

Course Description:

This course further delves into agriscience as a core global business. Students will explore fundamental business operations and structures as well as financial considerations. Students will understand the nutritional needs of livestock in order for them to be free from disease and be able to thrive in good health. Plants are heavily dependent on proper fertilization, irrigation, and nutrition to prosper. Thus, students will take a comprehensive look at the systems necessary to produce bountiful crops. The course will be rounded out learning about the tools and techniques needed to run an agriscience business and harvest crops.

Module	Objectives
Module 1: The Agriscience Industry	• Identify and describe the importance of professional and trade organizations.
	• Examine and interpret trade journals and academic research in the agriscience industry.
	• Describe the five basic ways American business is organized.
	• Identify and distinguish between the characteristics of each method of doing business.
	• Evaluate the advantages and disadvantages provided by each business method.
	• Evaluate how cooperative principles and practices differentiate cooperatives from other businesses. ○ Complete a job application

Module 2: Agriculture Cooperatives and Agribusiness Finance	• Define a cooperative.
	• Explain the history of cooperative principles and practices.
	• Describe the five areas that classify cooperative structure.
	• Identify and distinguish between the five types of cooperative structure and their functions.
	• Explain the purposes and structures of contracts, leases, deeds, and insurance policies.
	• Complete a State FFA Degree or Proficiency Applications.
	• Identify the tax obligations of agricultural businesses. (ex. Property tax, intangible taxes, income taxes)

Module 3: Animal Health and Nutrition	• Recognize, describe and demonstrate prevention and treatment of common animal diseases, disorders, and pests.
	• Read, interpret, and demonstrate correct uses of pesticides, medication, and other additives according to their labels.
	• Formulate and compute least-cost feed rations.
	• Select and apply growth stimulators and implants.
	• Determine feeding rates and methods of feeding animals.
	• Demonstrate appropriate grooming and showmanship skills

Module 4: Plant Production Services	• List the leading local (community) varieties of commonly grown crops for commercial production.
	• Recommend varieties of local commercial plants and field crops.
	• Identify the recommended planting rate, spacing requirements, and growth times for common garden crops.
	• Describe the operation of and adjustment of plant production equipment.

Module 5: Plant and Crop Fertilization and Irrigation	• Develop fertilization schedules and calculate fertilizer rates for plants.
	• Identify common nutrient-deficiency symptoms in plants.
	• Calibrate fertilization equipment and fertilize plants.
	• Recognize soil and plant conditions indicating irrigation needs and develop an irrigation schedule.
	• Compare and select irrigation equipment and methods.

Module 6: Plant Pest Control	• Compare and contrast common plant pests and their damages.
	• Diagram life cycles of insects, pests, and diseases.
	• Interpret the procedures and requirements for obtaining a restricted-use-pesticide operator's license.
	• Select, mix, and apply a no-restricted chemical according to the label and local, state, federal, and EPA regulations.
	• Describe biological, chemical, and cultural methods of controlling plant pests.
	• Develop Best Management Practices for pest management.

Module 7: Maintenance of Facilities, Tools, and Equipment	• Discuss basic facility maintenance, installation, or repair. (e.g., welding, electricity, plumbing, fencing, construction).
	• Safely operate, maintain, service, and repair equipment.
	• Install, operate, maintain, and repair irrigation equipment.
	• Develop Best Management Practices (BMP) for water use.

Module 8: Harvesting	• Describe procedures for harvesting products (produced by a marketing program).
	• Collect and interpret market reports and identify market outlets for agricultural products (produced by program).
	• Organize a marketing program for an agricultural product (produced by program or student).
	• Assess kinds and types of storage facilities for agricultural products (produced by program).
	• Grade, treat, pack, and/or store harvested products (produced by program).