



High School Course of Study Approval Request Form

High School Site	Signature - Principal or Academic AP Designee	Signature - Teacher Leader (enter N/A if no Teacher Leader)	Comments:
American Canyon HS	Andrew Goff	NA	
Napa HS	Ean Ainsworth	NA	
Napa Valley Independent Studies	Susan Wilson	NA	
New Tech HS	Riley Johnson	NA	
Valley Oak HS	Maria Cisneros	NA	
Vintage HS	Katelyn Estudillo	Natalie Sanchez	

Course submitted by:	Gillie Miller	School Site:	NCOE CTE Office
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Executive Director, Secondary Education: _____

Review resources:

[Rubric for Evaluating Digital Content & Technology Tools in Relation to CCSS for ELA \(Grades 6-12\)](#)

[State Math criteria](#)

[Technology in Teaching Math](#)

[Other criteria and decision making tools](#)

Please review following high school course outline and sign above if you approve or write reason in comment area if you do not.

☐ New ☒ **Revised**

COMPUTER (Short) TITLE: P CTE Vet Sci
 COURSE (Long) TITLE: P CTE Veterinary Science
 COURSE NUMBER: CTE965
 GRADE LEVEL: 11 - 12
 LENGTH OF COURSE: 1 year/10 credits (5 credits/semester)
 GRAD REQUIREMENT: Life Science (G)
 CSU/UC REQUIREMENT: "d" (Laboratory Science)
 COLLEGE PREP: Yes
 VOCATIONAL ED: Capstone/Completer
 CALPADS CODE: 7142
 PATHWAY CODE: 101 [New: AGR 103]
 NCLB : No

COURSE OVERVIEW

P CTE Veterinary Science is the capstone course to the 4 year Animal Science Career Pathway at VHS. It is an academically challenging one-year course that examines anatomy, physiology, pathophysiology, biochemistry and medical terminology while applying scientific knowledge and research to the study of the animal body. Students learn the causes, diagnosis, and treatment and prevention of disease and injury in animals. Emphasis is placed on the care and handling of domestic and farm animals. Students apply their classroom knowledge and demonstrate competencies with hands on skills through their interactions and daily maintenance and care responsibilities with a large variety of animals at the VHS Farm. Students learn the scientific process through a series of extensive laboratory assignments. Students apply scientific methodologies (inquiry, hypothesis, gathering facts, evaluating data, and drawing conclusions) to the practices used by veterinary and agricultural animal science professionals. Students hone their interpersonal, leadership, entrepreneurial, and research skills by participation in FFA student leadership organization activities. Projects include standard-based problems, investigations and experiments related to animal production, health, and reproduction. Students will be both college and career ready and are encouraged to pursue post-secondary education and training in Veterinary Science that lead to technical, management, or research positions such as veterinarian, zoologist, or veterinarian nutritionist. Students will demonstrate employability skills needed in today's workforce.

Student Outcomes and Objectives

The student will be able to:

Conduct effective research utilizing material from the library, internet, and other sources to complete increasingly challenging assignments as self-directed learners. In depth study of the anatomy and physiology of a variety of animal species is designed to build knowledgeable problem solving skills in the field of Veterinary Science.

Utilize the scientific method by collecting data, performing chemical analysis, and following scientific protocols to form accurate conclusions.

Acquire advanced animal principles, know and respect diversity in the animal kingdom, and become an animal advocate for their welfare on all levels encompassing family pets, domestic livestock and our wildlife resources.

Prepare for advanced post-secondary level education in animal science, biology, and/or zoology.

Demonstrate ability to solve problems and think critically by effectively completing challenging group and individual projects and assignments. The combination of science labs and academic research enables students to use complex, creative thinking skills to reach sound conclusions.

Students will apply scientific practices to real life situations at the VHS farm and in other authentic environments.

Develop and enhance computer skills while working on individual and group projects to practice and refine written, oral and multimedia communication skills.

Develop advanced communication, leadership, entrepreneurial, and research skills, which will contribute to personal and postsecondary success.

