

Animal Science
Course Syllabus 2026-2027
Lexington High School

Instructor:

Mr. Keith Nielson

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Office Hours: Tuesday and Thursday 3:45-5:00pm at the Skills Armory at 302 S Washington.

Class Purpose: The introductory course for the Animal Science Career Cluster provides a knowledge base and technical skills in all aspects of the animal industry. Learners will be exposed to a broad range of animal agriculture, cluster foundation knowledge and skills, introduction to leadership development, the FFA organization and career exploration. Topics covered include:

- Animals in society
- Animal biology
- Animals as food
- Introduction to various livestock species and breed in each species
- Animal nutrition
- Laboratory activities
- Supervised Agricultural Experiences
- Leadership programs and activities.

This semester-length high school course introduces students to the basic scientific principles of animal agriculture. Students recognize and research animal systems, government policy, agribusiness principles, and sustainability systems. In this course, students apply understanding of animal agriculture systems thinking to the management of animals to maximize the health and productivity of the animal industry agriculture. Students also analyze community practice or policy development related to sustainability in animal agriculture. Finally, students apply adaptive management to a common pool resource problem in a manner that addresses ecological, socioeconomic, and institutional contexts. The class is also a great opportunity to learn, strengthen and apply knowledge in the animal industry.

Objectives:

Throughout the course, you will meet the following goals:

- Understand how animals are used to benefit ourselves and our communities.
- To be able to create a proper feeding program for various species of livestock.
- Identify how to determine if an animal is sick and how to care for the animal.
- Understand the reproductive cycle of animals.
- Learn how to determine the genotype and phenotype of animals in reproduction.
- Develop an understanding of issues in the beef, swine, sheep, goats and poultry industries.
- Develop an understanding of draft and pleasure animals.
- Identify scientific principles in the human use of laboratory animals.

Learning Modules

1. Animals and People
2. Animal Biology and Technology

- a. Animal Nutrition and Feeding
 - b. Animal Health
 - c. Animal Reproduction
 - d. Animal Biotechnology
 - e. Veterinary Technology
3. Food Animal Technology
 - a. Beef Cattle Production
 - b. Swine Production
 - c. Sheep and Goat Production
 - d. Dairy Production
 - e. Poultry Production
 - f. Aquatic Animals
4. Pleasure and Draft Animal Production
 - a. Draft Animals
 - b. Dogs
 - c. Cats
 - d. Birds
 - e. Wildlife
5. Service, Laboratory and Exotic Animal Technology
 - a. Scientific and Laboratory Animals
 - b. Exotic Animals
6. The Animal Industry
 - a. Entrepreneurship in the Animal Industry
 - b. Issues in the Animal Industry

Resources:

Text Book: Introduction to Livestock and Companion Animals, 5th Ed. Copyright 2017

Grading:

Test (50%) + Projects (30%) + Homework (20%) = Quarter Grade (100%)

Quarter 1 (45%) + Quarter 2 (45%) + Semester Final (10%) = Semester Grade (100%)

Late Work: Late work will have a 25% deduction each school day the assignment is late. After 4 days the assignment will not be scored and put in the gradebook as a 0%.

Classroom Expectations and Procedures:

- Come to class prepared (Charged iPad, pencil, paper, etc.)
- Respect one another
- Listen wholeheartedly when others are speaking
- Speak with good purpose
- Be accountable for your actions
- Learn from failure

Beginning of Class:

- Place phones in backpack (No tolerance policy)
- Find your seat, take out supplies needed for class (CHARGED COMPUTER, pencil, etc.)
- Early work will be placed in Google Classroom, Open Google Classroom and answer the early work.
- When finished, sit quietly and wait for further instructions

During class:

- Actively participate in class

- Keep order
- Be respectful

End of Class:

- Clean up your area (paper on floor around you, your supplies, put extension cords away, etc.)
- Sit IN seat until the bell rings. DO NOT LINE UP AT THE DOOR!!!!
- Push in your chair and leave the room quietly