Course Title

Animal Science A/B (P)

Description of Target Group

This course is for 10th, 11th, and 12+ grade students.
Prerequisites: None

Purpose

This course is sequenced in such a way to expand the knowledge of advanced topics in animal science. Animal nutrition, physiology, and reproduction will be studied with attention to proper care of animals. Animal health practices and management techniques will be included. This class is designed for science elective (F) credit and to include requirements of the state community college 2+2 program. This is a year long, ten unit course.

Standards of Expected Student Achievement

Animal Facilities, Equipment, and Handling
Students will understand the correct and safe uses of animal facilities and housing, restraint equipment, and tools. They will demonstrate safe and appropriate handling and restraint procedures for various species.
Animal Nutrition
Students will understand principles of animal nutrition and feeding. Students will trace and explain the pathway of food through the four different types of digestive systems and the interrelationships between the body systems and organs related to nutrition.
Animal Physiology
Students will understand the structure, function, and maintenance of the major organ systems of animals. Students will explain the interrelationships between the circulatory, respiratory, excretory, endocrine, digestive, reproductive, skeletal, and muscle systems.
Reproduction Animal
Students will understand the structure and function of the endocrine and reproductive systems and how they relate to reproductive management practices and fetal development. Students will describe breeding systems commonly used in animal production and explain the significance of artificial insemination and embryo transfer.
Animal Genetics
Students will understand the basic theory of inheritance, the genetic basis for animal selection, the process of fertilization, the role(s) of DNA and RNA, and the process of meiotic division to form sperm and ova. Students will use probability to predict the phenotypic and genotypic results of a dominant/recessive gene pair to the F2 generation.
Animal Health
Students will understand the nature of disease as it applies to animal health problems,
including the causes of nutritional diseases. Students will demonstrate preventative
techniques and treatments based on disease symptoms and diagnosis of disease based on
symptoms.

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Animal Parasites and Pests
Students will understand the life cycle and production problems associated with internal and external pests and parasites. Students will explain control measures for these pests and parasites and develop their own parasite control program.

Large and Small Animal Production
Students will understand the principles of animal production, marketing, management, and record keeping. Students will describe different production and marketing strategies, the characteristics of each, and their economic importance.

Range Management
Students will understand range management practices, including calculation of the carrying capacity of rangeland. Students will identify common rangeland, forage, legumes, poisonous plants, weeds, and shrubs. Students will explain how range management practices affect animal health, erosion control, pasture production, and the overall balance of the ecosystem.

Waste Management
Students will understand the problems associated with animal waste management and will identify types of agricultural wastes. They will analyze different methods for the disposal and cost-effective recycling of waste including consideration of environmental impacts.

Record Keeping
Students will understand the principles of record keeping. They wil1 demonstrate record
keeping utilizing a variety of methods and systems. They will explain the differences
between production and financial records.

Interpersonal Leadership Development
Students will recognize the traits of effective leaders. They will participate in leadership training activities associated with the FFA including public speaking, leading group discussions, working within a committee, conducting business meetings, and problem solving.

Supervised Practical Experience Project
Students will understand the relationship between a supervised practical experience project (SPE) and their preparation for a career in agriculture. They will engage in a supervised practical experience employing skills and knowledge learned in the classroom. Students will maintain an on-going record book.

Methods of Assessment of Student Learning: written scenario, authentic assessment, work samples, portfolios, and agriculture record book.

Instructional Materials

Text and Supplementary Materials

Refer to: <u>Secondary Adopted Texts and Approved Supplementary Books Used in the Santa Maria Joint Union High School District</u>

Activities

Individual work, lectures, class participation, demonstration, audio visual materials, small group activities, field trips, outside resource people, guest speakers, and job shadowing.