



# Agriculture, Food, and Natural Resources Career Cluster

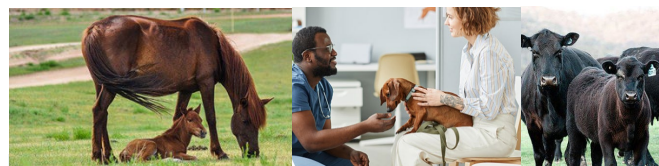
The Agriculture, Food, and Natural Resources (AFNR) career cluster focuses on the essential elements of life, food, water, land, and air. This career cluster includes occupations ranging from farmer, rancher, and veterinarian to geologist, land conservationist, and florist.

## 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

- |                |   |
|----------------|---|
| <b>Level 1</b> | <ul style="list-style-type: none"> <li>Principles of Agriculture, Food, and Natural Resources</li> </ul>  |
| <b>Level 2</b> | <ul style="list-style-type: none"> <li>Entrepreneurship I</li> </ul>  |
| <b>Level 3</b> | <ul style="list-style-type: none"> <li>Livestock Production</li> </ul>  |
| <b>Level 4</b> | <ul style="list-style-type: none"> <li>Veterinary Medical Applications</li> <li>Veterinary Medical Applications + Agricultural Laboratory and Field Experience</li> <li>Career and Technical Education Project-Based Capstone</li> <li>Practicum in Entrepreneurship</li> <li>Practicum in Entrepreneurship + Extended Practicum in Entrepreneurship</li> </ul> |



### 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

<b>AP or IB</b>	AP Biology IB Biology SL IB Biology HL
<b>Dual Credit</b>	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

<b>Work-Based Learning Activities</b>	<ul style="list-style-type: none"> <li>Shadow an animal scientist in a biology lab to learn about applying science to understand animals and wildlife</li> <li>Intern in a veterinary clinic, caring for animals and wildlife being treated in the clinic</li> </ul>
<b>Expanded Learning Opportunities</b>	<ul style="list-style-type: none"> <li>Participate in an FFA career, leadership, and speaking contest like an agriscience fair</li> <li>Attend an agricultural industry seminar</li> </ul>

### Aligned Industry-Based Certifications

- AgriLife Veterinary Assistant Certificate
- Certified Veterinary Assistant, Level I
- Licensed Veterinary Technician
- Small Animal Science and Technology



### 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>









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



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## Statewide Program of Study: *Animal Science*

### Course Information

Level 1	Course	Prerequisites   Corequisites	Career Clusters
	<b>Principles of Agriculture, Food, and Natural Resources*</b> 13000200 (1 credit)	<b>Prerequisites:</b> None <b>Corequisites:</b> None <b>Recommended Prerequisites:</b> None <b>Recommended Corequisites:</b> None	
Level 2	Course	Prerequisites   Corequisites	Career Clusters
	<b>Entrepreneurship I*</b> 13011101 (1 credit)	<b>Prerequisites:</b> None <b>Corequisites:</b> None <b>Recommended Prerequisites:</b> Principles of Business, Marketing and Finance <b>Recommended Corequisites:</b> None	    
Level 3	Course	Prerequisites   Corequisites	Career Clusters
	<b>Livestock Production</b> 13000300 (1 credit)	<b>Prerequisites:</b> None <b>Corequisites:</b> None <b>Recommended Prerequisites:</b> None <b>Recommended Corequisites:</b> None	
	<b>Livestock Production + Agricultural Laboratory and Field Experience</b> 13000310 (2 credits)	<b>Prerequisites:</b> None <b>Corequisites:</b> Livestock Production <b>Recommended Prerequisites:</b> None <b>Recommended Corequisites:</b> None	

\* 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](mailto:cte@tea.texas.gov) or visit <https://tea.texas.gov/cte>

























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## Statewide Program of Study: *Animal Science*

### Course Information

Level 4

Course	Prerequisites   Corequisites	Career Clusters
<b>Veterinary Medical Applications</b> 13000600 (1 credit)	<b>Prerequisites:</b> Equine Science, Small Animal Management, or Livestock Production <b>Corequisites:</b> None <b>Recommended Prerequisites:</b> None <b>Recommended Corequisites:</b> None	
<b>Veterinary Medical Applications + Agricultural Laboratory and Field Experience</b> 13000610 (2 credits)	<b>Prerequisites:</b> Equine Science, Small Animal Management, or Livestock Production <b>Corequisites:</b> None <b>Recommended Prerequisites:</b> None <b>Recommended Corequisites:</b> None	
<b>Career and Technical Education Project-Based Capstone*</b> First Time Taken: 12701101 (1 credit)	<b>Prerequisites:</b> None <b>Corequisites:</b> None <b>Recommended Prerequisites:</b> None <b>Recommended Corequisites:</b> None	         
<b>Practicum in Entrepreneurship*</b> First Time Taken: 13011111 (2 credits)	<b>Prerequisites:</b> None <b>Corequisites:</b> None <b>Recommended Prerequisites:</b> Entrepreneurship I and Entrepreneurship II or successful completion of at least two courses in a CTE program of study <b>Recommended Corequisites:</b> None	         

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