

Forestry

This course focuses on utilization of the forests for multiple purposes through study of maintaining and managing the forests, measuring, protecting, harvesting, and the processing of products. Effective employability skills will be stressed throughout the course and will include work ethics, dependability working with other employees, and satisfying job requirements. Emphasis is on introduction to forestry, forest ecology and wildlife habitat, tree study, land measurement and product measurement, silvicultural practices, reforestation, harvesting forest products, fire in the forest, insect and other destructive agents, job seeking skills, forestry products, and paper and pulp products. Skills in biology, chemistry, and algebra are reinforced in this course. Work-based learning strategies appropriate for this course are internships and supervised agricultural experience. Supervised agricultural experience programs and the FFA leadership activities are integral components of the course and provide many opportunities for practical application of instructional competencies.

Prerequisite: Agriscience I

Table of Contents

Louisiana Agricultural Education Related Content Standards	2
Content Guideline	
Introduction To Forestry	6
Forests Ecology and Wildlife Habitat	6
Tree Study	6
Land Measurement and Product Measurement (Mensuration)	6
Silvicultural Practices	7
Reforestation	7
Harvesting Forest Products	7
Fire in the Forest	7
Insects and Other Destructive Agents	7
Job Seeking Skills	8
Forestry Products	8
Paper and Pulp Products	8
Resources	9

Forestry		Content Guideline																	
Louisiana Agricultural Education Related Content Standards 	<p>*All benchmarks are not marked for all Agricultural courses.</p>	Introduction to Forestry	Forest Ecology & Wildlife Habitat	Tree Study	Land Measurement & Product Measurement	Silvicultural Practices	Reforestation	Harvesting Forest Products	Fire in the Forest	Insects and Other Destructive Agents	Job Seeking Skills	Forestry Products	Paper & Pulp Products						
		STRAND: Agricultural Literacy K-12 Standard: All students will become aware of the characteristics and components of the food and fiber systems.																	
a. Agricultural awareness grades k-4																			
b. Agricultural literacy grades 5-8																			
c. Agricultural literacy grades 9-12	•	•	•	•	•	•	•	•	•	•	•	•	•						
STRAND: Personal Development Standard: AgEd /FFA students will develop the necessary interpersonal and communication skills to obtain a job and work effectively and safely in an interactive work environment.																			
a. Agricultural communication	•	•	•	•	•	•	•	•	•	•	•								
b. Team work in agriculture																			
c. Careers in agriculture				•				•			•	•	•						
STRAND: Agribusiness Standard: Ag Ed /FFA students will understand the concept of agricultural marketing, management, finance, and entrepreneurship.																			
a. Production systems		•		•	•	•	•	•				•	•						
b. Selections from various choices		•	•	•	•	•	•	•	•	•		•	•						
c. Factors that make employees successful											•								
d. Agricultural marketing sales and services											•	•	•						
e. Economics of production				•			•	•				•	•						
f. Develop a business plan					•							•	•						

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		STRAND: Biotechnology in Agriculture Standard: Ag Ed/FFA students will understand the concepts and principles of biotechnology and the relationships biotechnology has with the agricultural environment.																	
a. Basic concepts and applications of biotechnology		•	•		•	•													
b. Impacts and public issues of biotechnology	•	•	•		•	•	•	•	•										
c. Processes and applications affecting the plant systems		•	•		•	•	•												
d. Processes and applications affecting animal systems		•	•			•													
e. Microbial-biotechnology in agriculture		•						•		•									
STRAND: Animal Systems Standard: Ag Ed /FFA students will understand the concepts and principles of animal science.																			
a. Selection of livestock, poultry, and other animals																			
b. Anatomy and physiology of livestock, poultry, and other animals																			
c. Reproduction of livestock, poultry, and other animals																			
d. Nutrition of livestock, poultry, and other animals																			
e. Environmental factors affecting livestock, poultry, and other animal systems		•						•											
f. Diseases and parasites of livestock, poultry, and other animals																			
g. Ethical issues related to livestock, poultry, and other animal systems		•																	

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STRAND: Plant Systems Standard: Ag Ed /FFA students will understand the concepts and principles of plant science.																			
a. Internal processes affecting plant growth and reproduction		•	•	•	•	•	•		•	•									
b. External environmental factors affecting plant growth and reproduction			•	•		•	•												
c. Soil fertility			•	•		•	•												
d. Plant production			•	•		•	•												
e. Landscaping and floriculture		•																	
f. Crops of Louisiana		•		•								•	•						
g. Horticultural crops of Louisiana		•	•	•															
h. Agribusiness relating to crop production		•																	
STRAND: Environmental Management Standard: Ag Ed/FFA students will develop an understanding of the interrelationship between people, agriculture, and the environment.																			
a. Universal impact of forestry		•	•	•		•	•	•				•	•						
b. Wildlife management and conservation		•	•	•		•	•												
c. Environmental quality			•			•	•	•	•	•									

