

Introduction to Agriscience

COURSE DESCRIPTION

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.

COURSE METHODOLOGY

- This is an inquiry-based course. Students will generate knowledge through online readings, synchronous chats, asynchronous discussions with students and their instructor, interactions with online tutorials, and online and hands-on simulations.
- A semester project developed by each student will be used to demonstrate knowledge and understanding of the material in the course.
- The instructor will act as a guide, a facilitator, an events planner, and a resource advisor. He/she will always be available through e-mail.
- The student must actively construct and acquire knowledge by being intrinsically motivated to succeed. To succeed, students must participate and complete all readings and activities. This course requires the student's active participation.
- Both formal and informal assessment methods will be used in the course. Informal assessment will include an evaluation of the quality and timeliness of participation in class activities. Formal assessment may include multiple-choice quizzes, tests, discussion board participation, and written assignments. A final exam will be given at the end of the course.

COURSE PARTICIPATION OBJECTIVES

This course for which you are registered is a college preparatory, academically rigorous course that covers an entire semester's worth of material. As such, it is important that you adhere to the following guidelines as you manage your time and commit to successfully completing all required coursework:

1. The requirements for this course are equivalent to completion of minimum of 90+ hours of class instruction at a traditional on-site high school
2. Assignments must be submitted for each unit as they are completed so that the teacher may review and assess your performance. Do not hold your work, you must submit each unit's homework as it is completed, demonstrating weekly assignment completions

3. You must log in regularly to your course to demonstrate continued participation, and completion of all course requirements, including assignments, assessments and discussion forums
4. You must complete your individual work and any incident of suspected cheating, plagiarism or collaboration on assignments violates the academic integrity expectations outlined at the time of your enrollment and can result in failure of the course or further action as deemed appropriate

Citizenship

Students are expected to conduct themselves in a responsible manner that reflects sound ethics, honor, and good citizenship. It is the student's responsibility to maintain academic honesty and integrity and to manifest their commitment to the goals of NUVHS through their conduct and behavior. Students are expected to abide by all NUVHS policies and regulations. Any form of academic dishonesty, or inappropriate conduct by students or applicants may result in penalties ranging from warning to dismissal, as deemed appropriate by NUVHS.

Communication

Throughout this course students will need to be in close contact with their instructor and fellow students. Students are expected to communicate via email and electronic discussion boards. Therefore, students should plan on checking email at least three times a week and participate in the discussion boards during the weeks they are live.

Instructors strongly encourage and welcome open communication. Clear, consistent, and proactive communication will ensure a successful experience in this course. It is the student's responsibility to notify the instructor immediately if and when a personal situation occurs that affects his/her performance in this class. Being proactive with communication will result in a quick solution to any problems that may occur.

COURSE OUTLINE

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.

Learning Objectives

- Understand the importance of agriculture in history and define agriscience.
- Explain the significance of agriculture in American and state economies.
- Analyze the variables impacting imports and exports.
- Determine the relationship between agriculture and society at the local, state, national, and international levels.
- Evaluate the reliability of a website and recognize those that are appropriate for use in agriscience.

Activities

Unit 1 Text Questions	Homework	10 points
Unit 1 Lab Questions	Homework	10 points
Unit 1 Project 1	Homework	20 points
Unit 1 Discussion Part 1	Discussion	5 points
Unit 1 Discussion Part 2	Discussion	5 points
Unit 1 Quiz	Quiz	15 points

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.

Learning Objectives

- Explain the relationship between agriscience and the environment.
- Identify threats to a healthy environment.
- Compare and contrast practices for conserving renewable and nonrenewable resources.
- Describe how natural resources are used in agriculture.
- Demonstrate effective communication skills.

Activities

Unit 2 Text Questions	Homework	10 points
Unit 2 Lab Questions	Homework	10 points
Unit 2 Project 2	Homework	20 points
Unit 2 Discussion Part 1	Discussion	5 points
Unit 2 Discussion Part 2	Discussion	5 points
Unit 2 Quiz	Quiz	15 points

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.

Learning Objectives

- Identify the major parts of plants and state the important functions of each.
- Describe the relationships among air, soil, water, and essential plant nutrients.
- Compare the cell structure and function of plants, animals, bacteria, and viruses.
- Apply the different types of soil classification.
- Recognize and use critical-thinking skills.

Activities

Unit 3 Text Questions	Homework	10 points
Unit 3 Lab Questions	Homework	10 points
Unit 3 Project 3	Homework	20 points
Unit 3 Discussion Part 1	Discussion	5 points
Unit 3 Discussion Part 2	Discussion	5 points
Unit 3 Quiz	Quiz	15 points

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.

Learning Objectives

- Understand and explain the evolution and roles of domesticated animals in society.
- Differentiate between domestication and natural selection.
- Defend various points of view regarding the use of animals.
- Determine the basic nutritional requirements of animals.
- Articulate the importance of ethics in the agriculture industry.

Activities

Unit 4 Text Questions	Homework	10 points
Unit 4 Lab Questions	Homework	10 points
Unit 4 Project 4	Homework	20 points
Unit 4 Discussion Part 1	Discussion	5 points
Unit 4 Discussion Part 2	Discussion	5 points
Unit 4 Quiz	Quiz	15 points

Unit 4: The Animal Element (Continued)

Midterm Exam Objectives

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

Midterm Exam Activities

Midterm Discussion	Discussion	5 points
Midterm Exam	Exam	50 points

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.

Learning Objectives

- Explore and discuss animal anatomy and systems.
- Comprehend and describe basic animal genetics.
- Identify the major pest groups and the importance of effective pest-management programs.
- Classify the nature of chemicals used to control pests.
- Demonstrate health and safety procedures, regulations, and personal-health practices.

