

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 a diverse spectrum of occupations, ranging from farmer, rancher, and veterinarian to geologist, land conservationist, and florist. It also includes non-traditional agricultural occupations like wind energy, solar energy, and oil and gas production.

Animal Science Statewide Program of Study



The Animal Science program of study focuses on the science, research, and business of animals and other living organisms. It teaches CTE learners how to apply 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 may also 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
- Advanced Animal Science
- Veterinary Medical Applications

Level 4

- Ag Leadership, Research, and Communication
- Practicum in Agriculture

Industry-Based Certification:

- Certified Veterinary Assistant, Level 1
- Elanco Fundamentals of Animal Science Certification
- Equine Management & Evaluation Certification

Principles of Agriculture, Food, and Natural Resources (1)

Principles of Agriculture, Food, and Natural Resources will allow students to develop knowledge and skills regarding career and educational opportunities, personal development, globalization, industry standards, details, practices, and expectations.

Small Animal Management (.5)

In Small Animal Management, students will acquire knowledge and skills related to small animals and the small animal management industry. Small Animal Management may address topics related to small mammals such as dogs and cats, amphibians, reptiles, and birds.

Equine Science (.5)

In Equine Science, students will acquire knowledge and skills related to equine animal systems and the equine industry. Equine Science may address topics related to horses, donkeys, and mules.

Livestock Production (1)

In Livestock Production, students will acquire knowledge and skills related to livestock and the livestock production industry. Livestock Production may address topics related to beef cattle, dairy cattle, swine, sheep, goats, and poultry

Advanced Animal Science* (1)

Advanced Animal Science examines the interrelatedness of human, scientific, and technological dimensions of livestock production. Instruction is designed to allow for the application of scientific and technological aspects of animal science through field and laboratory experiences. Note: This course satisfies a science credit requirement for students on the Foundation High School Program.

Veterinary Medical Applications* (1)

Veterinary Medical Applications covers topics relating to veterinary practices, including practices for large and small animal species.

Ag Leadership, Research, and Communications (1)

Agricultural Leadership, Research and Communications will focus on challenging Agriculture, Food, and Natural Resources (AFNR) students to use higher level thinking skills, develop leadership abilities, employ standard research principles, and communicate agricultural positions effectively with all stakeholders.

Practicum in Agriculture + (2)

The practicum course is a paid or unpaid capstone experience for students participating in a coherent sequence of career and technical education courses in the Agriculture, Food, and Natural Resources Career Cluster.



Occupations	Median Wage	Annual Openings	% Growth
Animal Breeders	\$39,139	28	9%
Animal Scientists	\$57,533	22	12%
Medical Scientists	\$63,898	435	27%
Veterinarians	\$93,496	294	24%
Zoologists and Wildlife Biologists	\$67,309	45	32%

Successful completion of the Animal Science program of study will fulfill requirements of a Business and Industry endorsement or STEM endorsement if the math and science requirements are met. Revised – August 2022