

Agriculture, Food and Natural Resources (AFNR)

Earn the Business and Industry endorsement by completing four credits within the CTE AFNR Cluster, including one advanced course, as noted by **(ADV)**.

Animal Science Pathway

Course List:

- Principles of AFNR
- Small Animal Management
- Equine Science
- Livestock Production
- Vet Med Applications **(ADV)**
- Advanced Animal Science **(ADV)**
- Practicum in AFNR **(ADV)**

Plant Science Pathway

Course List:

- Principles of AFNR
- Landscape Design and Management
- Turf Grass Management
- Wildlife, Fisheries and Ecology Management
- Horticulture Science **(ADV)**
- Floral Design
- Advance Plant and Soil Science **(ADV)**
- Practicum in AFNR **(ADV)**

Oil and Gas Pathway

Course List:

- Principles of AFNR
- Agricultural Mechanics
- Oil and Gas Production I
- Oil and Gas Production II **(ADV)**
- Practicum in AFNR **(ADV)**

Course Selection Notes:

- All courses are taken through the Guthrie Center
- Some courses satisfy Math, Science or Fine Arts graduation requirements
- Additional agriculture courses may be available based on space for students to continue participation in FFA when pathway is complete
- A paid work experience in pathways may be available through the Guthrie Center Internship class

Certifications Available in Cluster:

- Certified Vet Assistant Level I
- OSHA 10
- International Association of Drilling Contractors Rig Pass
- Texas Florist High School Floral Certification
- Texas Hunter Education Certification
- Texas Boater Education Certification

Animal Science Pathway (Guthrie)

Earn the Business and Industry endorsement by completing four credits within the CTE AFNR Cluster, including one advanced course, as noted by **(ADV)**.

Principles of Agriculture, Food and Natural Resources (AFNR)

Course ID: CTAG10/13000200
Credit: 1.0 (1 Semester)

Study how food, clothing, shelter, transportation, medicine and modern-day conveniences rely on agricultural products. Explore how agriculture affects government and international trade.



Livestock Production

Course ID: CTAG11/13000300
Credit: 1.0 (1 Semester)

Explore an introduction to livestock production including anatomy, nutrition, health care and information specific to various species.

- **Rec PR: Principles AFNR**



Advanced Animal Science* (ADV)

Course ID: CTAG15/13000700
Credit: 1.0 (1 Semester)

Deepen knowledge in livestock industry through In-depth studies include animal industry, anatomy and physiology, and livestock husbandry.

- **PR: Small Animal Mgmt, Equine Science or Vet Med Applications**
- **PR: Biology and Chemistry or IPC, Algebra I and Geometry**

AND

Small Animal Management AND Equine Science

Course ID: CTAG12/13000400 & CTAG13/13000500
Credit: 1.0 (0.5 + 0.5) (1 Semester)

Develop knowledge and skills pertaining to the selection, nutrition, grooming, reproduction, health and management of small animals.

Study the science of horses including genetics, anatomy, physiology/nutrition, diseases, pests, and management practices.

- **Must be taken concurrently**

AND

Vet Med Applications (ADV)

Course ID: CTAG14/13000600
Credit: 1.0 (1 Semester)

Learn the basics of the veterinary medical profession and gain skills in handling a wide variety of animals, assisting clients, office management and legal issues. Study common ailments and treatments as well as emergency care techniques.

- **PR: Livestock Production or Small Animal Mgmt/Equine Science**

OR

Practicum in AFNR (ADV)

Course ID: CAG82 A&B/13002500
Credit: 2.0

Participate in a supervised practical application of AFNR through classroom learning and a paid or unpaid work experience. Acquire employability skills and experience for pursuit of career opportunities in AFNR.

Pathway Notes:

- Additional agriculture courses may be available based on space for students to continue participation in FFA when pathway is complete
- * Satisfies a high school Science graduation requirement
- A paid work experience in this pathway may be available through the Guthrie Center Internship class

Certification Available:
Certified Vet Assistant Level I

Plant Science Pathway (Guthrie)

Earn the Business and Industry endorsement by completing four credits within the CTE AFNR Cluster, including one advanced course, as noted by **(ADV)**.

