

Virginia Western Community College

AGR 141

Introduction to Animal Science and Technology

Prerequisites

None

Course Description

Introduces the science and technology involved in sustainable animal production and management practices. Includes beef, sheep, horses, dairy, swine, goats, and poultry, with emphasis on practical experiences in laboratory and farm settings.

Semester Credits: 4 Lecture Hours: 3 Lab/Clinical/Internship Hours: 3

Required Materials

Textbook:

Introduction of Animal Science: Global, Biological, Social, and Industrial Perspectives. Damron. Pearson. ISBN: 9780134436050.

Other Required Materials:

Animal Science Lab Manual (VWCC Bookstore starting Fall 2023)

Course Outcomes

At the completion of this course, the student should be able to:

- List similarities and differences among the animal industries in the United States.
- Describe the relationship between animal industries, the economy, and society.
- Explain the importance of food, fiber and other products derived from livestock and poultry.
- Classify types and identify breeds of livestock, poultry, horses, and selected companion animals.
- Apply the principles of genetics, reproduction and nutrition to the care and management of animals.
- Identify the effects of behavior and environment on animal husbandry and herd health management.
- Explain why animal well-being is an increasingly important aspect of animal production.
- Analyze arguments on all sides of selected controversial issues faced by animal agriculture and provide a logical explanation of their own opinions on those issues.

Topical Description

<u>Topics</u>	<u>Chapter</u>
1. Introduction to Animal Science	1
2. The Value of Animals to Humanity	2
3. Factors Affecting World Agricultural Structure	3
4. Worldwide Systems of Agricultural Products	4
5. Introduction to Nutrition	5
6. The Gastrointestinal Tract and Nutrition	6
7. Feedstuffs Classification	7
8. Genetics	8
9. Animal Breeding	9
10. Biotechnology and Genetic Engineering	10
11. Animal Reproduction	11
12. Animal Behavior and Handling	13
13. Animal Health	14
14. Beef Cattle	16
15. Dairy Cattle	17
16. Poultry	18
17. Swine	19
18. Sheep and Goats	20
19. Equine	21
20. Companion Animals	23
21. Careers and Career Exploration in the Animal Sciences	26
22. Food Safety and Consumer Concerns	27
23. Animal Welfare and Animal Rights	28
24. Animals in Sustainable Agriculture	29
25. Other topics as identified by the instructor	TBD

Suggested Laboratory Topics

1. Biosecurity and Animal Handling
2. Vaccines, Diseases, & Immunology of Vaccines
3. Animal Breeding & Reproduction
4. Animal Feedstuff & internal A&P of GIT
5. Formulating Basic Animal Diets
6. Livestock Pasture Management
7. Bovine Labs (Beef & Dairy)
8. Equine
9. Sheep & Goats
10. Poultry
11. Swine
12. Companion Animal Feeding

Other topics as identified by the instructor

Notes to Instructors

- Syllabus should state what the course grade will be based on, such as tests, quizzes, projects, a comprehensive final exam, and any other assignments made by the instructor.
- The VWCC Biology Department uses a 10 point grading scale.
- A comprehensive final lab practical will be given at the end of the semester.
- Comprehensive study of the listed topics is beyond the reasonable expectations of a 15-week Animal Science course. It is up to the discretion of the instructor to choose which topics are more detailed but each topic should be adequately covered.