



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.

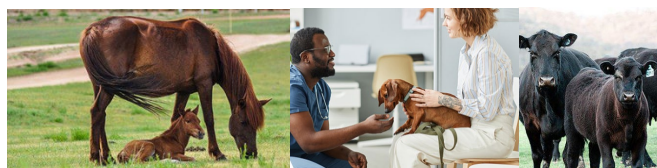
Statewide Program of Study: *Animal Science*

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

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|----------------|---|
| Level 1 | <ul style="list-style-type: none"> Principles of Agriculture, Food, and Natural Resources |
| Level 2 | <ul style="list-style-type: none"> Small Animal Management Equine Science Entrepreneurship I |
| Level 3 | <ul style="list-style-type: none"> Livestock and Poultry Production Livestock and Poultry Production + Agricultural Laboratory and Field Experience |
| Level 4 | <ul style="list-style-type: none"> Advanced Animal Science Veterinary Science Veterinary Science + Agricultural Laboratory and Field Experience Career and Technical Education Project-Based Capstone Practicum in Agriculture, Food, and Natural Resources Practicum in Agriculture, Food, and Natural Resources + Extended Practicum in Agriculture, Food, and Natural Resources Practicum in Entrepreneurship Practicum in Entrepreneurship + Extended Practicum in Entrepreneurship 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



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

- | | |
|---|---|
| <ul style="list-style-type: none"> AgriLife Veterinary Assistant Certificate Certified Veterinary Assistant, Level 1 Elanco Fundamentals of Animal Science Certification Elanco Veterinary Medical Applications Certification | <ul style="list-style-type: none"> Equine Management & Evaluation Certification Licensed Veterinary Technician Production Agriculture - Job Ready Small Animal Science and Technology |
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Example Aligned Occupations

Veterinary Assistants and Laboratory Animal Caretakers

Median Wage: \$33,581
Annual Openings: 1,953
10-Year Growth: 24%

Veterinary Technologists and Technicians

Median Wage: \$35,698
Annual Openings: 1,820
10-Year Growth: 24%

Veterinarians

Median Wage: \$125,030
Annual Openings: 435
10-Year Growth: 26%





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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	

Level 2

Course	Prerequisites Corequisites	Career Clusters
Small Animal Management 13000400 (0.5 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: Principles of Agriculture, Food, and Natural Resources Recommended Corequisites: None	
Equine Science 13000500 (0.5 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: Principles of Agriculture, Food, and Natural Resources Recommended Corequisites: None	
Entrepreneurship I* 13011101 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: Principles of Business, Marketing, and Finance Recommended Corequisites: None	

Level 3

Course	Prerequisites Corequisites	Career Clusters
Livestock and Poultry Production 13000300 (1 credit)	Prerequisites: At least one course from the Agriculture, Food, and Natural Resources career cluster Corequisites: None Recommended Prerequisites: Principles of Agriculture, Food, and Natural Resources Recommended Corequisites: None	
Livestock and Poultry Production + Agricultural Laboratory and Field Experience 13000310 (2 credits)	Prerequisites: At least one course from the Agriculture, Food, and Natural Resources career cluster Corequisites: None Recommended Prerequisites: Principles of Agriculture, Food, and Natural Resources Recommended Corequisites: None	

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

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



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Course Information

Level 4

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 and Poultry Production Corequisites: None Recommended Prerequisites: Veterinary Science Recommended Corequisites: None	
Veterinary Science 13000600 (1 credit)	Prerequisites: Equine Science, Small Animal Management, or Livestock and Poultry Production Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	
Veterinary Science + Agricultural Laboratory and Field Experience 13000610 (2 credits)	Prerequisites: Equine Science, Small Animal Management, or Livestock and Poultry Production Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	
Career and Technical Education Project-Based Capstone* First Time Taken: 12701101 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	
Practicum in Agriculture, Food, and Natural Resources* First Time Taken: 13002500 (2 credits) Second Time Taken: 13002510 (2 credits)	Prerequisites: A minimum of two credits with at least one course in a Level 2 or higher course from the Agriculture, Food, and Natural Resources career cluster Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	
Practicum in Agriculture, Food, and Natural Resources + Extended Practicum in Agriculture, Food, and Natural Resources* First Time Taken: 13002505 (3 credits) Second Time Taken: 13002515 (3 credits)	Prerequisites: A minimum of two credits with at least one course in a Level 2 or higher course from the Agriculture, Food, and Natural Resources career cluster Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	

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Course Information

Level 4

Course	Prerequisites Corequisites	Career Clusters
Practicum in Entrepreneurship* First Time Taken: 13011111 (2 credits)	Prerequisites: None Corequisites: None Recommended Prerequisites: Entrepreneurship I and Entrepreneurship II, or successful completion of at least two courses in a CTE program of study Recommended Corequisites: None	         
Practicum in Entrepreneurship + Extended Practicum in Entrepreneurship* First Time Taken: 13011121 (3 credits)	Prerequisites: None Corequisites: None Recommended Prerequisites: Entrepreneurship I and Entrepreneurship II, or successful completion of at least two courses in a CTE program of study Recommended Corequisites: None	         
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	           
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	           
Scientific Research and Design* 13037200 (1 credit)	Prerequisites: Biology, and one credit of the following: Physics for Engineering, chemistry, Integrated Physics and Chemistry (IPC), or physics Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	     

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