

Principles of Agriculture, Food, and Natural Resources, Semester A

Course Overview

This one-semester course is intended to help you familiarize yourself with various aspects of the agriculture, food science, and natural resources industries. This course covers basic concepts in the field of agriculture, food science, and natural resources. It also covers career opportunities in these fields and the academic skills and knowledge required for a successful career in agriscience.

Course Goals

This course will help you meet the following goals:

- Evaluate the skills, characteristics, and qualities necessary for a career in the Agriculture, Food, and Natural Resources (AFN) field.
- Examine scientific knowledge related to the AFN industry, such as plant structure, soil formation, and conservation techniques.
- Analyze various factors of the Agriculture, Food, and Natural Resources industry, including related organizations, regulations, safety precautions, and marketing basics of the field.
- Create a plan to participate in a supervised agricultural experience and describe the benefits of participating in these programs and other student organizations.

Prerequisite Skills

Principles of Agriculture, Food, and Natural Resources, Semester A has the following prerequisites:

- interest in the field of agriculture, food, and natural resources
- familiarity with the writing process and following guidelines

General Skills

To participate in this course, you should be able to do the following:

- perform basic operations on a computer
- perform online research using various search engines and library databases
- communicate through email and participate in discussion boards

For a complete list of the general skills required for participation in online courses, refer to the Prerequisites section of the Student Orientation document, found at the beginning of this course.

Credit Value

Principles of Agriculture, Food, and Natural Resources, Semester A is a 0.5-credit course.

Course Materials

- notebook
- computer with an Internet connection and speakers or headphones
- Microsoft Word or equivalent
- Microsoft Excel or equivalent
- Microsoft PowerPoint or equivalent

Course Pacing Guide

This course description and pacing guide is intended to help you stay on schedule with your work. Note that your course teacher may modify the schedule to meet the specific needs of your class.

Course Components and Grading Rubric

The table gives a breakdown of the weight for each component in the course. Weight represents the percentage of the total score coming from each activity.

Course Components	Count	Weight
Pretest. Pretests are optional assessments, typically designed for credit recovery use. If a student shows mastery of a lesson's objective, the student may be automatically exempted from that lesson in the upcoming unit. Typically, teachers do not choose to employ exemptive pretests for first-time credit courses. Pretests are not included as a component of the student's final grade.	3	0%
Module. Each module in this course contains an interactive tutorial and an associated mastery test. Tutorials may include one or more Lesson Activities that constitute tasks associated with the tutorial. The module score comes from a student's score on the mastery test.	15	20%
Discussion. Online discussions allow for higher-order thinking about terminal objectives. An online threaded discussion mirrors the educational experience of a classroom discussion. Teachers can initiate a discussion by asking a complex, open-ended question. Students can engage in the discussion by responding both to the question and to the thoughts of others. Each unit in a course has one predefined discussion topic; teachers may add more discussion topics.	3	20%
Unit Activity. Unit Activities are at the end a unit and constitute one or more small tasks. Their purpose is to deepen understanding of key unit concepts and tie them together. Each Unit Activity includes a simple rubric. The teacher versions include both a rubric and modeled sample answers. Unit Activities are teacher graded.	3	20%
Posttest. The posttest appears at the end of the unit and mirrors the pretest in structure, content, and complexity.	3	20%
End of Semester Test. The end of semester test (EOS) appears at the end of the course. Students are delivered a few items from every tutorial in the course in order to assess the major course objectives.	1	20%
Total	28	100%

*Teachers may manually adjust these weights if desired, per district grading requirements.

Unit 1: Introduction to Agriscience

Summary

In this unit, you will become familiar with the concepts of agriscience and sustainability. You will recall the major agricultural milestones in history, identify the major challenges in agriculture, and state ways to tackle these challenges. You will also identify natural resources and the impact of global warming and climate change on food production. Finally, you will define and identify work ethics, integrity, and self-representation skills necessary in the agricultural industry.

