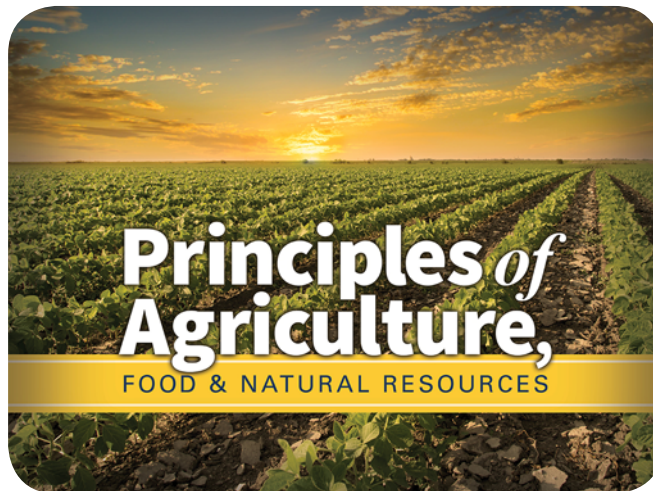


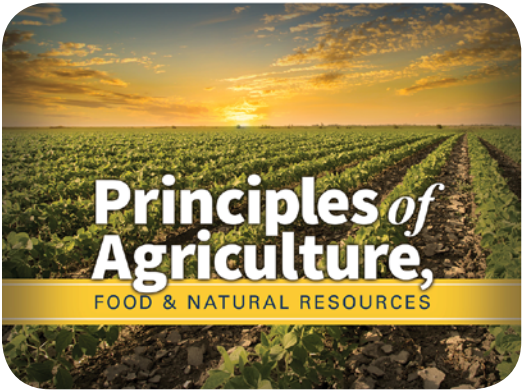


eDynamicLearning

— CAREER & ELECTIVE COURSES —



Course Syllabus



Principles of Agriculture, Food and Natural Resources

Course Description

Food has to travel from the farm to the table, and in Agriculture and Natural Resources, you will learn about all of the steps in that journey, beginning with the history of agriculture through animal husbandry, plant science, and managing our use of natural resources. In this course, you will receive a broad understanding of the subject matter, preparing you for future hands-on learning, participation in Future Farmers of America, and supervised agricultural experiences.

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Unit 1: Careers in Agriculture, Food, & Natural Resources

Unit Summary

What do you think of when you think of a farmer, a baker, or a logger? For many people, it's an old-fashioned image—one involving hand tools, 4 a.m. alarms, and maybe even overalls! This isn't the reality of modern careers in farming, food processing, or natural resources. These careers are modern and innovative and rely upon rapidly advancing technology. Careers in agriculture, food, and natural resources provide some of the most essential things in life. Farmers grow the food we eat, and those in natural resources help to provide fuel to warm our homes in the winter. These careers support old-fashioned values while integrating modern technology to maximize production, protect the environment, and improve outcomes for both workers and consumers.

Learning Objectives

- Identify different careers in agriculture, food, and natural resources.
- Recognize what makes a good worker in agriculture, food, and natural resources.
- Discuss why careers in agriculture, food, and natural resources are important.
- Understand the importance of safety practices and protocols.

Assignments

Unit 1 Text Questions	Homework	10 points
Unit 1 Online Lab Questions	Homework	10 points
Unit 1 Activity	Homework	15 points
Unit 1 Discussion Assignment 1	Discussion	5 points
Unit 1 Discussion Assignment 2	Discussion	5 points
Unit 1 Quiz	Quiz	15 points



Unit 2: Leadership, Ethics, & Work Habits

Unit Summary

What does being a hard worker, an ethical person, a strong team member, and an effective leader have to do with agriculture and natural resources education? These traits shape who you are and how you will function in the workplace. And they shape the fundamental goals of agricultural organizations, such as Future Farmers of America (FFA). In this unit, you'll learn about leadership, teamwork, ethics, and ethical dilemmas in agriculture, and about how FFA and other organizations prepare students for higher education, or the workplace, in agriculture and natural resources.

Learning Objectives

- Understand the goals of FFA.
- Identify the value of teamwork and different roles on a team.
- Comprehend the importance of ethics in agriculture and natural resources.
- Recognize traits of a good leader.

