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.

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

<table>
<thead>
<tr>
<th>Nonverbal Communication</th>
<th>Written Communication</th>
<th>Speaking</th>
<th>Applications and Effective Résumés</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communicating Nonverbally</td>
<td>Writing Documents</td>
<td>Using Language Carefully</td>
<td>Completing a Job Application</td>
</tr>
<tr>
<td>Reading Body Language and mixed Messages</td>
<td>Constructive Criticism in Writing</td>
<td>One-on-One Conversations</td>
<td>Writing a Cover Letter</td>
</tr>
<tr>
<td>Matching Verbal and Nonverbal communication</td>
<td>Small Group Communication</td>
<td>Things to Include in a Résumé</td>
<td></td>
</tr>
<tr>
<td>Improving Nonverbal Indicators</td>
<td>Large Group Communication</td>
<td>Selling Yourself in a Résumé</td>
<td></td>
</tr>
<tr>
<td>Nonverbal Feedback</td>
<td>Making Speeches</td>
<td>Terms to Use in a Résumé</td>
<td></td>
</tr>
<tr>
<td>Showing Confidence Nonverbally</td>
<td>Involving the Audience</td>
<td>Describing Your Job Strengths</td>
<td></td>
</tr>
</tbody>
</table>
### 1.2 Demonstrate creativity by asking challenging questions and applying innovative procedures and methods.

<table>
<thead>
<tr>
<th>Teamwork and Problem Solving</th>
<th>Meeting Etiquette</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thinking Creatively</td>
<td>Preparation and Participation in Meetings</td>
</tr>
<tr>
<td>Taking Risks</td>
<td>Conducting Two-Person or Large Group Meetings</td>
</tr>
<tr>
<td>Building Team Communication</td>
<td>Inviting and Introducing Speakers</td>
</tr>
<tr>
<td></td>
<td>Facilitating Discussions and Closing</td>
</tr>
<tr>
<td></td>
<td>Preparing Visual Aids</td>
</tr>
<tr>
<td></td>
<td>Virtual Meetings</td>
</tr>
</tbody>
</table>

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

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

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

<table>
<thead>
<tr>
<th>Workplace Ethics</th>
<th>Personal Characteristics</th>
<th>Employer Expectations</th>
<th>Business Etiquette</th>
<th>Communicating at Work</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demonstrating Good Work Ethic</td>
<td>Demonstrating a Good Attitude</td>
<td>Behaviors Employers Expect</td>
<td>Language and Behavior</td>
<td>Handling Anger</td>
</tr>
<tr>
<td>Behaving Appropriately</td>
<td>Gaining and Showing Respect</td>
<td>Objectionable Behaviors</td>
<td>Keeping Information Confidential</td>
<td>Dealing with Difficult Coworkers</td>
</tr>
<tr>
<td>Maintaining Honesty</td>
<td>Demonstrating Responsibility</td>
<td>Establishing Credibility</td>
<td>Avoiding Gossip</td>
<td>Dealing with a Difficult Boss</td>
</tr>
<tr>
<td>Playing Fair</td>
<td>Showing Dependability</td>
<td>Demonstrating Your Skills</td>
<td>Appropriate Work Email</td>
<td>Dealing with Difficult Customers</td>
</tr>
<tr>
<td>Using Ethical Language</td>
<td>Being Courteous</td>
<td>Building Work Relationships</td>
<td>Cell Phone Etiquette</td>
<td>Dealing with Conflict</td>
</tr>
<tr>
<td>Showing Responsibility</td>
<td>Gaining Coworkers’ Trust</td>
<td></td>
<td>Appropriate Work Texting</td>
<td></td>
</tr>
<tr>
<td>Reducing Harassment</td>
<td>Persevering</td>
<td>Understanding Copyright</td>
<td>Social Networking</td>
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<tr>
<td>Respecting Diversity</td>
<td>Handling Criticism</td>
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<tr>
<td>Making Truthfulness a Habit</td>
<td>Showing Professionalism</td>
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<tr>
<td>Leaving a Job Ethically</td>
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</tr>
</tbody>
</table>

### 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.

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

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

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

**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.

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### 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.