COURSE CONTENT

Unit 1: Introduction to Pre-Veterinary Science

Learning Objectives:

1. Understand course objectives and expectations
2. Understand and comply with all safety rules and regulations
3. Demonstrate accurate and appropriate laboratory skills
4. Demonstrate research and data collection procedures

5. Understand and incorporate medical terminology into their vocabulary including abbreviations & measurements.

Identify and recognize the parts of a medical term

Define commonly used prefixes, combining forms, and suffixes

Analyze and understand basic medical terms

Identify and recognize body planes, positional terms, directional terms, and body cavities

Define terms related to body cavities and structure

Identify terms used to describe the structure of cells, tissues, and glands

Identify body systems by their components, functions, and combining forms.

Identify prefixes that assign numeric value

6. Review proper animal handling and restraint techniques

7. Review the use of the microscope.

Sample Assignments or Projects

Lab – Microscope Use & Lab Equipment; students demonstrate proper use of the microscope and lab equipment in order to prepare for future labs.

Lab – Introduction to Lab; students learn lab techniques and procedures, safe and accurate specimen collection and handling

Lab - Positioning and Restraint; students demonstrate holds and restraints on a variety of animals including lateral, dorsal and sternal recumbency positions.

Anchor Standards: 1.0, 2.4, 4.1, 4.2, 4.3, 4.4, 5.1, 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 7.3, 7.4, 8.1, 8.2, 8.3, 8.4, 9.7, 10.1, 10.2, 10.8, 11.1

Pathway Standards: C3.5, C6.1, C6.2, C9.5, C13.2, D3.3, D9.3, D9.4

Unit 2: Cells

Learning Objectives:

1. Explain the molecular makeup of cells

2. Identify the basic structures of the cell and their corresponding functions ie: metabolism, anabolism, catabolism.

3. Discuss mitosis and its clinical significance in diseases such as cancer;

4. Differentiate between benign and malignant cells.

5. Detail meiosis in mammalian reproduction

6. Transport through cell membranes

Sample Assignments or Projects

Lab – Identify Animal Cells; using prepared slides and cheek swab for demonstration students will be identify animal cells and parts. Students will draw and label parts of the cell and be able to discuss functional parts. Students will be familiar with the structure of the animal cells.

Lab – Identify Plant Cells; using prepared slides students will compare the difference between plant and animal cells

Lab – Cell Chemistry; students identify the elements of a variety of cells using the periodic table of elements

Lab – Cell Model; students build a cell model with all the cellular structures.

Lab – Osmosis & Diffusion; students observe and investigate the characteristics of a semipermeable membrane.

Lab - Cell Life Cycle; using a slide of a blastula, students observe and document the phases of mitosis

Anchor Standards: 1.0, 2.4, 4.1, 4.3, 4.7, 5.2, 6.2, 6.3, 6.4, 6.6, 7.4, 10.1, 10.2, 10.3

Pathway Standards: C5.1, C5.2, C5.3, C5.4, D3.1

Unit 3: Tissues

Learning Objectives:

1. Describe the properties, locations, functions, and varieties of:
epithelial tissues
connective tissues
muscle
nerve tissues
2. Link knowledge of tissues to clinical practice.

Sample Assignments or Projects

Lab – Examination & Diagram Cells; students will examine animal cells from various body tissues and be able to describe and identify various differences. Students will identify and draw detailed diagrams of tissues, record in Lab journals, write a comparative essay, then present their findings to the class. Students differentiate between healthy and diseased tissues.

Lab – Dissect muscle, bone, and connective tissue

Lab – Contraction of glycerinated muscle with ATP

Dissection of a Chicken- students will work with partners to explore the different body systems of the chicken to identify systems, observe interrelationships of parts, and functionality of systems. Students will draw, label and compare all systems. Comprehensive lab report will be expected at end of unit

Anchor Standards: 1.0, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 3.1, 4.1, 4.2, 4.3, 4.4, 5.1, 5.2, 5.3, 5.4, 6.3, 6.4, 6.5, 6.6, 7.2, 7.3, 7.4, 7.5, 8.6, 8.7, 9.2, 9.3, 9.6, 9.7, 9.8, 9.10, 9.12, 10.1, 10.2, 10.3, 10.4, 10.7, 10.8, 11.1, 11.5

Pathway Standards: C5.1, C5.2, C5.3, C5.4, C6.1, C6.2, D3.1, D3.2, D3.3

Unit 4: Body Systems

A. Musculoskeletal System

Learning Objectives:

1. Describe the functions of musculoskeletal system
2. Detail the structure of the bone; name the joint types and their accompanying role in movement
3. List the two major sections of the skeleton, name the corresponding bones, and compare species differentiation
4. Explain how bone grows and remodels; relate bone and muscle groups to movement
5. Discuss the effects of aging on the skeleton and joints
6. Connect the materials pertaining to musculoskeletal system to clinical practice.

