

Veterinary Science & Advanced Animal Science Overview

- Full-year combined instructional sequence: 36 weeks (4 grading periods of 9 weeks each)
- Semester 1 emphasis: Veterinary Science • Semester 2 emphasis: Advanced Animal Science
- TEKS Abbreviations: VS = Veterinary Science §127.51; AA = Advanced Animal Science §127.52
- Advanced Animal Science requires at least 40% of instructional time in laboratory and field investigations.
Example: VS8(A) = Veterinary Science Strand 8, subskill A; AA10(B) = Advanced Animal Science Strand 10, subskill B

GP	Wks	Unit & Focus	Major Learning Tasks & Assessments	Integrated TEKS	Extension Activities
1	1–4	Unit 1 – FFA/SAEs	Plan, conduct, document, and evaluate SAE experiences; maintain records; participate in agricultural youth leadership and local program activities; document community, professional, and classroom experiences.	VS2(A–B), VS3(A–C) AA6(A–B), AA7(A–C)	SAE proposal/logbook; FFA leadership participation; community-service or professional-experience documentation.
1–2	5–12	Unit 2 – Breeds, Behavior & Handling	Identify animal breeds and characteristics; compare normal/abnormal behavior; apply handling and restraint protocols. Extend to history, evolution, domestication, global food-market impacts, purpose, and conformation across canine, feline, bovine, equine, caprine, porcine, ovine, poultry, and lagomorphs.	VS8(A–C) AA8(A–C)	Breed ID and conformation stations; restraint/handling demonstrations; species history/domestication research; production-market case study.
2	13–14	Unit 3 – Parasites & Diseases	Immunity and disease transmission; pathogens and body-system effects; parasite identification, life cycles, transmission, diagnostics, prevention, control, and treatment across large and small animal species.	VS12(A–H) AA14(A–J)	Parasite identification; simulated diagnostic tests; disease-transmission model; prevention/treatment case study.
2	15–17	Unit 4 – Veterinary Tools, Procedures & Surgical Assisting	Care, maintenance, and use of veterinary equipment; medical records/confidentiality; routine and therapeutic animal care; emergency/first aid; specialty-patient care; pre/post-surgical protocols; surgical tools; sterilization and surgery-pack preparation; common surgical procedures.	VS14(A–F), VS15(A–D) AA2(A–H) integrated	Instrument ID; medical-record practice; bandaging/therapeutic-care skills; emergency-response scenarios; surgery-pack preparation and sterilization lab.
2	18	Semester Exam (GP 1–2)	Cumulative Veterinary Science review and written/practical semester exam.	VS2–3, VS8, VS12, VS14–15 AA standards integrated during shared instruction	SAE record check; practical skills review; cumulative reflection.
3	19–22	Unit 5 – Body Systems, Anatomy & Physiology, Terminology	Medical terminology using Greek/Latin roots; pronunciation/spelling; directional anatomy; compare external anatomy; identify structures/functions of major body systems; analyze interrelationships among systems.	VS7(A–C), VS9(A–B) AA10(A–C) AA2–5 integrated	Terminology notebook; anatomy models/dissection activities; body-system comparisons; evidence-based lab explanations.
3	23–26	Unit 6 – Clinical & Laboratory Skills	Veterinary safety and sanitation; zoonoses; SDS; sharps/biohazards; clinical exams and vital signs; measurements and clinical data; specimen collection/handling; lab testing; imaging; pharmacology, dosage, labels, medication equipment and emerging trends.	VS4(A–F), VS11(A–H), VS13(A–C), VS16(A–D), VS17(A–F) AA2–5 integrated	Vital-sign labs; dosage calculations; specimen/lab simulations; imaging comparison; prescription-label activity; clinical data analysis.
3	27	Unit 7 – Scientific & Engineering Practices Research	Ask questions and define problems; plan and conduct investigations; safely use laboratory tools; collect/organize SI and qualitative data; use models; analyze error and patterns; evaluate designs; develop evidence-based explanations; communicate findings; examine scientific research and STEM careers.	AA2(A–H), AA3(A–D), AA4(A–C), AA5(A–C)	Student-designed investigation; lab notebook; data analysis; research presentation; STEM career exploration.
4	28–29	Unit 8 – Meats & Market Readiness	Animal growth and development; market readiness; livestock classes and grades; harvesting methods; meat inspection; wholesale/retail cuts and major muscle groups; animal by-products.	AA15(A–F) AA2–5 integrated	Market-grading activity; meat-cut identification; inspection/safety research; harvesting-method comparison.
4	30–31	Unit 9 – Reproduction, Genetics &	Cell specialization, mitosis/meiosis, differentiation,	AA9(A–D), AA12(A–D), AA13(A–E)	Microscopy/modeling; Punnett-square analysis;

