

GRADE LEVEL

10 – 12

PERIODS PER WEEK

5 or Block Scheduling

COURSE LENGTH

1 School Year

CREDIT(S)

**Note: This course has a dual credit classification in Agriculture or Science*

1 (single period format – ½ class for content/ ½ class for application)

2 (double period format – 1 period for content/1 period for application)

Course Description

Animal science I is the study of Small Animal Care and Large Animal Science. Small Animal Care explores basic pet care and management as well as career opportunities within the pet industry. Small animals discussed include: cats, dogs, rabbits, reptiles, rodents, and exotic pets. Topics include handling, housing & equipment, nutrition, health, behavior and safety. Large Animal Science explores the many aspects of food animal production including dairy and beef cattle, swine, sheep, goats, and poultry. General principles of animal nutrition, housing, health, and behavior will be taught. Additional topics include the Equine Industry, Careers in Animal Science, and Animal Welfare/Rights. Student lab activities should focus on hands-on experiences with animals and tasks involved in their daily care. Animal Systems activities from the National FFA Organization should also be incorporated into the curriculum.

Careers in Animal Science

- Animal Biologist
- Animal Nutritionist
- Equine rehabilitator
- Aquaculturalist
- Animal Inspector
- Veterinarian or veterinary technician
- Zoo animal specialist
- Kennel Owner

Employers in Animal Science

- Public/Private owned farms and businesses
- Agricultural Consulting Agencies
- Federal Government - USDA
- Non-Profit Organizations

Colleges and Universities with Animal Science Majors/ Minors/ and Certifications

- University of Wisconsin – Madison
- Cornell University
- Texas A&M University
- North Carolina State University at Raleigh
- Virginia Tech
- Kansas State University
- California Polytechnic State University
- University of Illinois at Urbana – Champaign

Career Development & FFA

- Meat Evaluation & Technology
- Livestock Evaluation
- Horse Evaluation
- Poultry Evaluation
- Veterinary Science
- Dairy Cattle Evaluation & Management
- Dairy Cattle Handlers Activity

GOALS

- To encourage students to risk mistakes and nurture curiosity.
- To engage students in learning, discovery, and problem solving with innovative creativity.
- To enable students to develop their abilities to analyze, evaluate, and synthesize information to prepare for college and careers.
- To offer students the opportunity to engage hands on with multiple species of animals and create an understanding of the importance of animals and what is needed to care for them.

Disclaimer: This course syllabus has been adapted from various educational curriculum medium.

All content has been reformatted selected and approved for instructional purposes by n-gAged Learning, LLC consultants.

- To provide opportunities for students to participate in both thought provoking and relevant scientific investigations.

OBJECTIVES

- Students will demonstrate an understanding of the science and classification of the animal kingdom.
- Students will develop skills to recognize and analyze various kind of animal behavior
- Students will be able to demonstrate both an understanding of, and ability to apply scientific facts and concepts
- Investigative methods and techniques to analyze reproduction and molecular genetics for a range of species, including on site livestock and companion animals
- Students will be able to demonstrate an ability of the management and care of various large and small animals.
- Present research to classroom peers
- Investigative strategies and techniques to collect authentic data relevant to molecular genetics

TOPICS OF INSTRUCTION

Introduction to Animal Science

- Introduction to Animal Science
- Safety & Equipment
- Careers in Animal Science
- Domestication and Purpose of Animal Agriculture
- Terms

Livestock Species - Sheep, Goats, Poultry, Dairy Cattle, Beef Cattle, Pigs

- Origin and History
- Types/Breeds/Uses
- Growth & Development
- Management Techniques
 - Identify Equipment used in husbandry
- Animal Nutrition
- Animal Health
 - Basic Needs / Preventive Care
 - Signs of Good and Poor Animal Health
- Animal Behavior
- Animal Evaluation
- Product Use
- Advantages and Disadvantages of raising specified animal
- Hands on experience with each animal
- Hands on labs to understand topics within each species

Horses

- Origin and History
- Types/Breeds/Uses
- Growth & Development
- Management Techniques
- Identify Equipment used in husbandry
- Animal Nutrition
- Animal Health
 - Basic Needs / Preventive Care
 - Signs of Good and Poor Animal Health
- Animal Behavior/safety
- Animal Evaluation
- Hands on experience with each animal
- Inquiry based labs to understand topics within each species

Companion Animal Science

- Importance of the pet industry
- Economic Impact of the Pet industry

- Dogs, Cats
- Small Mammals - Rabbits, Guinea Pigs, Hamsters, etc..
- Fish
- Birds
- Reptiles and Amphibians
- Exotic Pets

Animal Welfare vs. Animal Rights

- Defining Animal Welfare
- Defining Animal Rights
- Comparison and Contrast of Welfare vs. Rights

INSTRUCTIONAL METHODS

- Specialized Learning
 - Differentiated Learning
 - Cooperative Learning
 - Scientific Inquiry Based Learning
 - Experiential Learning
- Project Based/Cross-curricular Activities
 - Animal Systems Career Development Events
 - Supervised Agricultural Experiences
 - Farmstand Poultry Management
- Class Discussion
- Cooperative Conflict
- Field Trips
- Resource Speakers

Supplemental Material

- Principles of Agriculture, Food, and Natural Resources
By: John S. Rayfield, Kasee L. Smith, Travis D. Park, and D. Barry Croom
- ThinkCERCA
Personalized computer literacy curriculum and platform empowers teachers to grow students' critical thinking skills, while increasing literacy.
- <https://www.teachingchannel.org/videos/differentiating-instruction>
- Differentiating Learning – Differentiating the Process PP - Pepper Skodack
- World Food Prize Youth Institute – Global Challenge