Sample Assignments or Projects

Lab- Compare & Contrast Skeletons; given skeletons of mammals, avian, fish, students compare and contrast and present their findings.

Lab – Microscopy of Muscle and Bone Tissues; given slides, students observe & diagram muscle tissue and bone cells, compare and contrast and present their findings.

Lab - Age Lab; students compare the anatomy and physiology of young vs old animals, document and present their findings.

Lab – Owl pellet dissection

B. Circulatory System

Learning Objectives:

1. List blood components and explain their functions
2. Identify the basic structures of the mammalian heart; trace the flow of blood through the heart and body while detailing the parts of the blood vessels and their structural significance.
3. Use knowledge of heart function and control to explain the clinical significance of the electrocardiogram; heart sounds, including heart murmurs; and blood pressure
4. Learn the use of stethoscope and other diagnostic equipment to assess the cardiovascular system.
5. Discuss the clinical significance of the academic material learned in this unit.

Sample Assignments or Projects

Lab – Separate chemical compounds of blood samples, using a centrifuge, PCV, etc.

Lab – Evaluate samples or analysis of blood from different species for normal and abnormal values

Lab – Compare human hematological norms with animals

Lab - Dissection of a cow or sheep heart; students will trace and observe the flow of blood through the heart while detailing the parts of the blood vessels and their structural significance. Students identify anatomical parts and relate them to the physiology of the heart.

Students answer questions:

Why is the left myocardium thicker than the right?

What separates the ventricles and atria/

What are the function of the pulmonary arteries and veins?

What makes them different than other arteries and veins?

What prevents backflow of blood?

Lab – Examine Stained Blood Slides; students examine for form, describe function, and draw visual. Using prepared slides students will examine and identify different white blood cells and evaluate the shape of the nucleus and observe other parts of blood.

Lab at the Farm or Vet Office - Practice Vital Signs; using a stethoscope students will auscultate heart sounds, and will record heart / breathing rate of various species of animals and also demonstrate proper pulse taking of animals. Students will record findings and compare the results of various species. Students will compare to human vital signs and describe differences. Students observe an EKG or echocardiogram. Write a one page summary of what they learned.

C. Respiratory System

Learning Objectives:

1. Identify the components of the respiratory tract;
2. List and discuss the mechanisms, functions and control of breathing.
3. Discuss the clinical significance of the academic material learned in this unit

Sample Assignments or Projects

Lab – Vital Signs; students will assess and record pulse & breathing rate in farm animals

Lab – Compare Metabolic Rates of Species; students apply the scientific method through inquiry, hypothesis, gathering and evaluating data, and then drawing conclusions on the metabolic rates of different species. Graphs are used to present findings.

Lab – How Fish Breathe; students compare the respiratory systems of fish to mammals.

D. Renal System

Learning Objectives:

1. Identify and name the basic structures in the renal system; name and explain the functions of the renal system

2. Identify structures within the kidney and detail the formation of urine and its regulation
3. Evaluate urine and blood as a measure of the health of the animal and the urinary system

Sample Assignments or Projects

Lab – Urinalysis Chemistry; using already collected urine and a urinalysis kit, students will perform urinalysis testing. Students will analyze the chemistry (pH, ketones, proteins, glucose, nitrates), and will examine the urine under the microscope for morphology (blood, WBC) and for crystals or sediment. Students record, interpret, discuss, and present findings. Students learn the importance of the relationship of urine to health.

Lab – Urinalysis; students determine the effects of dilution and toxicity, electrolyte balance and homeostasis.

Lab - Kidney Dissection; students identify the parts and function of kidneys.

E. Digestive System

Learning Objectives:

1. Identify the basic structures and functions of the digestive system;
2. Explain digestion in monogastrics and ruminant animals, including exocrine secretions, functions, and absorption and the role of the liver in digestion and metabolism.
2. Compare and contrast the specialization of dentition and digestive tracts found in various domestic species, and define symbiosis and its significance in the ruminant.

