



**Florida Department of Education Student Performance
STANDARDS ALIGNMENT & SUGGESTED PACING GUIDE**

Agritechnology 1



iCEV Agricultural Science Site

Scope & Sequence	Lesson Title	CTE Standards and Benchmarks	Days of Teaching
1	Exploring Careers: Agriculture, Food & Natural Resources	11.01; 11.02; 21.02	12
2	The World of Agriculture	11.02; 20.01; 20.04; 20.05; 21.01	12
3	Basic Animal Management	12.01	10
4	Environmental Issues: Animal Systems	12.02	5
5	Beef Cattle Management Practices	12.02; 13.04; 14.04	8
6	Taking the Mystery Out of Pork Production	12.02	7
7	Digestive Systems of Livestock: A Basic Look	12.03	4
8	Basic Livestock Nutrition	12.04	5
9	Basic Animal Reproduction	13.01; 13.02	5
10	Basic Poultry Reproduction	13.01	4
11	Livestock Reproduction	13.03	7
12	Basic Animal Science	13.04	5
13	Swine Management Practices	13.04	6
14	Livestock Judging Fundamentals	14.01; 15.02	5
15	Harvesting of Livestock	14.02	5
16	Introduction to Poultry Judging	14.02	2
17	Animal ID Systems	14.03	6
18	Fundamentals of Exhibiting Livestock	14.04; 15.01; 15.03; 15.04	6
19	Cattle Handling Principles to Reduce Stress	14.04	5
20	Plant Propagation I	16.01; 16.02	2
21	Plant Propagation II	16.01; 16.02	2
22	Introduction to Plant Tissue Culture	16.01	3
23	Foliage Plant Production	16.02	4
24	Bedding Plant Production	16.03	5
25	Elements of Pruning	16.04	3
26	Fertilizers & the Environment	17.01	5
27	Fertilizers & Soil Amendments	17.02; 17.03; 17.04; 17.05	7
28	Hand Tool ID & Terminology I	18.01	6
29	Hand Tool ID & Terminology II	18.01	6
30	Hand Tool ID & Terminology III	18.01	6
31	Large Wood Power Tools - I: Safety, Operation & ID	18.01	3
32	Large Wood Power Tools - II: Safety, Operation & ID	18.01	2
33	Large Metal Power Tools: Safety & Operation	18.01	6
34	Striking & Struck Tools: Safety, Operation & ID	18.01	2
35	Shielded Metal Arc Welding: Preparation & Safety	18.01	7
36	Four-Stroke Engine: Servicing & Troubleshooting	18.02	7
37	Small Engine Technology: Troubleshooting, Repair, Service & Maintenance	18.02	8
38	Physical Science, Mathematics & Measurements in Agriculture	18.03	5
39	Hydraulics Troubleshooting I	18.03	4
40	Principles of Internal Combustion Engines	18.03	7

Scope & Sequence	Lesson Title	CTE Standards and Benchmarks	Days of Teaching
41	Basic Accounting Principles	19.01; 19.04	11
42	Agricultural Business: Financing, Saving & Investing	19.02; 19.03	7
43	Accounting Fundamentals: Inventory	19.04	6
44	Budgeting for Agribusiness	19.04	6
45	Government's Role in Agricultural Business	20.02; 20.03	11
46	Agricultural Business: Management	21.03	10

Florida Department of Education Student Performance Standards
Agritechnology 1

Course Number	8106820
Course Credit	1
Course Description	This course is designed to develop competencies in the areas of agriscience industry careers; prevention and treatment of livestock diseases; livestock anatomy; wholesale cuts of meat; animal reproduction and identification; animal safety; animal-health certification; plant growth; plant fertilization; safe use of pesticides; maintenance of tools and equipment; record keeping; and employability skills.

CTE Standards and Benchmarks		Lesson Title	Location
11.0 Explore the scope of the agriscience industry--The student will be able to:			
11.01	Investigate career opportunities in agriscience industries.	Exploring Careers: Agriculture, Food & Natural Resources	Entire lesson; Project - Career Exploration Journal Career Plan
11.02	Describe training requirements for entry and advancement in agriscience careers.	The World of Agriculture	Activity - Career Opportunities; Activity - Career Opportunities Teacher Instruction Sheet
		Exploring Careers: Agriculture, Food & Natural Resources	Entire lesson; Project - Career Exploration Journal Career Plan
12.0 Determine proper animal health and nutrition--The student will be able to:			
12.01	Demonstrate proper methods to clean and disinfect animal equipment and facilities.	Basic Animal Management	Slides 64 - 70
12.02	Explain proper disposal of animal waste with regards to sanitation, economics, and environmental implications	Environmental Issues: Animal Systems	Segment 4. Water Pollution
		Beef Cattle Management Practices	Segment 7. Environmental Management
		Taking the Mystery Out of Port Production	Segment 7. Environmental Protection
12.03	Describe a livestock animals digestive system.	Digestive Systems of Livestock: A Basic Look	Entire lesson; Project - Parts of a Digestive System Teacher Instruction Sheet
12.04	Describe nutritional requirements of animals.	Basic Livestock Nutrition	Entire lesson
13.0 Identify components of reproduction--The student will be able to:			
13.01	Examine livestock and poultry reproductive anatomy.	Basic Animal Reproduction	Slides 5 - 31; Activity - System Outline
		Basic Poultry Reproduction	Entire lesson
13.02	Explain the reproductive cycles of commercially important animals.	Basic Animal Reproduction	Slides 32 - 48
13.03	Compare and select appropriate breeding methods for different agricultural enterprises.	Livestock Reproduction	Entire lesson; Activity - Pros & Cons of Various Breeding Methods; Project - Teach a Livestock Breeding Method