Day	Activity/Objective	Type
1 day: 1	Syllabus and Plato Student Orientation <i>Review the Plato Student Orientation and Course Syllabus at the beginning of this course.</i>	Course Orientation
5 days: 2–6	Introduction to Agricultural Science <i>Recall organizations, programs, terms, processes, and fields of science related to the agriculture, food, and natural resources (AFN) industry in the United States and explain the evolution of the AFN industry.</i>	Lesson
4 days: 7–10	Positive Work Ethics <i>Explain the importance of positive work ethics and describe good work habits.</i>	Lesson
5 days: 11–15	Integrity <i>Identify labor laws, integrity, and integrity attributes outlined by many workplace policies and laws.</i>	Lesson
4 days: 16–19	Self-Representation <i>Identify positive self-representation skills through dress and using language and manners suitable for the workplace.</i>	Lesson
5 days: 20–24	Agriculture and Sustainability <i>State the impact of the agriculture, food, and natural resources (AFN) industry on safety, health, and the environment, and define sustainability and natural resource conservation in the AFN industry.</i>	Lesson
1 day: 25	Para Jumble	Game
5 days: 26–30	Unit Activity/Threaded Discussion—Unit 1 <i>Describe a Supervised Agricultural Experience (SAE), identify the objectives, the steps involved, and the types or components of SAE and also create a plan to carry out an SAE, including the area of interest in the AFN industry, the type of program, the kind of work involved, and the required knowledge and skills.</i>	Unit Activity
1 day: 31	Post-test—Unit 1	Assessment

Unit 2: Soil and Plant Science

Summary

In this unit, you will recall the process of soil formation and name the characteristics of soils. You will explain the classification of soils, state common soil tests, and identify soil improvement methods. You will define soil erosion and soil conservation. You will also identify career options in the field of soil science. In addition, you will classify plants, identify plant parts and their functions, and state plant propagation techniques. You will also recall various aspects of crop science such as the nutrient requirement of crops, the germination process, and crop diseases. In addition, you will identify critical hazards and state safety policies, procedures, and equipment. You will explain professional, ethical, and legal responsibilities in the AFN industry. Finally, you will identify teamwork and leadership skills essential for a successful career in the field of agriscience.

Day	Activity/Objective	Type
4 days: 32–35	Soil Systems <i>Recall the process of soil formation, soil classification, soil improvement, and soil conservation and explain career paths in soil science.</i>	Lesson
4 days: 36–39	Plant Science <i>Identify plant structure, physiology, and reproduction.</i>	Lesson
4 days: 40–43	Crop Science <i>Recall the processes of germination, growth, and development in plants, and various classes of crops grown in the United States.</i>	Lesson
4 days: 44–47	Safety and Regulations <i>State safety hazards and safety precautions and procedures related to the agriculture, food, and natural resources (AFN) industry.</i>	Lesson
4 days: 48–51	Teamwork <i>Identify teamwork and leadership skills needed to successfully lead a team.</i>	Lesson
1 day: 52	Space Jumble	Game
5 days: 53–57	Unit Activity/Threaded Discussion—Unit 2 <i>Participate or report on a Supervised Agricultural Experience (SAE).</i>	Unit Activity
1 day: 58	Post-test—Unit 2	Assessment

Unit 3: World Trade and Communication

Summary

In this unit, you will name reading strategies for understanding the purpose and content of a workplace document. You will also identify the methods of planning and structuring content for written documents and explain guidelines for reviewing written documents. You will define communication, differentiate between verbal and non-verbal cues, define active listening, and state strategies to become an effective listener. In addition, you will recall essential qualities and skills such as creativity, resourcefulness, and problem-solving and conflict-resolution skills. Finally, you will identify the different types of markets and trends in agricultural marketing, name various agricultural practices, and define the importance of world trade.

Day	Activity/Objective	Type
4 days: 59–62	Reading and Writing <i>Describe effective reading and writing skills by reading and interpreting workplace documents and writing clearly.</i>	Lesson
4 days: 63–66	Speaking and Listening <i>Discuss differences between modes of communication, recognize elements of effective communication, and identify ways to improve communication skills.</i>	Lesson
5 days: 67–71	Creative Resourcefulness <i>Recognize the role of creativity and resourcefulness in problem solving and decision making; list the steps of problem solving.</i>	Lesson
5 days: 72–76	World Trade and Agriculture <i>Identify agricultural practices and marketing, and the importance of world trade.</i>	Lesson
5 days: 77–81	Conflict Resolution <i>Identify conflict-resolution skills by negotiating diplomatic solutions to avoid interpersonal and workplace issues.</i>	Lesson
1 day: 82	Thwack-A-Mole	Game
5 days: 83–87	Unit Activity/Threaded Discussion—Unit 3 <i>Identify student organizations, and list the skills and other benefits that can be gained from participating in them.</i>	Unit Activity
1 day: 88	Post-test—Unit 3	Assessment
1 day: 89	Semester Review	

Day	Activity/Objective	Type
1 day: 90	End-of-Semester Test	Assessment

Course Map

You will achieve course level objectives by completing each lesson's instruction, assignments, and assessments. For a detailed look at how the materials meet these objectives, review the [course map for Semester A](#).