south dakota DEPARTMENT OF EDUCATION
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Advanced Animal Science

Career Cluster	Agriculture, Food and Natural Resources
Course Code	18107
Prerequisite(s)	Recommended: Intro to AFNR, Fundamental Animal Science
Credit	0.5 or 1.0 credit
Program of Study and Sequence	Fundamental Animal Science – Advanced Animal Science – Ag Biotechnology – Capstone Course
Student Organization	National FFA Organization
Coordinating Work-Based Learning	Job shadowing, mentoring, internships, entrepreneurships, service learning, workplace tours, apprenticeship, school-based enterprises, Supervised Agricultural Experience (SAE)
Industry Certifications	OSHA 10 Hour Safety Certification (Agricultural or General Industry), National Career Readiness Certificate (NCRC)
Dual Credit or Dual Enrollment	https://sdmylife.com/images/Approved-CTE-Dual-Credit.pdf
Teacher Certification	Agriculture, Food and Natural Resources Cluster Endorsement; Animal Systems Pathway Endorsement; *Agriculture Education
Resources	

Course Description

Advanced Animal Science will address the advanced knowledge and skills necessary to care for and meet the needs of animals, along with soft skills necessary for careers in the Agriculture, Food and Natural Resources sector. Topics covered include: animal health care practices, nutrition management, reproductive practices, medical terminology, animal classification, surgical techniques, and employability skills. Advanced Animal Science has an increased focus on the veterinary portion of animal husbandry. Utilizing appropriate equipment and technology should enhance classroom and laboratory content. Algebra, English, biology, and human relations skills will be reinforced in the course. Work-based learning strategies appropriate for this course are school-based enterprises and field trips. This class is reinforced through the FFA and Supervised Agricultural Experience (SAE) activities such as the Livestock Evaluation Career Development Event and related Proficiency Awards. Each student will be expected to maintain a SAE.

Program of Study Application

Advanced Animal Science is the second pathway course in the Agriculture, Food and Natural Resources Program of Study, Animal Systems pathway. Advanced Animal Science is preceded by Fundamental Animal Science and is recommended to be taken prior to participation in Ag Biotechnology.

Course Standards

ADAn 1: Understand and use safe practices.

Webb Level	*Sub-indicator*
Two Skill/Concept	ADAn 1.1 Demonstrate safe use and knowledge of tools and equipment used in animal science.
Two Skill/Concept	ADAn 1.2 Demonstrate workplace/worksite safety procedures and protocols.

ADAn 2: Select proper health care practices for animals.

Webb Level	*Sub-indicator*
Four Extended Thinking	ADAn 2.1 Choose prevention and treatment programs for animal diseases, parasites, and disorders.
Two Skill/Concept	ADAn 2.2 Discuss how to provide biosecurity for animals, people, and facilities.

ADAn 3: Develop proper nutrition management practices to optimize animal performance.

Webb Level	*Sub-indicator*
Three Strategic Thinking	ADAn 3.1 Assess nutritional elements as they affect animal performances.
Three Strategic Thinking	ADAn 3.2 Develop feed rations to provide for animals' nutritional needs.

ADAn 4: Select reproductive practices to optimize animal production.

Webb Level	*Sub-indicator*
Four Extended Thinking	ADAn 4.1 Identify management practices in breeding that account for high quality animals.

ADAn 5: Articulate medical terminology as it relates to animals.

Webb Level	*Sub-indicator*
One Recall	ADAn 5.1 Recognize relevant medical terminology related to animals.
Two Skill/Concept	ADAn 5.2 Apply medical terminology in the correct context.

ADAn 6: Classify, evaluate, and select animals based on anatomical and physiological characteristics.

Webb Level	*Sub-indicator*
Two Skill/Concept	ADAn 6.1 Apply principles of anatomy and physiology to uses within various animal systems.
Four Extended Thinking	ADAn 6.2 Analyze information and make connections pertaining to the interrelatedness of various body systems.

ADAn 7: Utilize principles of veterinary tools and techniques.

Webb Level	*Sub-indicator*
One Recall	AdAn 7.1 Identify veterinary tools and practices.
Four Extended Thinking	ADAn 7.2 Apply proper veterinary techniques to medical situations.

ADAn 8: Develop employability skills related to the Animal Systems Pathway.

Webb Level	*Sub-indicator*
Two Skill/Concept	ADAn 8.1 Develop soft skills to enhance employability.

ADAn 9: Develop employability skills related to the Animal Systems Pathway.

Webb Level	*Sub-indicator*
Two Skill/Concept	ADAn 9.1 Develop an individual project plan with goals and timeline.
Two Skill/Concept	ADAn 9.2 Explore opportunities within AFNR industries.
Three Strategic Thinking	ADAn 9.3 Apply concepts of financial management appropriate to agricultural projects and personal finances.
Three Strategic Thinking	ADAn 9.4 Develop and document knowledge and skills to ensure workplace safety regarding personal health and environmental management.
Four Extended Thinking	ADAn 9.5 Research and analyze how public policy, laws, and advocacy impact agricultural systems and agricultural literacy.