CTE Standards and Benchmarks		Lesson Title	Location
13.04	Describe approved care for newborn animals.	Basic Animal Science	Segment 2. Reproduction (minute 1:51)
		Beef Cattle Management Practices	Segment 6. Calf Management
		Swine Management Practices	Segment 9. Processing the Litter; Activity - Ear Notching; Activity - Ear Notching Answer Key; Activity - Ear Notch Speed Game Teacher Instruction Sheet
14.0 Identify procedures in animal production			
14.01	Compare & contrast desirable characteristics of breeding and market animals.	Livestock Judging Fundamentals	Entire lesson; Project - Selection Criteria; Activity - Ideal Animal
14.02	Evaluate wholesale cuts of beef, pork, lamb, and poultry.	Harvesting of Livestock	Slides 57 - 83
		Introduction to Poultry Judging	Segment 5. Parts Identification
14.03	Describe methods of animal identification.	Animal ID Systems	Entire lesson; Activity - Flashcards
14.04	Describe methods of restraining, loading, handling, and transporting animals safely.	Fundamentals of Exhibiting Livestock	Entire lesson
		Beef Cattle Management Practices	Segment 3. Cattle Handling & Equipment
		Cattle Handling Principles to Reduce Stress	Entire lesson
15.0 Develop procedures for exhibiting animals--The student will be able to:			
15.01	Demonstrate the procedures for preparing, maintaining, and handling livestock.	Fundamentals of Exhibiting Livestock	Entire lesson
15.02	Compare and contrast appropriate livestock evaluation criteria.	Livestock Judging Fundamentals	Entire lesson; Project - Selection Criteria; Activity - Ideal Animal
15.03	Prepare appropriate registrations, shipping and health certificates required for exhibiting or marketing animals.	Fundamentals of Exhibiting Livestock	Entire lesson
15.04	Demonstrate appropriate grooming and showmanship skills.	Fundamentals of Exhibiting Livestock	Entire lesson
16.0 Compare, select, and use plant production systems--The student will be able to:			
16.01	Compare different plant production systems. (Seed, cutting, air layer and tissue culture).	Plant Propagation I	Segment 2. Propagation by Seed; Project - Growing Marigolds
		Plant Propagation II	Segment 2. Cutting, Environment & Hardening Off; Segment 3. Layering; Activity - Chrysanthemum Cutting
		Introduction to Plant Tissue Culture	Entire lesson

CTE Standards and Benchmarks		Lesson Title	Location
16.02	Propagate, transplant and grow plants.	Plant Propagation I	Segment 2. Propagation by Seed; Project - Growing Marigolds
		Plant Propagation II	Segment 2. Cutting, Environment & Hardening Off; Segment 3. Layering; Activity - Chrysanthemum Cutting
		Foliage Plant Production	Segment 3. Propagation and Growing Media; Segment 4. Propagation Methods; Segment 5. Direct-stick Propagation
16.03	Select and prepare a site and/or a seedbed for planting.	Bedding Plant Production	Entire lesson
16.04	Identify methods of pruning plants to achieve desired growth and to maintain health.	Elements of Pruning	Entire lesson; Activity - Types of Pruning; Project - Pruning in Your Neighborhood
17.0 Investigate proper methods to fertilize plants and crops--The student will be able to:			
17.01	Interpret information on a fertilizer label.	Fertilizers & the Environment	Segment 4. Fertilizer Analysis; Activity - Fertilizer Labels Activity Fertilizer Labels Answer Key
17.02	Compare sources and forms of nutrients.	Fertilizers & Soil Amendments	Segment 1. Plant Nutrients; Activity - Plant Nutrients; Activity - Plant Nutrients Answer Key
17.03	Determine methods of applying fertilizer materials.	Fertilizers & Soil Amendments	Segment 4. Fertilizers; Project - Fertilizer Application
17.04	Collect soil sample to determine nutrient levels.	Fertilizers & Soil Amendments	Segment 2. Plant Analysis & Soil Testing - Soil Testing
17.05	Test for pH and soluble salts.	Fertilizers & Soil Amendments	Segment 2. Plant Analysis & Soil Testing - Soil Testing; Activity Ideal pH Ranges; Project - Soil pH Test

