



Agriculture, Food, and Natural Resources Career Cluster

Revised—May 2024

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.



Endorsement: Business & Industry Statewide Program of Study: Plant Science

The Plant Science program of study focuses on occupational and educational opportunities associated with the science, research, and business of plants and other living organisms. This program of study includes the application of biology and life science to real-world life processes of plants and vegetation, either in laboratories or in the field.



Secondary Courses for High School Credit

- | | |
|------------------------------|---|
| 9th Grade | <input type="checkbox"/> Principles of Agriculture, Food, and Natural Resources (Level 1) |
| 10th Grade | <input type="checkbox"/> Entrepreneurship I (Level 2) |
| 11th Grade | <input type="checkbox"/> Floral Design (Level 3) |
| 12th Grade | <input type="checkbox"/> Advanced Plant and Soil Science (Level 4) (KCC) AND
<input type="checkbox"/> Practicum in Agriculture, Food, and Natural Resources – Floral Design (Level 4) (KCC) |

A CTE Completer is a student who completes three or more CTE courses for four or more credits including one Level 3 or 4 (advanced level) CTE course within a program of study will fulfill the requirements of a Business and Industry Endorsement.

Aligned Industry-Based Certifications

- Texas State Floral Association Level One Floral Certification



Work-Based Learning and Expanded Learning Opportunities

Work-Based Learning Activities

- Work in a part-time job at a landscaping company to learn about production and management of plants.
- Intern at an agricultural research company, working alongside a biological technician to learn about application of biology to plant production

Expanded Learning Opportunities

- Participate in an FFA career, leadership, and speaking contest like an agriscience fair
- Participate in an industry-related competition like an agriscience fair

NAVIANCE ACCESS

All Killeen ISD students (7th – 12th graders) should login to their Naviance account through Clever.

Log into Naviance by clicking the Clever logo or link and use the College SuperMatch Tool to find colleges offering degree plans in this field.

<https://clever.com/in/killeenisd>



Killeen ISD does not discriminate on the basis of race, color, national origin, sex, or disability in its programs or activities and provides equal access to the Boy Scouts and other designated youth groups. The following person has been designated to handle inquiries regarding the nondiscrimination policies: Rhea Bell, Title IX Coordinator, 902 N. 10th St., Killeen, TX 76541, 254-336-2822, Rhea.bell@killeenisd.org. Further nondiscrimination information can be found at [Notification of Nondiscrimination in Career and Technical Education Programs](#).



Example Postsecondary Opportunities

Apprenticeships

- Horticulturist

Associate Degrees

- Biology/Biological Sciences
- Biological and Physical Sciences



Bachelor's Degrees

- Horticulture
- Plant Pathology/Phytopathology

Master's, Doctoral, and Professional Degrees

- Plant Breeding
- Botany/Plant Biology

Additional Stackable IBCs/License

- Nursery Floral License
- Horticulturist Certification



Example Aligned Occupations

Pesticide Handlers, Sprayers, and Applicators, Vegetation

Median Wage: \$46,153
Annual Openings: 205
10-Year Growth: 17%

Biological Technicians

Median Wage: \$45,787
Annual Openings: 879
10-Year Growth: 14%

Farmers, Ranchers, and Other Agricultural Managers

Median Wage: \$65,490
Annual Openings: 28,020
10-Year Growth: 4%

Data Source: Texas Wages, 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>



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Endorsement: *Business & Industry* Statewide Program of Study: *Plant Science*



Course Information

IT IS IN THE BEST INTEREST OF THE STUDENT TO TAKE ALL COURSES LISTED IN EACH GRADE

Level 1 9 th Grade	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 10 th Grade	Course	Prerequisites Corequisites	Career Clusters
	Entrepreneurship I* 13011101 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: Principles of Business, Marketing and Finance Recommended Corequisites: None	
Level 3 11 th Grade	Course	Prerequisites Corequisites	Career Clusters
	Floral Design 13001800 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	
Level 4 12 th Grade	Course	Prerequisites Corequisites	Career Clusters
	Advanced Plant and Soil Science 13002100 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: Biology, Integrated Physics and Chemistry, Chemistry, or Physics and a minimum of one credit in a course from the AFNR career cluster Recommended Corequisites: None	
	Practicum in Agriculture, Food, and Natural Resources – Floral Design* First Time Taken: 13002500 (2 credits)	Prerequisites: A minimum of two credits with at least one course in a Level 2 or higher course from the AFNR career cluster Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	

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

See your school counselor to connect with a military recruiter for career counseling and to take the ASVAB in high school.