

Agriculture, Food & Natural Resources Career Cluster
Floriculture Production and Management
Course Number: 01.46200

Course Description:

This course is designed to introduce students to the principles and practices of floriculture production. Students will develop floriculture skills and the basic understanding necessary to be successful in entry-level positions in the floriculture industry. Classroom and laboratory activities are supplemented through supervised agricultural experiences and leadership programs and activities.

Course Standard 1

AFNR-FPM-1

The following standard is included in all CTAE courses adopted for the Career Cluster/Pathways. Teachers should incorporate the elements of this standard into lesson plans during the course. The topics listed for each element of the standard may be addressed in differentiated instruction matching the content of each course. These elements may also be addressed with specific lessons from a variety of resources. This content is not to be treated as a unit or separate body of knowledge but rather integrated into class activities as applications of the concept.

Standard: Demonstrate employability skills required by business and industry.

The following elements should be integrated throughout the content of this course.

1.1 Communicate effectively through writing, speaking, listening, reading, and interpersonal abilities.

Person-to-Person Etiquette	Telephone and Email Etiquette	Cell Phone and Internet Etiquette	Communicating At Work	Listening
Interacting with Your Boss	Telephone Conversations	Using Blogs	Improving Communication Skills	Reasons, Benefits, and Barriers
Interacting with Subordinates	Barriers to Phone conversations	Using Social Media	Effective Oral Communication	Listening Strategies
Interacting with Co-workers	Making and Returning Calls		Effective Written Communication	Ways We Filter What We Hear
Interacting with Suppliers	Making Cold Calls		Effective Nonverbal Skills	Developing a Listening Attitude
	Handling Conference Calls		Effective Word Use	Show You Are Listening
	Handling Unsolicited Calls		Giving and Receiving Feedback	Asking Questions
				Obtaining Feedback
				Getting Others to Listen

Nonverbal Communication	Written Communication	Speaking	Applications and Effective Résumés
Communicating Nonverbally	Writing Documents	Using Language Carefully	Completing a Job Application
Reading Body Language and mixed Messages	Constructive Criticism in Writing	One-on-One Conversations	Writing a Cover Letter
Matching Verbal and Nonverbal communication		Small Group Communication	Things to Include in a Résumé
Improving Nonverbal Indicators		Large Group Communication	Selling Yourself in a Résumé
Nonverbal Feedback		Making Speeches	Terms to Use in a Résumé

Georgia Department of Education

Showing Confidence Nonverbally		Involving the Audience	Describing Your Job Strengths
Showing Assertiveness		Answering Questions	Organizing Your Résumé
		Visual and Media Aids	Writing an Electronic Résumé
		Errors in Presentation	Dressing Up Your Résumé

1.2 Demonstrate creativity by asking challenging questions and applying innovative procedures and methods.

Teamwork and Problem Solving	Meeting Etiquette
Thinking Creatively	Preparation and Participation in Meetings
Taking Risks	Conducting Two-Person or Large Group Meetings
Building Team Communication	Inviting and Introducing Speakers
	Facilitating Discussions and Closing
	Preparing Visual Aids
	Virtual Meetings

1.3 Exhibit critical thinking and problem solving skills to locate, analyze and apply information in career planning and employment situations.

Problem Solving	Customer Service	The Application Process	Interviewing Skills	Finding the Right Job
Transferable Job Skills	Gaining Trust and Interacting with Customers	Providing Information, Accuracy and Double Checking	Preparing for an Interview	Locating Jobs and Networking
Becoming a Problem Solver	Learning and Giving Customers What They Want	Online Application Process	Questions to Ask in an Interview	Job Shopping Online
Identifying a Problem	Keeping Customers Coming Back	Following Up After Submitting an Application	Things to Include in a Career Portfolio	Job Search Websites
Becoming a Critical Thinker	Seeing the Customer's Point	Effective Résumés:	Traits Employers are Seeking	Participation in Job Fairs
Managing	Selling Yourself and the Company	Matching Your Talents to a Job	Considerations Before Taking a Job	Searching the Classified Ads
	Handling Customer Complaints	When a Résumé Should be Used		Using Employment Agencies
	Strategies for Customer Service			Landing an Internship
				Staying Motivated to Search

1.4 Model work readiness traits required for success in the workplace including integrity, honesty, accountability, punctuality, time management, and respect for diversity.

Workplace Ethics	Personal Characteristics	Employer Expectations	Business Etiquette	Communicating at Work
Demonstrating Good Work Ethic	Demonstrating a Good Attitude	Behaviors Employers Expect	Language and Behavior	Handling Anger
Behaving Appropriately	Gaining and Showing Respect	Objectionable Behaviors	Keeping Information Confidential	Dealing with Difficult Coworkers
Maintaining Honesty	Demonstrating Responsibility	Establishing Credibility	Avoiding Gossip	Dealing with a Difficult Boss
Playing Fair	Showing Dependability	Demonstrating Your Skills	Appropriate Work Email	Dealing with Difficult Customers
Using Ethical Language	Being Courteous	Building Work Relationships	Cell Phone Etiquette	Dealing with Conflict

Georgia Department of Education

Showing Responsibility	Gaining Coworkers' Trust		Appropriate Work Texting	
Reducing Harassment	Persevering		Understanding Copyright	
Respecting Diversity	Handling Criticism		Social Networking	
Making Truthfulness a Habit	Showing Professionalism			
Leaving a Job Ethically				

1.5 Apply the appropriate skill sets to be productive in a changing, technological, diverse workplace to be able to work independently and apply team work skills.

