

Agriculture, Food & Natural Resources Career Cluster
Sustainable Agriculture
Course Number 03.46100

Course Description

This course is designed to introduce students to the concepts of sustainability related to agriculture production. Students will learn how to implement production and marketing practices that are profitable and environmentally sound while meeting the needs of both the present and future generations.

Course Standard 1**AFNR-SA-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

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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

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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-SA-2

Orient and apply safety in the agriculture lab and work sites, demonstrates selected competencies in leadership through the FFA and agricultural industry organizations, and develops 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-SA-3

Define sustainability and discuss the principles and concepts of sustainable agriculture.

- 3.1 Define sustainable agriculture and discuss the principles of this idea.
- 3.2 Explain the concept of sustainable agriculture.
- 3.3 Identify professional organizations and resources within the sustainable agriculture industry.

Course Standard 4

AFNR-SA-4

Describe soil formation and management and assess its relevance to plant and animal production and natural resource management.

- 4.1 Describe soil characteristics and how they affect the use of land.
- 4.2 Explain how various soil management techniques affects environmental growing conditions.
- 4.3 Describe the importance of nutrient management to soil ecosystems.

Course Standard 5

AFNR-SA-5

Describe organic production methods and steps to organic certification.

- 5.1 Define organic and its current impact on current agricultural methods.
- 5.2 Clarify the types of organic certification and list the steps to becoming certified.
- 5.3 Discuss organic production systems in the United States.

Course Standard 6

AFNR-SA-6

Identify the importance of crop management and its relationship to sustainable agriculture.

- 6.1 Determine appropriate plant material based on planting season and beneficial rotation schedule.
- 6.2 Identify plants that work well together in companion planting settings.
- 6.3 Develop a management schedule for school and community gardens.
- 6.4 Describe water collection and micro irrigation systems.
- 6.5 Demonstrate sustainable agriculture practices in the school greenhouse environment.

Course Standard 7

AFNR-SA-7

Identify pests and determine control methods on plant and animal production.

- 7.1 Identify beneficial and non-beneficial insects and proper control methods.
- 7.2 Identify plant and animal diseases and explain proper control methods.
- 7.3 Identify weeds and describe proper control methods.
- 7.4 Identify mammal pests and describe or illustrate proper control methods.

Course Standard 8

AFNR-SA-8

Describe methods and benefits of composting.

- 8.1 Outline biological processes involved in composting.
- 8.2 List materials needed for compost production.
- 8.3 Explain the environmental factors that affect compost management.
- 8.4 Demonstrate how to utilize composting materials.
- 8.5 Construct a vermicomposting bin.

Course Standard 9

AFNR-SA-9

Describe the components of management intensive grazing (MIG).

- 9.1 Explain the major environmental advantages of the optimum MIG.
- 9.2 Identify the limiting factors of the optimum MIG system.
- 9.3 Compare the individual forage allotment needs of each grazing species.
- 9.4 Describe the production and management of forage supplies.
- 9.5 Outline various grazing system designs.
- 9.6 Explain economic considerations for the optimum MIG system.
- 9.7 Prepare and present farmer case studies focusing on MIG.

Course Standard 10

AFNR-SA-10

Analyze principles of marketing and evaluate the various marketing models associated with sustainable agriculture.

- 10.1 Utilize marketing strategies to develop a marketing plan that includes a record keeping system.
- 10.2 Create a chart identifying direct marketing models.