ILLINOIS VALLEY COMMUNITY COLLEGE

COURSE OUTLINE

DIVISION: Natural Sciences and Business

COURSE: AGR 1003 Introduction to Animal Science

Date: Spring 2023

Credit Hours: 4

Complete all that apply or mark "None" where appropriate:
        Prerequisite(s): None

        Enrollment by assessment or other measure? ☐ Yes ☒ No
        If yes, please describe:

        Corequisite(s): None

        Pre- or Corequiste(s): None

        Consent of Instructor: ☐ Yes ☒ No

Delivery Method: ☒ **Lecture**   **2 Contact Hours** (1 contact = 1 credit hour)
                                ☐ **Seminar**   **0 Contact Hours** (1 contact = 1 credit hour)
                                ☒ **Lab**   **4 Contact Hours** (2-3 contact = 1 credit hour)
                                ☐ **Clinical**   **0 Contact Hours** (3 contact = 1 credit hour)

Offered: ☐ **Fall**   ☒ **Spring**   ☐ **Summer**

CATALOG DESCRIPTION and IAI NUMBER (if applicable):
The application of the sciences of genetics, physiology, and nutrition to the improvement of the animal industries and an introduction to management and production practices. Includes animal breeds, breeding and selection; anatomy, physiology, nutrition, growth; environment, health and sanitation; products and marketing; production technology and economics; animal behavior; and current issues in animal science. **IAI Equivalent: AG 902**

ACCREDITATION STATEMENTS AND COURSE NOTES:
None

COURSE TOPICS AND CONTENT REQUIREMENTS:
  I.   Introduction
        a. Scope and Importance
        b. History, Growth, and Development of Animal Industries
        c. Careers and Opportunities
  II. Breeds
        a. Beef, Dairy, Horses, Companion Animals, Poultry, Sheep and Swine
  III. Breed and Selection
        a. Principle of Genetics
        b. Selection Systems
        c. Improvement Program
        d. Mating System
  IV. Anatomy and Physiology
        a. Skeletal and Muscular Systems
        b. Respiratory Circulatory Systems
        c. Endocrine Systems
        d. Reproductive Systems
              i. Male
              ii. Female
                    1. Milk Secretion
                    2. Physiology of egg laying
        e. Digestive Systems
  V.   Nutrition
        a. Nutrients and Food Analysis
        b. Requirements
        c. Feedstuffs
  VI. Growth
        a. Measurement of Growth
        b. Factors affecting Growth
  VII.   Environment
        a. Temperature
        b. Humidity
        c. Light
        d. Space
        e. Adaptation
  VIII.   Health and Sanitation
        a. Sanitation Program
        b. Disease Control Program
        c. Parasite Control Program
        d. Public Health
        e. Biosecurity
  IX. Product
        a. Meat

          b. Milk

          c. Eggs

          d. Wool

X. Marketing

          a. Systems

          b. Grading and Classification

XI. Production, Technology, and Economics

          a. Performance Standards

          b. Livestock Enterprises

               i. Contract Farming

               ii. Vertical Integration

               iii. Independent Farming

          c. Enterprise Cost Analysis

XII. Animal Behavior

          a. Types of Animal

XIII. Current Issues

          a. Animal Welfare and Ethics

          b. Waste Management

          c. Biotechnology

          d. Food Safety

INSTRUCTIONAL METHODS:

- Lecture
- Discussion
- Student Reports
- Lab Demonstration
- Hands-On Activity

EVALUATION OF STUDENT ACHIEVEMENT:

A= 90-100

B= 80-89

C= 70-79

D= 60-69

F= 0-59

Homework: 10%

Exams and Quizzes: 50%

Lab Assignments: 40%

INSTRUCTIONAL MATERIALS:

Textbooks

Bundy, J., L.K. Karr, R.A. Nold, B.A. Reiling, J.A. Sterle. 2022. Introduction to Animal Science – ISU. 1st Edition. Great River Learning. ISBN: 978-1-68-075794-9

Damron, W. Stephen. 2013. Introduction to animal science: global, biological, social, and industry perspectives. 5th Edition. Pearson. ISBN: 978-0-13-262389-6.

Resources
Blakely and Blade, <u>The Science of Animal Husbandry</u>
Ensminger, <u>Animal Science</u>
Taylor and Field, <u>Scientific Farm Animal Production</u>
University of Illinois Extension publications.
http://web.extension.illinois.edu/state/index.php

LEARNING OUTCOMES AND GOALS:
Institutional Learning Outcomes
☐ 1) Communication – to communicate effectively;
☒ 2) Inquiry – to apply critical, logical, creative, aesthetic, or quantitative analytical reasoning to formulate a judgement or conclusion;
☐ 3) Social Consciousness – to understand what it means to be a socially conscious person, locally and globally;
☐ 4) Responsibility – to recognize how personal choices affect self and society.

Course Outcomes and Competencies
1. Generalize the scope, history, and importance of the animal industry.
2. Explain general management and production practices used in the animal science industry.
3. Identify and name breeds of livestock and companion animals.
4. Identify and explain animal anatomy and physiology.
5. Interpret breeding data and select appropriate sires.
6. Explain animal nutritional needs and recommend feed rations.
7. Analyze current animal welfare issues and make and defend resolutions to current issues.