Expected Work Traits	Teamwork	Time Management
Demonstrating Responsibility	Teamwork Skills	Managing Time
Dealing with Information Overload	Reasons Companies Use Teams	Putting First Things First
Transferable Job Skills	Decisions Teams Make	Juggling Many Priorities
Managing Change	Team Responsibilities	Overcoming Procrastination
Adopting a New Technology	Problems That Affect Teams	Organizing Workspace and Tasks
	Expressing Yourself on a Team	Staying Organized
	Giving and Receiving Constructive Criticism	Finding More Time
		Managing Projects
		Prioritizing Personal and Work Life

1.6 Present a professional image through appearance, behavior and language.

On-the-Job Etiquette	Person-to-Person Etiquette	Communication Etiquette	Presenting Yourself
Using Professional Manners	Meeting Business Acquaintances	Creating a Good Impression	Looking Professional
Introducing People	Meeting People for the First Time	Keeping Phone Calls Professional	Dressing for Success
Appropriate Dress	Showing Politeness	Proper Use of Work Email	Showing a Professional Attitude
Business Meal Functions		Proper Use of Cell Phone	Using Good Posture
Behavior at Work Parties		Proper Use in Texting	Presenting Yourself to Associates
Behavior at Conventions			Accepting Criticism
International Etiquette			Demonstrating Leadership
Cross-Cultural Etiquette			
Working in a Cubicle			

Support of CTAE Foundation Course Standards and Georgia Standards of Excellence L9-10RST 1-10 and L9-10WHST 1-10:

Georgia Standards of Excellence ELA/Literacy standards have been written specifically for technical subjects and have been adopted as part of the official standards for all CTAE courses.

Course Standard 2

AFNR-FPM-2

Explore, develop, and implement the comprehensive program of agricultural education, learn and demonstrate safe working habits in the agriculture lab and work sites, demonstrate selected competencies in leadership through the FFA and agricultural industry organizations, and develop plans for a Supervised Agricultural Experience Program (SAEP).

- 2.1 Explain the role of the Agricultural Education program and the FFA in personal development.
- 2.2 Demonstrate knowledge learned through a SAEP.
- 2.3 Develop leadership and personal development skills through participation in the FFA.
- 2.4 Explore career opportunities in horticulture/plant science through the FFA and Agricultural Education Program.
- 2.5 Explore the professional agricultural organizations associated with the course content.

Course Standard 3

AFNR-FPM-3

Analyze the floriculture industry and discuss the basics of floriculture science, production, and distribution.

- 3.1 Describe the scope and importance of the floriculture industry.
- 3.2 List and describe careers in floriculture.

Course Standard 4

AFNR-FPM-4

Identify and explain the functions of floriculture plant structures.

- 4.1 Identify and explain the functions of the primary parts of a plant.
- 4.2 Label parts of monocot and dicot vascular systems.
- 4.3 Analyze the functions of different types of root systems.
- 4.4 Compare and contrast complete and incomplete flowers.

Course Standard 5

AFNR-FPM-5

Discuss how plants grow and describe factors that affect plant growth.

- 5.1 Describe the processes of photosynthesis and factors that affect photosynthesis in plants.
- 5.2 Describe the processes of respiration and factors that affect respiration in plants.
- 5.3 Identify cultural and environmental factors that affect plant growth.
- 5.4 Define photoperiodism and experiment with factors that affect the process.
- 5.5 Identify the purpose and use of growth regulators.
- 5.6 Demonstrate methods for controlling plant growth.

Course Standard 6

AFNR-FPM-6

Explain the purpose of scientific nomenclature for plants.

- 6.1 Distinguish between genus, species, cultivar, and common names for plants.
- 6.2 Define common taxonomic terms.
- 6.3 Identify common floriculture plants by common and scientific names.
- 6.4 Demonstrate the use of a plant key.

Course Standard 7

AFNR-FPM-7

Evaluate the factors that should be considered in the planning and construction of a home or commercial greenhouse.

- 7.1 Identify optimal greenhouse locations.
- 7.2 Calculate greenhouse space requirements.
- 7.3 Explain the types of greenhouse structures.
- 7.4 Compare and contrast various greenhouse coverings.
- 7.5 Describe the characteristics of materials used to frame a greenhouse.
- 7.6 Diagram commonly used greenhouse layouts and bench arrangement.

Course Standard 8

AFNR-FPM-8

Determine cause and effect of environmental control systems in a greenhouse.