Assignments

Unit 2 Text Questions	Homework	10 points
Unit 2 Online Lab Questions	Homework	10 points
Unit 2 Activity	Homework	15 points
Unit 2 Discussion Assignment 1	Discussion	5 points
Unit 2 Discussion Assignment 2	Discussion	5 points
Unit 2 Quiz	Quiz	15 points



Unit 3: Agriculture, Food, & Natural Resources in Context

Unit Summary

Once upon a time, people had to learn to farm. They had to learn to grow crops and raise animals for food, how to store food, and how to make new tools to use for farming, mining, and other tasks. As the population grew, they had to produce more food, and do so with fewer people as more of the population turned to work in factories. That change didn't happen everywhere, and today parts of the world remain predominantly agricultural, facing challenges and struggles even in the modern world.

Learning Objectives

- Outline developments in the history of agriculture.
- Explain the changes that occurred with the Agricultural Revolution.
- Recognize differences between the developed and developing world.
- Understand potential future developments in agriculture.

Assignments

Unit 3 Text Questions	Homework	10 points
Unit 3 Online Lab Questions	Homework	10 points
Unit 3 Activity	Homework	15 points
Unit 3 Discussion Assignment 1	Discussion	5 points
Unit 3 Discussion Assignment 2	Discussion	5 points
Unit 3 Quiz	Quiz	15 points



Unit 4: Recordkeeping & Information Technology

Unit Summary

It's not all plows, mining equipment, and tractors—information technology is essential to manage and maintain records, track outcomes, and help you to effectively manage a farm, ranch, or other business enterprise. You have to be able to organize, plan, and maintain records to thrive, succeed, and turn a profit. For many people, careers in agriculture and small business are also careers as business owners, and your skills need to be as efficient in the office as in the fields.

Learning Objectives

- Develop a business plan.
- Keep records of business activities.
- Maintain financial records.
- Understand the ways modern information technology supports agriculture, food, and natural resources.

Assignments

Unit 4 Text Questions	Homework	10 points
Unit 4 Online Lab Questions	Homework	10 points
Unit 4 Activity	Homework	15 points
Unit 4 Discussion Assignment 1	Discussion	5 points
Unit 4 Discussion Assignment 2	Discussion	5 points
Unit 4 Quiz	Quiz	15 points



Unit 5: Plant Structures & Systems

Unit Summary

In agriculture today, plants don't just provide us with fruits, vegetables, and grains. They also provide feed for meat and dairy producing animals and raw materials for biofuels. They even prevent soil erosion and maintain the natural landscape. Understanding what plants need, the different types of plants, and how they grow is essential to the study of agriculture, food, and natural resources. In this unit, you'll learn some basic botany and biology and be introduced to soil chemistry and some environmental science.

Learning Objectives

- Identify the parts and growth cycle of different types of plants.
- Understand plant breeding, hybridization, and reproduction.
- Recognize the importance of healthy and balanced soil.
- Explain the importance of key plants in modern agriculture.

Assignments

Unit 5 Text Questions	Homework	10 points
Unit 5 Online Lab Questions	Homework	10 points
Unit 5 Activity	Homework	15 points
Unit 5 Discussion Assignment 1	Discussion	5 points
Unit 5 Discussion Assignment 2	Discussion	5 points
Unit 5 Quiz	Quiz	15 points



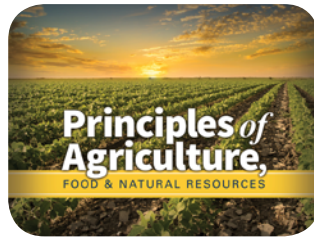
Midterm Exam

Learning Objectives

- Review information acquired and mastered from this course up to this point.
- Take a course exam based on material from the first five units in this course (Note: You will be able to open this exam only one time.)

Assignments

Midterm Exam	Exam	50 points
Midterm Discussion Assignment	Discussion	5 points



Unit 6: Understanding Animal Science

Unit Summary

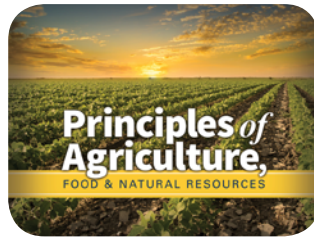
Farmers aren't vets, but they do have to understand their livestock to provide them with the care they need. This includes different types of livestock and their function, animal anatomy, reproduction, and breeding. You'll learn about different types of animals: poultry, sheep, goats, and cattle. If you have livestock to care for, you'll need to understand milk and egg production, shearing schedules, and normal growth rates.

Learning Objectives

- Recognize common types of livestock.
- Understand the function of different animals in agriculture.
- Gain an informed knowledge of normal animal anatomy.
- Identify breeding practices and reproductive patterns.

