

Agriculture, Food & Natural Resources Career Cluster
Turf Production and Management
Course Number: 01.46500

Course Description:

This course introduces procedures to establish, manage, and maintain ornamental or recreational turf, to prepare and maintain athletic fields and playing surfaces, and to produce and market turf. Classroom and laboratory activities are supplemented through supervised agricultural experiences and leadership programs and activities.

Course Standard 1

AFNR-TPM-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
Showing Confidence Nonverbally		Involving the Audience	Describing Your Job Strengths

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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
Showing Responsibility	Gaining Coworkers' Trust		Appropriate Work Texting	

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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-TPM-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-TPM-3

Describe the turfgrass industry.

- 3.1 Explain the diversity and importance of the turfgrass industry.
- 3.2 Describe the history of the turfgrass industry
- 3.3 Discuss the use of turf grasses.

Course Standard 4

AFNR-TPM-4

Determine the basics of turfgrass and its culture.

- 4.1 Discuss the classification of grasses.
- 4.2 Explain how grass plants grow.
- 4.3 Compare and contrast the functions of important grass plant structures.
- 4.4 Describe how turf quality is measured.
- 4.5 Evaluate the different levels of maintenance or cultural intensity of turf grasses.

Course Standard 5

AFNR-TPM-5

Compare and contrast cool season and warm season grasses.

- 5.1 Define cool season and warm season.
- 5.2 Differentiate between common turf grasses as cool season or warm season based on important characteristics of each.
- 5.3 Analyze where and for what purpose each type of grass is used.
- 5.4 Discuss how a turf manager selects the best species and cultivar for a particular area.

Course Standard 6

AFNR-TPM-6

Analyze the importance of soil in turfgrass production.

- 6.1 Illustrate the components of soil.
- 6.2 Compare important soil characteristics for turfgrass production.
- 6.3 Cite evidence of how soil texture and structure affect turfgrass growth.
- 6.4 Describe and illustrate an ideal soil profile for turfgrass.
- 6.5 Critique how undesirable soil conditions can be improved by modifying the soil.
- 6.6 List the different methods of soil modification to achieve desired soil condition.
- 6.7 Identify organic matter sources that can be used to improve soil structure.

- 6.8 Analyze the types of drainage systems that are designed to remove excess water from the soil.
- 6.9 Discuss the basic principles of soil fertility.
- 6.10 Investigate the effect of soil pH on plant growth.
- 6.11 Explain how soil salinity affects plant growth.
- 6.12 State why soil testing is important.
- 6.13 Collect a representative soil sample and analyze the results of the sample.

Course Standard 7

AFNR-TPM-7

Investigate best management practices for establishing and caring for turf.

- 7.1 Determine the species and cultivars that are to be planted on a particular site.
- 7.2 Assess how the site should be prepared before planting.
- 7.3 Collect and identify information listed on a seed label.
- 7.4 Identify the most appropriate times of the year for turfgrass establishment.
- 7.5 Compare and contrast the four common methods of turfgrass establishment.
- 7.6 Identify the nutrients required by turfgrass plants.
- 7.7 Categorize the different types of fertilizers.
- 7.8 Create a turfgrass fertility program based on factors influencing establishment and growth.
- 7.9 Summarize the best methods of turfgrass fertilizer application.
- 7.10 Explain why correct mowing practices are important to the quality of the turf.
- 7.11 Predict the effects of mowing height on different species of turfgrass.
- 7.12 Analyze how water moves through the soil.
- 7.13 Design an appropriate irrigation system for a given site for turfgrass.

Course Standard 8

AFNR-TPM-8

Identify common turfgrass pests and determine the appropriate remedy or controls for each pest.

- 8.1 Discuss the different types of pesticides and formulations available to the turf manager.
- 8.2 Evaluate the process of pesticide applicator certification mandated by the Environmental Protection Agency.
- 8.3 Interpret the essential informational and warning elements found on a pesticide label.
- 8.4 List the personal protective equipment that must be used when handling various pesticides.
- 8.5 Identify the different types of herbicides.
- 8.6 Discuss the methods of controlling annual grasses, perennial grassy weeds, and broadleaf weeds.
- 8.7 Identify the insect species that are serious pests of turfgrass.
- 8.8 Diagnose turfgrass injury caused by insects.
- 8.9 Summarize how insect pests are controlled.
- 8.10 Describe common turfgrass diseases.
- 8.11 Analyze how diseases are identified.
- 8.12 Explain how to prevent and control turfgrass diseases.
- 8.13 Define Integrated Pest Management (IPM) and propose an IPM program for a local agricultural enterprise.

Course Standard 9

AFNR-TPM-9

Apply turfgrass management techniques to remedy common turfgrass problems.

- 9.1 Discuss the unfavorable growing conditions that occur in the shade.
- 9.2 Summarize maintenance practices that help turfgrass plants survive on shaded areas.
- 9.3 Determine the cause and effect of soil compaction.
- 9.4 Critique the methods of preventing and alleviating compaction.
- 9.5 Describe the reasons for thatch buildup and explain how thatch is reduced and controlled.
- 9.6 Prepare and use a turf evaluation form.
- 9.7 Discuss methods of turf renovation.

Course Standard 10

AFNR-TPM-10

Connect the application of turfgrass management to potential careers.

- 10.1 Discuss the establishment and maintenance of lawns, athletic fields, and other types of turf areas.
- 10.2 Describe the role of professional lawn care service companies in the turf industry.
- 10.3 Discuss the responsibilities of the superintendent and other golf course employees.
- 10.4 Describe the maintenance practices performed on greens, tees, fairways, sand traps, and roughs.
- 10.5 Discuss the importance of business management skills to the turfgrass manager.
- 10.6 Create job costs estimates in the turfgrass industry.
- 10.7 Explain how to plan work schedules and prepare a budget.
- 10.8 Solve math problems that are common in the turfgrass industry.