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

Level 1

- **Principles of Agriculture, Food, and Natural Resources (1 credit)**
  - 1101CT; 9-12 grade
  - 1 semester at Ben Barber

Level 2

- **Entrepreneurship (1 credit)**
  - 1720CT or 1720A/B; 9-12 grade
  - 1 semester at Ben Barber or 2 semesters at Home Campus

Level 3

- **Horticulture (1 credit)**
  - 1109CT; 10-12 grade
  - 1 semester at Ben Barber
  - *Prerequisite: Principles of Agriculture, Food, and Natural Resources*
  - BASF Plant Science Certification Possible
- **Floral Design (1 credit)**
  - 1110CT; 9-12 grade
  - 1 semester at Ben Barber
  - Fine Arts Credit
  - *Prerequisite: Principles of Agriculture, Food, and Natural Resources*
  - Texas State Floral Association Floral Skills Knowledge Based Certification Possible

Level 4

- **Plant and Soil Science (1 credit)**
  - 1112CT; 11-12 grade
  - 1 semester at Ben Barber
  - Science Credit
  - *Prerequisite: Biology, IPC, Chemistry or Physics and 1 credit from Plant Science Program of Study*
- **Practicum in Agriculture, Food, and Natural Resources (2 credits)**
  - 1135CA/CB; 11-12 grade
  - 2 semesters at Ben Barber
  - *Prerequisite: Students must successfully complete a Level 1 or 2 AND a Level 3 or 4 course to take a Practicum course. Selection Process.*

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

Additionall 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: 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 Plant Science program of study will fulfill requirements of the Business and Industry endorsement.

Texas Education Agency

Plant Science