- 8.1 Identify the types and uses of irrigation systems.
- 8.2 Prescribe proper irrigation specifications for greenhouse crops.
- 8.3 Analyze the problems associated with poor soil drainage and salt build-up.
- 8.4 Describe proper greenhouse temperature control and the importance to plant health.
- 8.5 Identify areas in the greenhouse prone to heat loss.
- 8.6 Compare and contrast heating sources for greenhouse crops.
- 8.7 Describe the importance and identify the methods of greenhouse ventilation.
- 8.8 Compare the methods of shading greenhouses.

Course Standard 9

AFNR-FPM-9

Investigate the different types of floriculture growing media and determine the appropriate use for various growing situations.

- 9.1 Compare and contrast the various types and components of floriculture crop growth media.
- 9.2 Identify the uses of various media in the industry.
- 9.3 Calculate growing media requirements and formulations for floriculture crop production.

Course Standard 10

AFNR-FPM-10

Discuss the selection of floriculture containers.

- 10.1 Identify the most common materials and container types used in floriculture.
- 10.2 Select suitable containers for selected crop and growing media.
- 10.3 Identify marketing characteristics of containers and the influence on floriculture plant sales.
- 10.4 Calculate container needs and costs for floriculture crops.

Course Standard 11

AFNR-FPM-11

Describe sexual plant reproduction.

- 11.1 Identify biological components and functions of a seed.
- 11.2 Demonstrate the steps in germination.
- 11.3 Identify methods of seeding in floriculture.
- 11.4 Demonstrate scarification and stratification techniques.
- 11.5 Demonstrate transplanting methods and seedling care.
- 11.6 Demonstrate proper handling, storage and care of seed.

Course Standard 12

AFNR-FPM-12

Describe asexual plant propagation.

- 12.1 Compare and contrast the various methods of asexual plant propagation.
- 12.2 Identify factors that affect the selection of which asexual propagation method is best used (economic feasibility, skill level, time).
- 12.3 Demonstrate methods of asexual propagation for greenhouse crops (e.g., cuttings, division, separation, and layering).

Course Standard 13

AFNR-FPM-13

Evaluate and discuss the nutritional needs of plants.

- 13.1 Identify and categorize the essential elements needed for plant health.
- 13.2 Evaluate the availability of nutrients in floriculture plant growing media.
- 13.3 Define soil pH and discuss methods to adjust pH levels in growing media.

Course Standard 14

AFNR-FPM-14

Investigate the use of basic chemicals and evaluate application practices in floriculture.

- 14.1 Explain the importance of chemical safety.
- 14.2 Demonstrate safe chemical practices and the use of personal protective equipment in chemical application.
- 14.3 Compare and contrast chemical control to alternative treatments in floriculture production.
- 14.4 Interpret a MSDS (Material Safety Data Sheet) for floriculture chemicals.
- 14.5 Calculate and demonstrate how to mix chemicals for application to floriculture crops.

Course Standard 15

AFNR-FPM-15

Analyze the use of fertilizers for floriculture crops.

- 15.1 Compare and contrast forms of fertilizers.
- 15.2 Demonstrate proper fertilizer mixing methods.
- 15.3 Demonstrate application methods for fertilizers to plants.
- 15.4 Select and prescribe appropriate fertilizers for floriculture crops.
- 15.5 Calculate fertilizer rates and cost.
- 15.6 Discuss proper storage of fertilizers.
- 15.7 Interpret MSDS (Material Safety Data Sheet) for fertilizers.

Course Standard 16

AFNR-FPM-16

Identify plant pest and pest control practices for floriculture crops.

- 16.1 Identify greenhouse pests; explain their life cycles, and biological nature related to pest control.
- 16.2 Analyze and predict damage to greenhouse crops from pests.
- 16.3 Compare and contrast different types of management approaches to control floriculture pests.
- 16.4 Explain the concepts of integrated pest management.

Course Standard 17

AFNR-FPM-17

Practice floriculture crop management skills.

- 17.1 Identify and classify greenhouse crops.
- 17.2 Determine the growing space for a given crop.
- 17.3 Create a production schedule for a given crop.
- 17.4 Develop production records and a product inventory.

Course Standard 18

AFNR-FPM-18

Explore the use of floral design skills in the preparation, presentation, and marketing of floriculture crops.

- 18.1 Evaluate the economic value and importance of the floral design industry.
- 18.2 Demonstrate how to construct various floral bows.
- 18.3 Demonstrate skills in the preparation of potted plants for sale.
- 18.4 Apply basic floral skills in the production of floral designs and other items for sale, such as bud vases, corsages, and centerpieces.

Course Standard 19

AFNR-FPM-19

Describe the importance of applying business management and customer service techniques to the floriculture industry.

- 19.1 Calculate production and wholesale costs, retail value, and profit.
- 19.2 Identify and practice good salesmanship techniques.
- 19.3 Identify, prescribe, and practice marketing strategies for floriculture crops.