Agribusiness Systems Pathway

The Agribusiness Systems pathway is one of seven pathways in the Agriculture, Food, and Natural Resources Cluster. Career opportunities in this pathway may include: Agricultural Chemical Dealer, Agricultural Products Buyer –Distributor, Bank/Loan Office, Entrepreneur, Feed-Supply Store Manager, Field Representatives for Bank, Insurance Company or Government Program, Sales Manager, Salesperson, Agricultural Commodity Broker, Agricultural Economist, Agricultural Lender, Banker/Loan Officer, Farm Investment Manager and Produce Commission Manager. A wide range of knowledge and skills can be acquired from a plan of study in this pathway, such as competence in the application of principles and practices of agribusiness management and leadership, building a strong knowledge base of the agribusiness industry related to the study of agribusiness types, business management, financial analysis, communications, agricultural law, leadership and teamwork, ethics, and agricultural economics. This pathway culminates with an opportunity for students to take the Agribusiness end of pathway assessment from OK Career Tech Testing.

Animal Systems Pathway

The Animal Systems pathway is one of seven pathways in the Agriculture, Food, and Natural Resources Cluster. Career opportunities in this pathway may include: Animal Caretaker, Poultry Manager, Aquaculturalist, Artificial Insemination Technician, Dairy Producer, Equine Manager, Livestock Inspector, Livestock Producer, Veterinary Assistant, Animal Nutritionist, Livestock Geneticist, Meat Science Researcher, Physiologist, Wildlife Biologist, USDA Inspector, and Veterinarian. A wide range of knowledge and skills can be acquired from a plan of study in this pathway, such as scientific principles that underlie the breeding and husbandry of agricultural animals, and the production, processing, and distribution of agricultural animal products. Additionally, scientific principles applied to the animal industry; animal reproduction, production technology, processing, and distribution of agricultural animal products. This pathway culminates with an opportunity for students to take the NOCTI Animal Systems end of pathway exam.

Environmental Systems Pathway

The Environmental Systems pathway is one of seven pathways in the Agriculture, Food, and Natural Resources Cluster. Career opportunities in this pathway may include: Environmental Compliance - Assurance Manager, Environmental Sampling and Analysis Scientist/Technician, Hazardous Materials Handler, Hazardous Materials Technician, Health and Safety Sanitarian, Pollution Prevention and Control Technician, Recycler, Solid Waste Technician, Chemical Engineer, Environmental Engineer, Pollution Prevention and Control Manager, Solid Waste Manager, Toxicologist, Water Environment Manager or Water Quality Manager. The vast array of skills associated with this pathway includes but are not limited to demonstrating: safety practices related to environmental science; developing record keeping skills and computer skills relevant to environmental science; describing the relationships among humans, agriculture and the environment, explaining how agriculture affects ecosystems; identifying the types and proper management of agricultural waste products; describing the use of agricultural chemicals and their effects on the environment; management practices used in agriculture to protect soil and water resources and also management practices used in agriculture to protect air quality. An end of pathway assessment has not been identified for this particular pathway.

Food Products and Processing Systems Pathway
The Food Products and Processing Systems pathway is one of seven pathways in the Agriculture, Food, and Natural Resources Cluster. Career opportunities in this pathway may include: Food and Drug Inspector, Food Meal Supervisor, Food Processor, Meat Cutter-Meat Grader, Meat Processor, Produce Buyer, Bacteriologist, Biochemist- Nutritionist, Bioengineer, Dietician, Food and Fiber Engineer, Food Scientist, Meat Science Researcher, Microbiologist, or Quality Control Specialist. The possible knowledge and skills in this pathway could include any of the following: demonstrate safety practices related to food science, identify the importance of consumer education in food science and safety, explain the process involved in safe food preparation, characterize harmful and beneficial microbes in food products and processing, illustrate how the food industry utilizes biotechnology in the safe, efficient and economical production of food products, compare risks in life with risks associated with food additives and processing, identify the dangers of chemicals in our food supply, describe the local, state and federal regulations that affect the food products and processing industry, describe the effect that production and processing techniques have on food safety, explain the proper handling of food and food products to insure a safe, economical and nutritious food supply, and identify the nutritional value of various food products and their relative effects on health just to name a few. An end of pathway assessment has not been identified for this particular pathway.

Forestry / Natural Resources Systems Pathway
The Forestry / Natural Resources Systems pathway is one of seven pathways in the Agriculture, Food, and Natural Resources Career Cluster. Career opportunities in this pathway may include: Commercial Fisherman, Fisheries Technician, Forest Technician, Geology Technician, Log Grader, Logger, Park Manager, Pulp and Paper Manager, Range Technician, Water Monitoring Technician, Wildlife Manager, Ecologist, Fish and Game Officer, Geologist, Hydrologist, and Mining Engineer. Courses in this pathway provides entry-level skills for employment in the forest industry and for further study; covers establishing forests by natural and artificial means, maintaining and surveying forest, identifying and protecting trees, practicing silviculture, measuring trees and land, mapping, preparing for timber sales and harvest, employing multiple-use resource management, and keeping records. This pathway culminates with an opportunity for students to take the NOCTI Forestry and Natural Resources end of pathway exam.

Plant Systems Pathway
The Plant Systems pathway is one of seven pathways in the Agriculture, Food, and Natural Resources Career Cluster. Career opportunities in this pathway may include: Biotechnology Lab Technician, Golf Course Manager, Green House Manager, Tree Surgeon, Bioinformatics Specialist, Botanist, Plant Breeder and Geneticist, Plant Pathologist, or Soil and Water Specialist just to name a few. Upon completion of the Plant System pathway courses the student will be able to: give a basic understanding of olericulture, arboriculture, pomology, agronomy, floriculture, nursery-landscape, landscape design, floral design, greenhouse and turf production and management; demonstrate a basic understanding of the educational requirements and skills needed for workers in various plant science careers; describe the processes of photosynthesis and factors that affect photosynthesis in plants; Set up a maintenance calendar using the manufacturer's service recommendations; identify common insects, weeds, diseases and physiological disorders; Demonstrate fertilizer application methods; name the nutrients needed for plant growth and describe the components and functions of a good growing media, among other necessary skills. This pathway culminates with an opportunity for students to take the NOCTI Plant Systems end of pathway exam.