CTE Standards and Benchmarks		Lesson Title	Location
18.0 Operate, maintain, and service facilities, tools, and equipment--The student will be able to:			
18.01	Use and maintain hand tools and power equipment (e.g., power saws, welders).	Hand Tool ID & Terminology I	Entire lesson; Project - Tool Presentation
		Hand Tool ID & Terminology II	Entire lesson; Project - Tool Presentation
		Hand Tool ID & Terminology III	Entire lesson; Project - Tool Presentation
		Large Wood Power Tools - I: Safety, Operation & ID	Entire lesson; Activity - Band Saw Puzzle; Project - Large Wood Power Tool Use
		Large Wood Power Tools - II: Safety, Operation & ID	Entire lesson; Project - Using the Tools
		Large Metal Power Tools: Safety & Operation	Entire lesson; Activity - Using the Tools
		Striking & Struck Tools: Safety, Operation & ID	Entire lesson; Activity - Tool Use; Project - Tool Demonstration
		Shielded Metal Arc Welding: Preparation & Safety	Segment 2. Safety; Segment 3. Equipment Inspection & Set-Up; Project - Inspection and Set-up
18.02	Describe maintenance and service of small engines.	Four-Stroke Engine: Servicing & Troubleshooting	Slides 4 - 34; Project - Maintenance Pamphlet
		Small Engine Technology: Troubleshooting, Repair, Service & Maintenance	Entire lesson; Project - Service Repair Manual
18.03	Examine science principles as applied in selected mechanical applications (e.g. levers, pulleys, hydraulics, and internal combustion).	Physical Science, Mathematics & Measurements in Agriculture	Slides 11 - 17; Activity - Machine Dissection
		Hydraulics Troubleshooting I	Entire lesson
		Principles of Internal Combustion Engines	Entire lesson; Student Handout - Physics Calculations
19.0 Apply principles of agribusiness finance--The student will be able to:			
19.01	Identify components of balance sheets and income statements.	Basic Accounting Principles	Slide 55; Slides 61 - 62; Activity - Balance Sheet; Activity - Balance Sheet Answer Key; Activity - Profit & Loss Statement; Activity - Profit & Loss Statement Answer Key; Project - Income Statements
19.02	Identify major sources of credit for agribusiness.	Agricultural Business: Financing, Saving & Investing	Slides 5 - 22

CTE Standards and Benchmarks		Lesson Title	Location
19.03	Complete a business loan application.	Agricultural Business: Financing, Saving & Investing	Student Handout - Business Loan Application; Activity - Loan Application
19.04	Maintain and interpret agribusiness financial records including depreciation, inventory, and budgets.	Basic Accounting Principles	Slides 21 - 26
		Accounting Fundamentals: Inventory	Entire lesson; Activity - Cost of Goods Sold; Activity - Cost of Goods Sold Answer Key; Activity - Cost of Inventory; Activity - Cost of Inventory Answer Key
		Budgeting for Agribusiness	Entire lesson; Project - Budgeting for Agribusiness; Project - Budgeting for Agribusiness Teacher Instruction Sheet
20.0 Evaluate the importance of the food and fiber system to understand the impact on global economy.—The student will be able to:			
20.01	Assess the agricultural impact upon the US gross national product and the total global economy.	The World of Agriculture	Student Handout - Agriculture & the Economy
20.02	Investigate local, state, and national regulatory laws, industry regulations, and legislation for agricultural businesses.	Government's Role in Agricultural Business	Entire lesson; Project - Policies
20.03	Identify and describe the primary government agencies involved with agriculture.	Government's Role in Agricultural Business	Slides 5 - 24; Activity - Governmental Roles; Activity - Governmental Roles Answer Key;
20.04	Research new and emerging technologies and their impact on the economy.	The World of Agriculture	Slides 89 - 123; Student Handout - Agriculture & the Economy
20.05	Describe the value of the food and agribusiness industry.	The World of Agriculture	Slides 7 - 14; Slides 33 - 38; Student Handout - Agriculture & the Economy
21.0 Examine the scope of career opportunities in and the importance of agriculture to the economy.			
21.01	Define and explore agriculture and agribusinesses and their role in the economy.	The World of Agriculture	Slides 5 - 57; Student Handout - Agriculture & the Economy
21.02	Evaluate and explore the agribusiness career opportunities in agriculture.	Exploring Careers: Agriculture, Food & Natural Resources	Entire lesson; Project - Career Exploration Journal Career Plan
21.03	Compare how key organizational structures and processes affect organizational performance and the quality of products and services.	Agricultural Business: Management	Entire lesson; Activity - Skills