Sample Assignments or Projects

Lab – Chemical and Physical Mechanisms of Digestion; students will demonstrate mechanical and physical breakdown of food (chewing) and contrast with chemical mechanisms of digestion; students inquire into the chemicals/enzymes utilized in animal digestion. Students will view a rumen from a butcher that demonstrates mechanical and chemical breakdown of foods. Student will draw the digestive system and indicate the passage of food identifying what type of digestion is taking place in all parts throughout the system. Discussion of different digestive processes among various animals.

Lab – Conversion of Cellulose to Glucose through Enzymatic Hydrolysis

Lab – Enzyme Action on Starch

Lab – Chemistry Analysis that Identifies Blood Glucose Levels

F. Reproductive System

Learning Objectives:

1. Identify male anatomy and relate associated hormonal function
2. Discuss female anatomy and the estrous cycle; list the steps in establishing pregnancy and identify the stages of parturition

Sample Assignments or Projects

Compare and contrast the male and female reproductive systems and cycles of several species.

Research the benefits of artificial insemination in the dairy industry.

Research the procedures, advantages and disadvantages of spaying or neutering pets.

Lab – Chick Embryo Development- Students observe/view chick development and identify the stages and what is occurring at those stages. Students discuss and analyse changes over time. Students write up their findings and create a presentation.

Lab – Alcohol and Seed Germination; students create a presentation

G. Nervous System

Learning Objectives:

1. Describe the neuron, the nerve impulse, and the synapse and explain the components of a reflex arc

2. Identify the major structures of the brain and their associated functions
3. Discuss the anatomy and function of the spinal cord
4. Compare and contrast the function of the sensory somatic system to the autonomic nervous system and differentiate between the two branches of the autonomic system.

Sample Assignments or Projects

Students complete worksheets: Parts of a Neuron and Brain Anatomy

Research Paper; students will choose from a list of neurological diseases and disorders. Students research and present on cause, symptoms, treatment, diagnosis, and species affected.

Exploring the Senses Activity; students will pair up and practice sense sensations (taste, smell, sight, and hearing) discussion of how different animals use their senses and the importance of having them. Students will write a lab report on senses.

H. Endocrine System

Learning Objectives:

1. Describe the endocrine system; name the major endocrine glands, list the hormones secreted by each gland, and describe the functions of these hormones. Discuss the clinical significance of excesses or deficiencies of endocrine-related hormones.

Sample Assignments or Projects

Debate - Growth Hormones in Beef Cattle; students will randomly be selected into 2 groups, one will argue in favor and one will argue against the use of hormones in beef production. Students must cite facts based on scientific research and present a compelling and persuasive case.

I. Immune System

Learning Objectives:

1. Define the term antigen and explain its significance in immunity.
2. Distinguish between passive and active immunity, differentiate between humoral and cellular immunity and their relationship in immunity, and explain primary and secondary immune response.

Anchor Standards: 1.0, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 3.1, 4.1, 4.2, 4.3, 4.4, 5.1, 5.2, 5.3, 5.4, 6.3, 6.4, 6.5, 6.6, 7.2, 7.3, 7.4, 7.5, 8.6, 8.7, 9.2, 9.3, 9.6, 9.7, 9.8, 9.10, 9.12, 10.1, 10.2, 10.3, 10.4, 10.7, 10.8, 11.1, 11.5

Pathway Standards: D2.1, D2.2, D2.3, D2.4, D3.1, D3.2, D3.3, D4.1, D4.2, D6.1, D6.2, D6.3, D6.4, D6.5, D6.6, D6.7, D9.2, D9.3, D9.4

Unit 5: Nutrition

Learning Objectives:

1. List the six major components of animal diets, and discuss their structure and significance in nutrition
2. Explain the general principles in animal nutrition
3. Species comparison, discuss the difference between dogs, cats and equine nutrition needs
4. Read and analyze pet food labels
5. Equine nutrition and fiber digestion
6. Ruminant nutrition and fiber digestion

Sample Assignments or Projects

Lab – Food Analysis; students perform a chemical analysis of common foods such as: sugar, starch, protein and lipids

Lab – Evaluation of Nutritional Values of a Meal

Lab – Energy from Yeast

Anchor Standards: 1.0, 2.4, 2.5, 2.6, 3.1, 4.5, 4.6, 4.7, 5.4, 6.4, 8.6, 9.3, 10.1, 10.3, 10.4

Pathway Standards: D2.1, D2.2, D2.3, D2.4

Unit 6: Common Diseases & Disorders

Learning Objectives:

