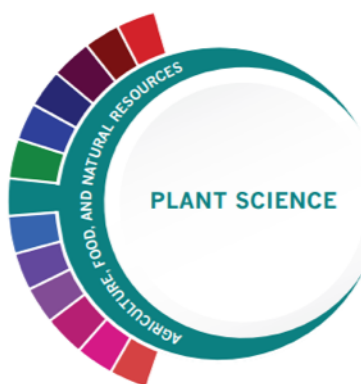


Entry Level Courses	Advanced Courses
Principles of Agriculture, Food, and Natural Resources	Agricultural Structures Design and Fabrication Lab (preferred course)
Agricultural Mechanics and Metal Technologies	Agricultural Power Systems
	Agricultural Equipment Design and Fabrication (preferred course)
	Practicum in Agriculture, Food, and Natural Resources



## Plant Science

### *Business and Industry Endorsement*

The Plant Science program of study focuses on the science, research, and business of plants and other living organisms. It teaches students how to apply biology and life science to real-world life processes of plants and vegetation, either in laboratories or in the field.

To complete the Program of Study, students must earn four credits in the Program of Study and one of the credits must be an Advanced Level course.

### POSTSECONDARY OPTIONS

HIGH SCHOOL/INDUSTRY CERTIFICATION	CERTIFICATE/LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/DOCTORAL PROFESSIONAL DEGREE
Landscape Irrigation Technician License	Pesticide Applicator	Applied Horticulture/ Horticulture Operations, General		
Commercial/Noncommercial Pesticide Applicator	Certified Floral Designer	Ornamental Horticulture	Agronomy and Crop Science	
Texas State Floral Association Level One Floral Certification	Accredited Member of AIFD	Agricultural Business and Management, General		
Texas State Floral Association Level Two Floral Certification	Landscape Industry Certified Technician	Turf and Turfgrass Management	Farm/Farm and Ranch Management	

Additional industry based certification information is available from the TEA CTE website.

For more information on postsecondary options for this program of study, visit TXCTE.org.

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Soil and Plant Scientists	\$54,662	116	21%
Tree Trimmers and Pruners	\$32,240	589	14%
Pesticide Handlers, Sprayers, and Applicators	\$36,733	196	22%
Landscaping Supervisors	\$44,408	807	19%
Biological Technicians	\$42,931	452	17%

### WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

**Exploration Activities:**  
Texas FFA

**Work Based Learning Activities:**  
Work part-time at a florist;  
start or work for a local landscaping business

## Courses in this Program of Study

### PRINCIPLES OF AGRICULTURE, FOOD & NATURAL RESOURCES

Course # 07081000

**Recommended Grade Placement 9**

**1 CREDIT**

This course helps students prepare for careers in agriculture, food and natural resources, students must develop academic skills and knowledge in agriculture. This course covers career opportunities, leadership, communications, and the FFA. Technical agricultural topic covered will include: soils, plants, animals, agricultural construction, food science, and welding.

### LANDSCAPE DESIGN AND MANAGEMENT

Course# 07220620

**Recommended Grade Placement 10-11**

**1/2 CREDIT**

Landscape Design and Management is designed to develop an understanding of landscape design and management techniques and practices. Students will develop skills related to horticultural systems and workplace knowledge.

### TURF GRASS MANAGEMENT

Course# 07220625

**Recommended Grade Placement 10-11**

**1/2 CREDIT**

Turf Grass Management is designed to develop an understanding of turf grass management techniques and practices. Students will develop skills related to horticultural systems and workplace knowledge.

### FLORAL DESIGN (approved by *State Board of Education for Fine Arts credit*)

Course # 07091610

**Recommended Grade Placement 9-12**

**1 CREDIT**

A course designed to develop skills in the design and arrangement of flowers, foliage, and related plant materials for interior locations. Students will make a variety of floral designs as well as plan a wedding, and learn the basics of running a florist. Students will have the opportunity to take a certification exam through the Texas State Florist Association.

### HORTICULTURAL SCIENCE

Course# 07221620

**Recommended Grade Placement 10-11**

**1 CREDIT**

Horticultural Science is designed to develop an understanding of common horticultural management practices as they relate to food and ornamental plant production. To prepare for careers in horticultural systems, students must attain academic skills and knowledge, acquire technical knowledge and skills related to horticulture and the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations.

### ADVANCED FLORAL DESIGN

Course #

**Recommended Grade Placement 11-12**

**1 CREDIT**

In this course, students build on the knowledge from the Floral Design course and are introduced to more advanced floral design concepts, with an emphasis on specialty designs and specific occasion planning. This course focuses on building skills in advanced floral design and providing students with a thorough understanding of the design elements and planning techniques used to produce unique specialty floral designs that support the goals and objectives of a specific occasion or event. Through the analysis and evaluation of various occasion and event types, students explore the design needs and expectations of clients and propose and evaluate appropriate creations. From conception to evaluation, students are challenged to create and design appropriate specialty floral designs that meet the needs of the client. Furthermore, an emphasis on budgetary adherence and entrepreneurship equips students with many of the necessary skills needed for success in floral enterprises.

**PRACTICUM IN AGRICULTURE, FOOD & NATURAL RESOURCES**

Course # 07221950

**Prerequisite: At least one prior Agriculture, Food, and Natural Resources credit**

**Recommended Grade Placement 12**

**2 CREDITS**

The practicum or Coop 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 cluster. Students are required to serve in paid or unpaid internship opportunities. A student may repeat this course once for credit provided that the student is experiencing different aspects of the industry and demonstrating proficiency in additional and more advanced knowledge and skills.

**Courses in Program of Study (Prerequisites noted in course descriptions)**

**To complete the Program of Study, students must earn four credits in the Program of Study and one of the credits must be an Advanced Level course.**

<b>Entry Level Courses</b>	<b>Advanced Courses</b>
<b>Principles of Agriculture, Food, and Natural Resources</b>	<b>Floral Design</b>
<b>Landscape Design &amp; Management</b>	<b>Horticultural Science</b>
<b>Turf Grass Management</b>	<b>Advanced Floral Design</b>
	<b>Practicum in Agriculture, Food, and Natural Resources</b>



**ARCHITECTURAL  
DESIGN**

**CONSTRUCTION  
MANAGEMENT  
AND INSPECTION**