Principles of Agriculture, Food and Natural Resources (AFNR)

Course ID: CTAG10/13000200
Credit: 1.0 (1 Semester)

Study how food, clothing, shelter, transportation, medicine and modern-day conveniences rely on agricultural products. Explore how agriculture affects government and international trade.

AND

Landscape Design and Management AND Turf Grass Management

Course ID: CTAG25/13001900 & CTAG27/13001950
Credit: 1.0 (0.5 + 0.5) (1 Semester)

Learn techniques in designing, constructing, and maintaining planted areas and devices for the beautification of home and commercial grounds, including golf courses and turf management.

- **Must be taken concurrently**

OR

Wildlife, Fisheries and Ecology Management

Course ID: CTAG23/13001500
Credit: 1.0 (1 Semester)

Examine the management of game and non-game wildlife species, fish, and aqua-crops and their ecological needs as related to current agricultural practices.

Horticulture Science (ADV)

Course ID: CTAG28/13002000
Credit: 1.0 (1 Semester)

Learn plant growth and development, nutrition, media selection, plant identification and pest management. Study the principles of plant anatomy and physiology, taxonomy, and fundamentals of production and harvesting.

- **Rec PR: Principles AFNR**

AND

Floral Design **

Course ID: CTAG26/13001800
Credit: 1.0 (1 Semester)

Identify and demonstrate the principles and techniques related to floral design and understanding of the management of floral enterprises. Analyze and learn to create artistic floral arrangements.

- **Rec PR: Principles AFNR**

Advanced Plant and Soil Science * (ADV)

Course ID: CTAG29/13002100
Credit: 1.0 (1 Semester)

Learn about greenhouse management from germinating a seedling to marketing a finished product. Explore techniques involved with propagation, fertilization, and maintenance through investigations, laboratory practices, and field exercises.

- **PR: Horticulture Science**

OR

Practicum in AFNR (ADV)

Course ID: CAG82 A&B/13002500
Credit: 2.0

Participate in a supervised practical application of AFNR through classroom learning and a paid or unpaid work experience. Acquire employability skills and experience for pursuit of career opportunities in AFNR.

Pathway Notes:

- Additional agriculture courses may be available based on space for students to continue participation in FFA when pathway is complete
- * Satisfies a high school Science graduation requirement
- ** Satisfies a high school Fine Arts graduation requirement

Certification Available:

Texas Florist High School Floral Certification
Texas Hunter Education Certification
Texas Boater Education Certification

Oil and Gas Pathway (Guthrie)

Earn the Business and Industry endorsement by completing four credits within the CTE AFNR Cluster, including one advanced course, as noted by **(ADV)**.

Principles of Agriculture, Food and Natural Resources (AFNR)

Course ID: CTAG10/13000200
Credit: 1.0 (1 Semester)

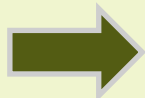
Study how food, clothing, shelter, transportation, medicine and modern-day conveniences rely on agricultural products. Explore how agriculture affects government and international trade.

AND

Agricultural Mechanics

Course ID: CTAG30/13002200
Credit: 1.0 (1 Semester)

Learn how to do minor maintenance and repair related to farming and ranching. Explore electrical, plumbing, concrete work, carpentry, fencing, power tools and working with metals including welding.

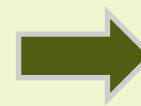


Oil and Gas Production I AND Oil and Gas Production II (ADV)

Course ID: CTAG50/13001250 & CTAG51/13001260
Credit: 2.0 (1.0 +1.0)

Understand of components, systems, equipment, production, and safety regulations associated with oil and gas well production and maintenance. Explore careers in Oil and Gas including skills, abilities, tools, certification, and safety measures.

- **Must be taken consecutively in one school year**



Practicum in AFNR (ADV)

Course ID: CAG82 A&B/13002500
Credit: 2.0

Participate in a supervised practical application of AFNR through classroom learning and a paid or unpaid work experience. Acquire employability skills and experience for pursuit of career opportunities in AFNR.

Pathway Notes:

- Additional agriculture courses may be available based on space for students to continue participation in FFA when pathway is complete
- A paid work experience in this pathway may be available through the Guthrie Center Internship class

Certification Available:

OSHA 10
International Association of Drilling Contractors Rig Pass