



# 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: *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

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|----------------|---|
| <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>Floral Design</li> </ul>   |
| <b>Level 3</b> | <ul style="list-style-type: none"> <li>Advanced Floral Design</li> <li>Horticultural Science</li> </ul>   |
| <b>Level 4</b> | <ul style="list-style-type: none"> <li>Advanced Plant and Soil Science</li> <li>Practicum in Agriculture, Food, and Natural Resources - Floral</li> </ul> |

### Aligned Advanced Academic Courses

#### AP or IB

AP Biology  
AP Environmental Science  
AP Chemistry

#### Dual Credit

Dual credit offerings will vary by local education agency.

## 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

### Aligned Industry-Based Certifications

- BASF Plant Science Certification
- Texas State Florists' Association Knowledge Based Floral Certification



## 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: \$44,570

Annual Openings: 121

10-Year Growth: 17%

### *Biological Technicians*

Median Wage: \$47,968

Annual Openings: 665

10-Year Growth: 14%

### *Farmers, Ranchers, and Other Agricultural Managers*

Median Wage: \$79,064

Annual Openings: 30,363

10-Year Growth: 4%

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