

FOLSOM CORDOVA UNIFIED SCHOOL DISTRICT



ADVANCED ANIMAL SCIENCE

Board Approval Date: March, 2019	Course Length: 2 Semesters
Grading: A-F	Credits: 5 Credits per Semester
Proposed Grade Level(s): 12	Subject Area: Elective Elective Area (if applicable): Career Technical Education
Prerequisite(s): Animal Science	Corequisite(s): None
CTE Sector/Pathway: Agriculture and Natural Resources Sector / Animal Science (#103)	
Intent to Pursue 'A-G' College Prep Status: Yes	
A-G Course Identifier: (d) Laboratory Science	
Graduation Requirement: No	
Course Intent: District Course Program (if applicable): CTE	

COURSE DESCRIPTION:

This course is designed to provide students an applied scientific study in the area of animals and veterinary care. Each unit includes a clinical practice component at the conclusion to put the knowledge learned into a real veterinary clinical situation. Additional emphasis will be placed on industry practices to include office procedures, public relations, communications and laboratory skills. FFA participation and SAE project development are an integral part of the course. At the conclusion of this course and completion of requirements, students will be able to take an industry certification exam.

DETAILED UNITS OF INSTRUCTION:

Unit Number/Title	Unit Essential Questions	Examples of Formative Assessments	Examples of Summative Assessment
1. Anatomy and Physiology	How do the body systems (Anatomy & Physiology) work together to maintain the health of an animal? How will students become proficient in muscle and bone scientific names, and structural soundness of livestock animals and common family pets?	*Demonstration of Technical Skills *Observations during lab activities *Quizzes *Presentations *Case Studies *FFA SAE Projects *Current events	*Demonstrate a wellness check up of an animal for the specific unit of study *Scientific research paper *Formal examinations
2. Nutrition	How can the six major components of animal diets be affected by the structure and nutritional value of feed and/or feedstuffs? What are the twenty-five major feedstuffs that are commonly used in rations throughout the agriculture industry? What are the differences between digestible energy and metabolized energy?	*Demonstration of Technical Skills *Observations during lab activities *Quizzes *Presentations *Case Studies *FFA SAE Projects *Current events	*Demonstrate a wellness check up of an animal for the specific unit of study *Scientific research paper *Formal examinations
3. Infectious Diseases	What are the common diseases in domestic animals that can be transmitted to humans and how are they transmitted? What are the major methods used to diagnose and treat diseases?	*Demonstration of Technical Skills *Observations during lab activities *Quizzes *Presentations *Case Studies *FFA SAE Projects *Current events	*Demonstrate a wellness check up of an animal for the specific unit of study *Scientific research paper *Formal examinations
4. Pharmacology	What is the proper terminology that relates to general and advanced pharmacology practices? What are the pharmacologic agents and their uses, including the effects and	*Demonstration of Technical Skills *Observations during lab activities *Quizzes *Presentations *Case Studies *FFA SAE Projects	*Demonstrate a wellness check up of an animal for the specific unit of study *Formal examinations

	dosage/withdrawal periods?	*Current events	
5. Genetics	What are the pros and cons of genetic engineering of animals for food, conservation and domestic pets?	*Demonstration of Technical Skills *Observations during lab activities *Quizzes *Presentations *Case Studies *FFA SAE Projects *Current events	*Scientific research paper *Formal examinations
6. Agriculture Business	How do you manage a veterinary medicine business? What business and communication skills are necessary to manage a successful animal science business?	*Demonstration of Technical Skills *Observations during lab activities *Quizzes *Presentations *Case Studies *FFA SAE Projects *Current events	*Write a professional marketing plan *Formal examinations
7. Professional Opportunities	How do you become a registered animal health professional in California? What is the process of acquiring a veterinary license and becoming a veterinary technician in California?	*Demonstration of Technical Skills *Observations during lab activities *Quizzes *Presentations *Case Studies *FFA SAE Projects *Current events	*Case studies *Career Portfolio (Cover letter, resume, job application) *Mock job interviews

ESSENTIAL STANDARDS:

D1.0 Evaluate the necessary elements for proper animal housing and animal-handling equipment.

D2.0 Apply principles of animal nutrition to ensure the proper growth, development, reproduction, and economic production of animals.

D3.0 Apply principles of comparative anatomy and physiology to uses within various animal systems.

D4.0 Demonstrate understanding of animal reproduction, including the function of reproductive organs.

D5.0 Discuss animal inheritance and selection principles, including the structure and role of deoxyribonucleic acid (DNA).

D6.0 Prescribe and implement a prevention treatment program for animal diseases, parasites, and other disorders.

D7.0 Explore common pasture and rangeland management practices and their impact on a balanced ecosystem.

D8.0 Explain challenges associated with animal waste management.

- D9.0 Assess animal welfare concerns and management practices that support animal welfare.
- D10.0 Demonstrate understanding of the production of large animals (e.g., cattle, horses, swine, sheep, goats) and small animals (e.g., poultry, cavy, rabbits).
- D11.0 Demonstrate understanding of the production of specialty animals (e.g., fish, marine animals, llamas, and tall, flightless birds).
- D12.0 Understand how animal products and by-products are processed and marketed.

RELEVANT STANDARDS AND FRAMEWORKS, CONTENT/PROGRAM SPECIFIC STANDARDS:

Link to Common Core Standards (if applicable):

Educational standards describe what students should know and be able to do in each subject in each grade. In California, the State Board of Education decides on the standards for all students, from kindergarten through high school.

<https://www.cde.ca.gov/be/st/ss/documents/finalesstandards.pdf>

Link to Framework (if applicable):

Curriculum frameworks provide guidance for implementing the content standards adopted by the State Board of Education (SBE). Frameworks are developed by the Instructional Quality Commission, formerly known as the Curriculum Development and Supplemental Materials Commission, which also reviews and recommends textbooks and other instructional materials to be adopted by the SBE.

Link to Subject Area Content Standards (if applicable):

Content standards were designed to encourage the highest achievement of every student, by defining the knowledge, concepts, and skills that students should acquire at each grade level.

CA Standards for Career Ready Practice and Knowledge and Performance Anchor Standards:

<https://www.cde.ca.gov/ci/ct/sf/documents/agnatural.pdf> (pages 6-14)

Link to Program Content Area Standards (if applicable):

Program Content Area Standards applies to programs such as International Baccalaureate, Advanced Placement, Career and Technical Education, etc.

TEXTBOOKS AND RESOURCE MATERIALS:

Textbooks

Board Approved	Pilot Completion Date (If applicable)	Textbook Title	Author(s)	Publisher	Edition	Date
		<i>Modern Livestock and Poultry Production</i>	James R. Gillespie and Frank B. Flanders	Cengage Learning	9th	1/1/2016
		<i>TBD - Veterinary Science</i>				

Other Resource Materials

CEV Multimedia Pathway Unit - Advanced Animal Science (MPU10036) USBN 9781603339162, CEV Multimedia.

National FFA Organization. Official FFA Handbook.

Agriculture Experience Tracker (AET).

Supplemental Materials

Board Approved Supplemental Materials (Including but not limited to: Film Clips, Digital Resources, Supplemental texts, DVDs, Programs (Pebble Creek, DBQ, etc.):