Activities

Unit 5 Text Questions	Homework	10 points
Unit 5 Lab Questions	Homework	10 points
Unit 5 Project 5	Homework	20 points
Unit 5 Discussion Part 1	Discussion	5 points
Unit 5 Discussion Part 2	Discussion	5 points
Unit 5 Quiz	Quiz	15 points

Unit 6: Technology and 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.

Learning Objectives

- Describe efforts made to improve the environment.
- Analyze the effects of technology on agriculture.
- Communicate public concerns about technology and agriculture.
- Research the laws and regulations around biotechnology.
- Demonstrate appropriate professional behavior.

Activities

Unit 6 Text Questions	Homework	10 points
Unit 6 Lab Questions	Homework	10 points
Unit 6 Project 6	Homework	20 points
Unit 6 Discussion Part 1	Discussion	5 points
Unit 6 Discussion Part 2	Discussion	5 points
Unit 6 Quiz	Quiz	15 points

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.

Learning Objectives

- Explore issues of global significance and document the impact of agriscience.
- Identify career opportunities in agriscience.
- Identify how careers are classified and determine preparation requirements.
- Identify personal aptitudes and skills needed for solid career planning.
- Develop a career plan that reflects career interests, pathways, and postsecondary options.

Activities

Unit 7 Text Questions	Homework	10 points
Unit 7 Lab Questions	Homework	10 points
Unit 7 Project 7	Homework	20 points
Unit 7 Discussion Part 1	Discussion	5 points
Unit 7 Discussion Part 2	Discussion	5 points
Unit 7 Quiz	Quiz	15 points

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.

Learning Objectives

- Compare procedures for marketing plants and animal products.
- Define management terms and determine how decisions are made.
- Demonstrate entrepreneurship skills and knowledge of self-employment options and innovative ventures.
- Demonstrate respect for individual and cultural differences and recognize the importance of diversity in the workplace.
- Define “leadership” and identify the responsibilities, competencies, and behaviors of successful leaders.

Activities

Unit 8 Text Questions	Homework	10 points
Unit 8 Lab Questions	Homework	10 points
Unit 8 Project 8	Homework	20 points
Unit 8 Discussion Part 1	Discussion	5 points
Unit 8 Discussion Part 2	Discussion	5 points
Unit 8 Quiz	Quiz	15 points

Unit 8: Agribusiness Management (Continued)

Final Exam Objectives

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

Final Exam Activities

Class Reflection Discussion	Discussion	10 points
Final Exam	Exam	50 points

HOW YOU WILL BE GRADED

For critical thinking questions, there are no right or wrong answers. For example, a question on your thoughts on why you think people are shy is a pretty open-ended type of question. Grades will be based on the depth of personal insight you present. **Do not simply agree or disagree** with an insight question. We are looking for critical thinking and possibly a related personal experience with the question.

It is important to provide detailed answers for insight/opinion questions.

For review questions, you should produce a more academic answer. For example, "What two categories are norms divided into?" This type of direct question requires a specific answer. Please use full sentences and proper grammar.

When submitting paragraphs, use these guidelines.

1. The first, second or last sentence contains the main idea and key words from the question or assigned topic.
2. Paragraph contains one to three explanatory sentences.
3. Paragraph contains two to four sentences about specific details related to question.
4. Details are colorful, interesting and appropriate.
5. Paragraph ends with a good closing sentence that refers to the main idea without repeating it.
6. Free of spelling and grammatical errors.

GRADE SCALE

The following grading scale will be used to determine your final letter grade.

Letter Grade	Percentage Earned
A	95%+
A-	90% - 94.9%
B+	87% - 89.9%
B	84% - 86.9%
B-	80% - 83.9%
C+	77% - 79.9%
C	74% - 76.9%
C-	70% - 73.9%
D+	67% - 69.9%
D	64% - 66.9%
D -	60% - 63.9%
F	59% and lower

SUPPORT

At NUVHS you will have access to multiple support teams. Who you contact will depend on the questions you have. Always start by contacting your teacher through the Message Center in the course. Your teacher should be able to answer your question, but if they can't, then they will direct you to another support team. If you have questions about any of the course content, your grades, or course policies, you should contact your instructor.

For questions about your enrollment, transcripts, or general school-wide policies, you can contact **NUVHS Student Services** at info@nuvhs.org or by phone at 866.366.8847. For example, if you would like to withdraw from your course, you should contact Student Services. Please note that a refund for your course can only be obtained if you drop within the first seven days of enrolling in the course.

For help with login/password issues, or other technical issues specific to the Blackboard website, you can contact the team at [National University Blackboard Learn](#). They can also be reached by phone at (888) 892-9095.

EXPECTED SCHOOL-WIDE LEARNING RESULTS (ESLRs)

Engaged Learners

- Demonstrate self-directed learning skills such as time management, and personal responsibility through the completion of course requirements
- Develop an understanding of their own preferred learning styles to enhance their overall academic potential
- Incorporate effective and relevant internet and multimedia resources in their learning process to broaden their knowledge base

Critical Thinkers

- Effectively analyze and articulate sound opinions on a variety of complex concepts
- Illustrate a variety of problem-solving strategies that strengthen college preparation and workforce readiness
- Formulate a framework for applying a variety of technology and internet-based research to enhance information literacy and collaborative thinking

Effective Communicators

- Demonstrate awareness and sensitivity to tone and voice in multiple forms of communication
- Express concepts and ideas in a variety of forms
- Enhance communication skills through the use of media rich or other technology resources

Global Citizens

- Appreciate the value of diversity
- Understand the range of local and international issues facing today's global community
- Demonstrate awareness of the importance of cultural sensitivity and social responsibility in the 21st century