GP	Wks	Unit & Focus	Major Learning Tasks & Assessments	Integrated TEKS	Extension Activities
		Cells	and biological organization; Mendelian inheritance, Punnett squares, DNA/RNA; reproductive anatomy/cycles and behavior; breeding systems and methods.	AA2–5 integrated	DNA/RNA models; reproductive-cycle comparison; breeding-system design challenge.
4	32–33	Unit 10 – Nutrition, Digestive Systems & Feed Rations	Compare digestive systems; nutrients, feed classes, additives/supplements; formulate rations by life stage and purpose; feeding practices; feed quality; nutritional value; forage protein; grazing practices. Reinforce veterinary nutrition applications.	VS10(A–D) AA11(A–I) AA2–5 integrated	Feed identification; ration formulation; label comparison; forage/protein analysis; grazing-management investigation.
4	34	Unit 11 – Professional Standards, Management & Marketing	Career/education/entrepreneurship planning; professionalism; safety; legal/ethical responsibilities; citizenship; human-animal bond; client communication; veterinary-practice marketing/technology; animal and animal-product marketing and labeling.	VS1(A–E), VS6(A–D) AA1(A–E), AA16(A–D)	ACCESS career research; mock client communication; veterinary-practice marketing plan; animal-product marketing/label analysis.
4	35	Unit 12 – Laws, Ethics, Animal Welfare & Current Issues	Veterinary history/trends; medical ethics; animal rights/welfare; laws and policies; scientific vs. ethical/social decision making; biotechnology, biosecurity, governmental regulations, and current animal-agriculture issues; design a protocol addressing a current issue.	VS5(A–C) AA7 (Science & Social Ethics), AA17(A–C) AA2–5 integrated	Ethics case study; policy/regulation research; current-issue protocol using the scientific and engineering design process.
4	36	Semester Exam (GP 3–4)	Cumulative Advanced Animal Science review and written/practical semester exam, including scientific and engineering practices.	AA1–17 as taught VS standards reinforced during shared instruction	Lab notebook/SAE check; practical skills review; final reflection.

TEKS Coverage Checklist

Veterinary Science §127.51

TEKS Strand	YAG Unit(s)	TEKS Codes	Coverage Description
(1) Professional Standards / Employability	11	VS1(A–E)	Career, education, entrepreneurship, professionalism, safety, rights/responsibilities, ethics, citizenship, stewardship, leadership, and agricultural literacy.
(2) SAE	1	VS2(A–B)	Plan, propose, conduct, document, evaluate, and maintain records for an SAE.
(3) Agricultural Youth Leadership	1	VS3(A–C)	Leadership opportunities, local program of activities, and documentation of relevant agricultural experiences.
(4) Veterinary Safety & Health	6	VS4(A–F)	Safe animal/tool practices, zoonoses, sanitation/asepsis, SDS, clinical tools, and sharps/biohazard disposal.
(5) Current Topics, Ethics & Laws	12	VS5(A–C)	Veterinary history/trends/issues, medical ethics and animal welfare, and local/state/federal laws.
(6) Practice Management & Marketing	11	VS6(A–D)	Human-animal bond, client/professional communication, marketing, and electronic technology in veterinary practice.
(7) Medical Terminology	5	VS7(A–C)	Greek/Latin roots, correct veterinary terminology, and directional anatomy.
(8) Breeds, Behavior & Handling	2	VS8(A–C)	Breed identification, normal/abnormal behavior, and handling/restraint protocols.
(9) Anatomy & Physiology	5	VS9(A–B)	Major body systems and interrelationships among animal body systems.
(10) Nutrition	10	VS10(A–D)	Nutrients/feed classes, additives, dietary needs/feed quality, and nutritional-value comparisons.
(11) Clinical Examination	6	VS11(A–H)	Healthy/unhealthy signs, vital signs, physical exams, regional assessment, measurements/conversions, and clinical-data interpretation.
(12) Diseases & Parasites	3	VS12(A–H)	Immunity, pathogens, diseases, parasites, life cycles, transmission, diagnostics, and treatment protocols.
(13) Veterinary Laboratory Procedures	6	VS13(A–C)	Specimen collection/handling/preparation, examination procedures, and interpretation of normal/abnormal results.
(14) Technical Veterinary Procedures	4	VS14(A–F)	Equipment care, medical records, routine/therapeutic care, emergency/first aid, and specialty-patient care.
(15) Surgical Assisting	4	VS15(A–D)	Pre/post-surgical care, surgical tools, surgery-pack sterilization/preparation, and common surgical procedures.
(16) Imaging	6	VS16(A–D)	Imaging equipment/functions, safety/maintenance/operation, positioning/restraint, and image differentiation.
(17) Pharmacology	6	VS17(A–F)	Medication classification/administration, laws/storage, dosage, prescription labels, equipment, and emerging pharmacology trends.

