

Agriscience

Pre-Requisites:

Credits:

Estimated Completion Time:

Earliest Start Date: March 2014

Introduction to Agriscience

In this course, students will learn more about the development and maintenance of agriculture, animal systems, natural resources, and other food sources. Students will also examine the relationship between agriculture and natural resources and the environment, health, politics, and world trade.

Unit 1: The Importance of Agriscience

This unit explores the role of agriculture in history. It has built many societies, including America, and agriculture still plays an essential role in the economies of many states, particularly Florida and California. Because better farming leads to increased production, agriscience, which is defined in this unit, is an essential part of keeping the agriculture industry thriving. This unit also explores the economic significance of agriculture and the variables that shape relationships between import and export. Because agriscience requires using technology effectively, students will learn how to determine if a website is valid.

Unit 2: Agriscience and the Environment

This unit explains the relationship between agriscience and the environment. Agriculture is dependent on natural resources, so it is important to understand the ways in which natural resources support agriculture and how to keep them healthy. Soil, water, and air are among the most essential resources, and the most vulnerable to pollution. Human actions have the most influence over the environment, so people are most responsible for helping support a healthy environment. Preserving resources benefits all, and agriscientists contribute by developing new forms of fuel. Finally, the unit explores the importance of communication.

Unit 3: Plant Science

This unit is all about plants. Students will identify and understand the function of the different parts of the plant. They will also learn how plants process elements to sustain their lives and those of all living creatures. The basic parts of a cell—and their functions—are covered as well, as are the differences among the types of cells. Soil classification systems are also explored, including those focusing on use, type, and consistency. Finally students will learn the importance of critical-thinking skills in the workplace.

Unit 4: The Animal Element

This unit provides an overview of some of the livestock that make up the American agriculture industry. These animals are valuable not only for the meat they provide, but also other types of food and products. Both large and small animals play a significant role in this industry and require proper attention to their health. Appropriate living conditions and diet are the minimum standards for animal care, and these vary depending on the type of animal and the way it processes food. Students will also explore debates around the country about standards of animal care, particularly those on large commercial farms. Laws and regulations define the minimum standards for the ethical care of animals, although part of succeeding in agriscience and the agriculture industry is demonstrating ethical behaviors in all aspects of business.

Unit 5: Animal Anatomy

This unit explores the basics of animal anatomy. As agriscientists strive to develop stronger and more productive animals, they need to know how their bodies work. Working with genes is also an important part of the industry since techniques like selective breeding and genetic alteration can greatly increase agricultural production. When agriscientists know how genes function and what can and cannot be altered, they can work to create the best possible genetic combination in livestock and plants. One of the key improvements agriscientists strive to make is resistance to the various pests that can be devastating to livestock and crops. There are many ways to combat these organisms, and one of the most common is by using pesticides, which can be hazardous if used incorrectly. This is why safety is such an important aspect of working in agriculture.

Unit 6: Technology & Agriscience

This unit explores how agriscience and technology work together for better food production. There are many steps between growing the food and getting it into the hands of consumers, and each of these needs to be closely monitored to keep food safe. Fortunately, developing technology offers ways of better monitoring all aspects of food production. The intersection of technology and food does not always generate a positive reaction, however. Growing concerns about the long-term impact of biotechnology, particularly GMOs, are generating concerns and shifting consumer behavior. This unit will explore some of the issues raised when technology and agriculture become deeply intertwined. Because agriculture is such an important part of the American economy and the daily lives of citizens, those working in agriculture have a particularly responsibility to manage their businesses well and demonstrate professional behavior whether they are in the field or the boardroom.

Unit 7: Careers in Agriscience

This unit explores the careers available in agriscience and how agriscientists use their expertise around the world. By understanding the range of careers in the agriscience industry, students can begin to narrow down their options and find that career that is best for them. Part of building a successful career is understanding how basic farm equipment works. There are a variety of professional organizations, including the National Future Farmers of America Organization, designed to help students develop the technical and practical skills required to go into agriculture-related fields and get hands-on experience by working with industry experts. A good career also depends on knowing how to dress as a professional and demonstrate the values that employers want to see in the workplace. Combining exceptional skills with superlative personal conduct will chart a solid career path in any profession.

Unit 8: Agribusiness Management

This unit explores the business side of agriculture, including the various ways that farmers and ranchers move their products to market. Like small businesses owners, those running their own ventures in the agriculture industry will need to develop versatile skills to meet multiple demands. Those in agriscience need to understand how livestock and crops are sold and marketed so that their contributions increase the value of crops. Agribusiness management is another career in which an agriscience background is helpful. These experts help agricultural businesses reach their financial and production goals. This is just one of the many leadership positions in the agriculture industry, although anyone can develop strong leadership skills. The unit also explores the implications of an increasingly diverse workplace and strategies for effectively negotiating the challenges this can create.