Revised–May 2024

Agriculture, Food, and Natural Resources Career Cluster

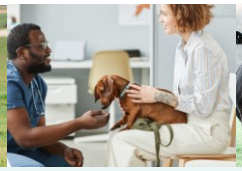
The Agriculture, Food, and Natural Resources (AFNR) career cluster focuses on the essential elements of life, food, water, land, and air. This career cluster includes occupations ranging from farmer, rancher, and veterinarian to geologist, land conservationist, and florist.

Statewide Program of Study: 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.

Secondary Courses for High School Credit

Level 1	• Principles of Agriculture, Food, and Natural Resources
Level 2	• Small Animal Management • Equine Science
Level 3	• Livestock Production
Level 4	• Advanced Animal Science • Practicum in Agriculture, Food, and Natural Resources • Career Preparation for Programs of Study • Career Preparation for Programs of Study + Extended Career Preparation • Scientific Research and Design


Example Postsecondary Opportunities

Apprenticeships
- Reproduction Technician

Associate Degrees
- Biological and Physical Sciences
- Entomology

Bachelor's Degrees
- Animal Science
- Zoology/Animal Biology

Master's, Doctoral, and Professional Degrees
- Marine Sciences
- Biotechnology

Additional Stackable IBCs/License
- Veterinarian
- Certified Veterinary Technician

Aligned Advanced Academic Courses

AP or IB	AP Biology IB Biology SL IB Biology HL
Dual Credit	Dual credit offerings will vary by local education agency.

Students should be advised to consider these course opportunities to enrich their preparation. AP or IB courses not listed under the Secondary Courses for High School Credit section of this framework document do not count towards concentrator/completer status for this program of study.

Work-Based Learning and Expanded Learning Opportunities

Work-Based Learning Activities	• Shadow an animal scientist in a biology lab to learn about applying science to understand animals and wildlife • Intern in a veterinary clinic, caring for animals and wildlife being treated in the clinic
Expanded Learning Opportunities	• Participate in an FFA career, leadership, and speaking contest like an agriscience fair • Attend an agricultural industry seminar

Aligned Industry-Based Certifications

- Agricultural Biotechnology
- AgriLife Veterinary Assistant Certificate
- Certified Veterinary Assistant, Level I
- Elanco Fundamentals of Animal Science Certification
- Elanco Veterinary Medical Applications Certification
- Equine Management and Evaluation Certification
- Feedyard Technician in Cattle Care and Handling
- Production Agriculture - Job Ready
- Small Animal Science and Technology

Successful completion of the Animal Science program of study will fulfill requirements of a Business and Industry endorsement.

Example Aligned Occupations

Veterinary Assistants and Laboratory Animal Caretakers
Median Wage: $29,906
Annual Openings: 1,348
10-Year Growth: 24%

Veterinary Technologists and Technicians
Median Wage: $33,679
Annual Openings: 1,217
10-Year Growth: 24%

Veterinarian
Median Wage: $103,160
Annual Openings: 347
10-Year Growth: 26%

Data Source: TexasWages, Texas Workforce Commission. Retrieved 3/8/2024

For more information visit:
https://tea.texas.gov/academics/college-career-and-military-prep/career-and-technical-education/programs-of-study-additional-resources

Animal Science

Agriculture, Food, and Natural Resources Career Cluster

Statewide Program of Study: Animal Science

Course Information

Level 1

Course	Prerequisites | Corequisites		Career Clusters
Principles of Agriculture, Food, and Natural Resources* 13000200 (1 credit)	**Prerequisites:** None **Corequisites:** None **Recommended Prerequisites:** None **Recommended Corequisites:** None	4005	

Level 2

Course	Prerequisites | Corequisites		Career Clusters
Small Animal Management 13000400 (0.5 credit)	**Prerequisites:** None **Corequisites:** None **Recommended Prerequisites:** None **Recommended Corequisites:** None	4961	
Equine Science 13000500 (0.5 credit)	**Prerequisites:** None **Corequisites:** None **Recommended Prerequisites:** None **Recommended Corequisites:** None	4991	

Level 3

Course	Prerequisites | Corequisites		Career Clusters
Livestock Production 13000300 (1 credit)	**Prerequisites:** None **Corequisites:** None **Recommended Prerequisites:** None **Recommended Corequisites:** None	4058	

** Indicates course is included in more than one program of study.*

For additional information on the **Agriculture, Food, and Natural Resources** career cluster, contact cte@tea.texas.gov or visit https://tea.texas.gov/cte

Agriculture, Food, and Natural Resources Career Cluster

Statewide Program of Study: Animal Science

Level 4

Course Information

Course	Prerequisites | Corequisites	Career Clusters
Advanced Animal Science 13000700 (1 credit)	**Prerequisites:** Biology and Chemistry or Integrated Physics and Chemistry (IPC); Algebra I and Geometry; and either Small Animal Management, Equine Science, or Livestock Production **Corequisites:** None **Recommended Prerequisites:** Veterinary Medical Applications **Recommended Corequisites:** None	490
Practicum in Agriculture, Food, and Natural Resources* First Time Taken: 13002500 (2 credits) Second Time Taken: 13002510 (2 credits)	**Prerequisites:** None **Corequisites:** None **Recommended Prerequisites:** A minimum of one credit from the courses in the AFNR career cluster **Recommended Corequisites:** None	3795 1st time 5041 2nd time.
Career Preparation for Programs of Study* First Time Taken: 12701121 (2 credits)	**Prerequisites**: At least one Level 2 or higher CTE course **Corequisites:** None **Recommended Prerequisites:** None **Recommended Corequisites:** None	4800
Career Preparation for Programs of Study + Extended Career Preparation* First Time Taken: 12701141 (3 credits)	**Prerequisites:** At least one Level 2 or higher CTE course **Corequisites:** None **Recommended Prerequisites:** None **Recommended Corequisites:** None	4801
Scientific Research and Design* 13037200 (1 credit)	**Prerequisites:** Biology, Chemistry, Integrated Physics and Chemistry (IPC), or Physics **Corequisites:** None **Recommended Prerequisites:** None **Recommended Corequisites:** None	4970

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