TEKS Coverage Checklist

Advanced Animal Science §127.52

TEKS Strand	YAG Unit(s)	TEKS Codes	Coverage Description
(1) Professional Standards / Employability	11	AA1(A–E)	Career/entrepreneurship planning, professionalism, safety, rights/responsibilities, ethics, citizenship, stewardship, leadership, and agricultural literacy.
(2) Scientific & Engineering Practices: Investigations	4–12, especially 7	AA2(A–H)	Questions/problems, investigations/design, safety, laboratory tools, SI/qualitative data, data organization, models, hypotheses/theories/laws. Integrated for at least 40% of instructional time.
(3) Scientific & Engineering Practices: Data	4–12, especially 7	AA3(A–D)	Model limitations, statistical features/patterns/error, mathematical relationships, and evaluation of experimental/engineering designs.
(4) Scientific & Engineering Practices: Communication	4–12, especially 7	AA4(A–C)	Evidence-based explanations/solutions, collaborative communication, and scientific argumentation.
(5) Scientific Research & Innovation	4–12, especially 7	AA5(A–C)	Critique explanations, research impacts/methodology/cost-benefit/diverse scientists, and STEM career resources.
(6) SAE	1	AA6(A–B)	Plan, propose, conduct, document, evaluate, and maintain records for an SAE.
(7) Agricultural Youth Leadership	1	AA7(A–C)	Leadership opportunities, local program of activities, and documentation of agricultural experiences.
Science & Social Ethics	12	AA7 (course introduction standard)	Distinguish scientific decision-making from ethical and social decisions involving scientific information.
(8) History, Domestication & Evaluation	2	AA8(A–C)	History/evolution/domestication, global food-market impacts, and breed evaluation by purpose/conformation.
(9) Cells, Tissues & Development	9	AA9(A–D)	Cell specialization, mitosis/meiosis, differentiation, and biological levels of organization.
(10) Anatomy & Physiology	5	AA10(A–C)	External anatomy, major body-system structures/functions, and system interrelationships across required species.
(11) Digestion & Nutrition	10	AA11(A–I)	Digestive systems, nutrients/feeds, additives, ration formulation, feeding practices, feed quality/value, forage, and grazing.
(12) Molecular Genetics & Heredity	9	AA12(A–D)	Mendelian inheritance, Punnett squares, nucleotides, DNA/RNA structure and function.
(13) Reproduction & Breeding	9	AA13(A–E)	Reproductive anatomy/cycles/behavior, breeding systems, and breeding methods.
(14) Diseases & Parasites	3	AA14(A–J)	Health factors, immunity, pathogens, disease effects/prevention, parasites, diagnostics, prevention/control/treatment.
(15) Market Readiness & Harvesting	8	AA15(A–F)	Growth/market readiness, classes/grades, harvesting, inspection standards, meat cuts, and by-products.
(16) Marketing Animals & Products	11	AA16(A–D)	Animal/product marketing methods, campaigns, consumer preferences, and labeling options.
(17) Policies & Current Issues	12	AA17(A–C)	Biotechnology/biosecurity, governmental/environmental/animal-welfare policy, and a protocol addressing a current issue.

Alignment note: This reusable YAG preserves the instructional unit sequence from the district's internal Veterinary Science and Advanced Animal Science document while removing calendar-specific dates. The TEKS checklist was cross-checked against the June 19, 2025 versions of §127.51 and §127.52 supplied for this project. Veterinary Science §127.51(d)(14), technical veterinary procedures and skills, was added to Unit 4 because it is part of the state TEKS but was not explicitly listed in the internal YAG. Advanced Animal Science scientific and engineering practices are intentionally integrated across laboratory/content units to support the required 40% laboratory and fieldwork expectation.