Assignments

Unit 6 Text Questions	Homework	10 points
Unit 6 Online Lab Questions	Homework	10 points
Unit 6 Activity	Homework	15 points
Unit 6 Discussion Assignment 1	Discussion	5 points
Unit 6 Discussion Assignment 2	Discussion	5 points
Unit 6 Quiz	Quiz	15 points



Unit 7: Food Processing & Production

Unit Summary

Some foods can be eaten straight from the farm or orchard—think of a summer peach, freshly picked. Most foods, however, take some processing in the food production industry. Processing can be large scale or small scale, but it involves a range of actions from butchering and pasteurizing to canning and freezing. You'll need to know how food production works and what producers and customers need to run a successful farm or agricultural enterprise.

Learning Objectives

- Identify different types of food processing and production.
- Recognize how food goes from the farm to the consumer.
- Understand current and changing food trends.
- Explain the interaction between farmers and food processing.

Assignments

Unit 7 Text Questions	Homework	10 points
Unit 7 Online Lab Questions	Homework	10 points
Unit 7 Activity	Homework	15 points
Unit 7 Discussion Assignment 1	Discussion	5 points
Unit 7 Discussion Assignment 2	Discussion	5 points
Unit 7 Quiz	Quiz	15 points



Unit 8: Power, Structural, & Technical Systems

Unit Summary

Power, structural, and technical systems keep the industries of agriculture, food, and natural resources moving. These are the skills that build the barns, design and construct equipment, and keep engines in trucks and tractors running. In this unit, you'll learn about engines and power tools, construction and welding, and some of the high-tech and innovative computer and engineering skills in use in these fields. This range of skills varies from everyday tasks to specialized job skills, and they are essential to working in these hands-on occupations.

Learning Objectives

- Describe a variety of different power systems.
- Explain the basic operation of an internal combustion engine.
- Identify key structural skills useful in agriculture, food, and natural resources.
- Recognize technical skills essential for operations in agriculture, food, and natural resources.

Assignments

Unit 8 Text Questions	Homework	10 points
Unit 8 Online Lab Questions	Homework	10 points
Unit 8 Activity	Homework	15 points
Unit 8 Discussion Assignment 1	Discussion	5 points
Unit 8 Discussion Assignment 2	Discussion	5 points
Unit 8 Quiz	Quiz	15 points



Unit 9: Natural Resources Today

Unit Summary

Although natural resources do not include food, they're just as essential as food in many ways. Today, we rely on this industry for energy, power, and much more. In this unit, you will learn about natural resources and how we use those resources; these include all of the things we use that come from nature: water, coal, oil, and other resources. Natural resources meet a wide variety of needs for people—from fertile farmland to metal ores. But the extraction and use of natural resources can damage the environment in a variety of ways. Sustainable practices enable the use of natural resources at a relatively limited environmental cost.

Learning Objectives

- Identify key natural resources.
- Understand how natural resources are used and extracted.
- Recognize the risks and benefits of different natural resources.
- Identify key practices to maintain sustainability.

Assignments

Unit 9 Text Questions	Homework	10 points
Unit 9 Online Lab Questions	Homework	10 points
Unit 9 Activity	Homework	15 points
Unit 9 Discussion Assignment 1	Discussion	5 points
Unit 9 Discussion Assignment 2	Discussion	5 points
Unit 9 Quiz	Quiz	15 points



Unit 10: Agriculture & the Environment

Unit Summary

Environmental well-being and considerations are essential to the continued production of food and natural resources. In this unit, you'll learn about practices in agriculture, food processing, and natural resources that damage the environment, and about new ideas about sustainability to protect the environment from that damage. The three pillars of sustainability make environmental care only one of three key factors to consider, along with economic well-being, social consideration, and the well-being of workers. In addition, you'll learn about some new ways technology is supporting employee safety in these fields.

Learning Objectives

- Recognize the effects of agriculture, food, and natural resources on the environment.
- Understand the importance of laws regulating these industries.
- Explain the importance of conservation and alternative energy.
- Address concerns about workplace safety.

Assignments

Unit 10 Text Questions	Homework	10 points
Unit 10 Online Lab Questions	Homework	10 points
Unit 10 Activity	Homework	15 points
Unit 10 Discussion Assignment 1	Discussion	5 points
Unit 10 Discussion Assignment 2	Discussion	5 points
Unit 10 Quiz	Quiz	15 points



Final Exam

Learning Objectives

- Review information acquired and mastered from this course up to this point.
- Take a course exam based on material from units six to ten in this course – the last five units. (Note: You will be able to open this exam only one time.)

Assignments

Final Exam	Exam	50 points
Class Reflection Discussion Assignment	Discussion	10 points