE	PLANT SCIENCE (Floriculture Focus)	PLANT SCIENCE (Horticulture Focus)
Y1	Survey of Agricultural, Food & Natural Resources	Agriculture Mechanics & Metal Technologies	Survey of Agricultural, Food & Natural Resources	Survey of Agriculture, Food, and Natural Resources	Survey of Agriculture, Food, and Natural Resources	Landscape Design & Management @CTEC and Turf Grass Management @CTEC
Y2	Professional Standards and Communication in Agribusiness @CTEC	*Agricultural Structures Design and Fabrications	Small Animal Management and Equine Science or Livestock Production	Small Animal Management and Equine Science	Floral Design I	Horticulture Science @CTEC
Y3	Entrepreneurship	*Agricultural Equipment, Design & Fabrication @CTEC	*Veterinary Medical Applications (NEW name: Veterinary Science) @CTEC	Livestock Production	*Floral Design II @CTEC	Greenhouse Operation & Production @CTEC
Y4	Agribusiness Management & Marketing @CTEC	*Practicum in Agricultural Structures & Equipment @CTEC	*Practicum in Veterinary Medical Applications (NEW name: Practicum in Veterinary Science) @CTEC	*Animal Science @CTEC	*Practicum in Floriculture and Horticulture @CTEC	Plant & Soil Science @CTEC

ALIGNED

Industry-Based

CERTIFICATIONS



- AWS Certified Welder
- Elanco Veterinary Medical Applications
- Veterinary Assistant, Level I
- Texas State Florist's Association Level 1
- Texas State Florist's Association Knowledge Based Floral Certification