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		STRAND: Agricultural Processing Standard: Ag Ed /FFA students will develop an understanding of the processes of distributing, grading, inspecting, processing, mixing, packaging, and storing of food and non-food products.																
a. Agricultural meat processing																		
b. Milk and dairy product processing																		
c. Fruits and vegetable processing			•															
d. Grain crop processing																		
e. Career awareness	•	•	•	•	•	•	•	•	•	•	•	•	•					
STRAND: Agriscience Technology Standard: Ag Ed /FFA students will demonstrate technical skills that reflect successful business and industry practices.																		
a. Agriculture power and energy	•		•									•						
b. Energy sources in agriculture												•						
c. Mathematics in agriscience technology				•								•	•					
d. Agriscience welding technology												•						
e. Agricultural structures and facilities			•									•						

Agriscience-Forestry Content Guideline

(The student will be able to...)

Unit One

Introduction To Forestry

1. Discuss terms associated with forestry.
2. Discuss the history of forests.
3. Discuss the economics of forests and urban forestry.
4. Determine the economic impact of forests and forest products in Louisiana and the United States.
5. Determine careers related to forestry as a profession and other career opportunities.
6. Discuss safety rules and regulations needed in forestry.
7. Determine the FFA awards and career development events available in the career area of forestry.

Unit Two

Forests Ecology and Wildlife Habitat

1. Consider and discuss the multiple uses of the forests.
2. Identify consumer products that come from forests.
3. Discuss the aesthetic values of forests.
4. Determine the role of forestry in wildlife conservation and recreation.

Unit Three

Tree Study

1. Identify dendrology terms.
2. Determine the uses for trees.
3. Discuss how trees grow and reproduce.
4. Identify characteristics used for identification of trees.
5. Identify commercially important species of the South.

Unit Four

Land Measurement and Product Measurement (Mensuration)

1. Discuss and develop mathematics skills used in forestry.
2. Determine how tree measurements for *diameter at breast height* (D.B.H.), *board feet* (B.F.), acres, chains, rods, townships, etc., are used in forestry.
3. Identify various cruise types.
4. Discuss purposes of surveying and mapping and aerial photograph reading.

5. Collect and process data, develop a management plan, and determine the factors affecting the decisions that guide the management plan.
6. Develop a forest management plan.
7. Use common surveying equipment as well as the calculator and computer.

Unit Five

Silvicultural Practices

1. Determine methods of establishing, sustaining, and harvesting forest products.
2. Identify the importance of forest management.
3. Discuss the silviculture methods, timber stand improvement techniques, and types of forest stands.
4. Practice making timber, cleanings, and release.
5. Determine the use of chemicals and prescribed fire in forest management.

Unit Six

Reforestation

1. Identify various methods of natural and artificial reforestation.
2. Determine site preparations needed for reforestation.
3. Determine the economic and environmental decisions associated with each method of reforestation.

Unit Seven

Harvesting Forest Products

1. Describe the various timber harvesting systems.
2. Discuss the environmental impacts of timber harvest systems on the sites.
3. Determine the equipment management needed for harvesting methods.
4. Discuss the economics of harvesting (i.e., stumpage, cost of harvesting, and severance tax).

Unit Eight

Fire in the Forest

1. Describe the methods and procedures for prescribed burning and wildlife control.
2. Determine the factors that affect fire behavior.

Unit Nine

Insects and Other Destructive Agents

1. Identify major forest insects.
2. Identify diseases that affect forests.
3. Determine common control methods for insects and diseases in forests.

Unit Ten

Job Seeking Skills

1. Determine opportunities for employment in the forestry industry.
2. Discuss ways to find and apply for forestry positions.
3. Contrast characteristics that determine if an employee will hold or lose a job.
4. Discuss employer expectations.
5. Identify sources for continuing education degrees and certification.

Unit Eleven

Forestry Products

1. Identify major products developed from forest products.
2. Identify the processes for producing plywood, wood products, etc.
3. Determine the major uses for manufactured wood products.

Unit Twelve

Paper and Pulp Products

1. Determine the chemical process for converting wood into pulp.
2. Identify wood characteristics that affect paper quality.
3. Discuss the process for making paper.
4. Determine the process for recycling paper.
5. Describe factors which affects recycle paper quality.

Resources

Bulletin 1690; Volume II, Louisiana Department of Education.

Bulletin 1725; Volume III, Louisiana Department of Education.

Bulletin 1926; Louisiana Department of Education.

Burton, Lawrence D., (1998). *Introduction to Forestry Science*. Clifton Park, New York: Delmar Publishers.

Camp, William G., and Daugherty, Thomas B. (2002). *Managing Our Natural Resources* (4th Ed.). Clifton Park, New York: Delmar Publishers.

Deal, Kevin (1998). *Wildlife & Natural Resource Management*. Clifton Park, New York: Delmar Publishers.