1. Describe the principles of infectious disease and the chain of infection. Demonstrate the use of personal protective equipment (PPE) and procedures to stop the spread of infection
2. Describe Koch's postulates
3. Classification of diseases: list the important distinguishing features of diseases. Distinguish between the major disease agents: parasites (endoparasites and extroparasites), viral, bacterial, fungal, protozoan, zoonotic, and discuss resulting diseases.
4. Match diseases with the domestic species in which they occur, and discuss their clinical significance
5. Name the basic components of disease prevention and control
6. Describe the types of vaccines available and their roles in disease prevention
7. List and describe several diseases common in domestic animals that are contagious to humans and explain the precautions needed to prevent the spread of infection.
8. List the major methods used to diagnose disease and cite examples of disease diagnosis with each testing method
9. Link the clinical significance of the academic material learned in this unit to veterinary practice.

Sample Assignments or Projects

Lab – Fecal Analysis for Parasites & Bacteria; students will perform a fecal float and observe a smear slide of feces under the microscope to look for parasites/eggs. Students will discuss not only the effectiveness of both methods but also their findings and the action that should then be taken. Students will draw their microscopic findings and then do the same with the fecal float collection. Students will identify larvae, eggs, worms through book samples.

Lab – Microscopic examination of fleas, ticks, roundworms, flatworms

Lab – Gram stain and morphology of bacterium

Lab – Culture Bacteria Lab; students will swab several surfaces (skin, mouth, and soil, desktop or other surfaces approved by the instructor. This swab will be introduced to a media to culture and grow. Students explore colony types, shapes, colors and sizes, perform comparative analysis of the cultures and findings.

Lab – Build a Virus Model

Lab – Observe and Grow Fungi

Students create a parasite catalogue with pictures, life cycle, diagnosis and treatment.

Research Report: students research a disease including viral/bacterial/fungal category, signs/symptoms, species affected, treatment, prevention and prognosis. Students present their research.

Specific Animal Health Investigation; students observe healthy animals and discuss normal behavior and then view and discuss unhealthy behaviors, use humans as example. Students will be able to distinguish between normal/unhealthy animals. Students will write up lab report compare and contrast

Anchor Standards: 1.0, 2.4, 2.5, 2.6, 3.1, 4.5, 4.6, 4.7, 5.4, 6.4, 8.6, 9.3, 10.1, 10.3, 10.4, 11.1, 11.5

Pathway Standards: D6.1, D6.2, D6.3, D6.4, D6.5, D6.6, D6.7

Unit 7: Principles of Surgery

Learning Objectives:

1. Explain the clinical significance of the basic principles of successful surgery

2. Discuss surgical considerations
3. Identify surgical instruments and their use.
4. Sterile vs. aseptic techniques.
5. Explain the healing of lacerations

Sample Assignments or Projects

Lab – Testing bactericides

Lab – Simulated germs and handwashing

Lab - Suturing Wounds and Removing Sutures; students will practice using a non living specimen.

Students watch a spay/neuter surgery either on video or as a job shadow.

Anchor Standards: 1.0, 4.4, 4.5, 4.6, 4.7, 5.2, 5.3, 5.4, 6.3, 6.4, 6.5, 6.6, 6.7, 8.2, 9.10, 10.1, 10.2, 10.3, 10.4, 10.6, 10.7, 10.8, 11.1, 11.5

Pathway Standards: C9.1, C9.2, C9.3, C9.4, C9.5, D1.3, D1.4, D3.2, D6.1, D6.2, D6.3, D6.4, D6.5, D6.6, D6.7, D9.1, D9.2, D9.3

Unit 8: Pharmacology

Learning Objectives:

1. Define terms relating to general pharmacology
2. Explain the five schedules of controlled substances and their common use
3. Become familiar with common pharmacologic agents, their uses, classifications, chemical structure, adverse side effects, dosage form and route of administration
4. Identify the parts of drug labels and inserts
5. List routes and describe route of drug administration and routes of drug excretion
6. Define biotransformation and list common chemical reactions involved in this process
7. Determine dose and correctly measure prescribed medication using medical math, calculation, conversions.
8. Demonstrate knowledge of drug laws, dispensing and record keeping
9. Safely use syringes and needles

Sample Assignments or Projects

Lab - Medication Preparation and Administration; students practice administration of oral, subcutaneous, intramuscular and intravenous injection. Students demonstrate how to read/write a drug label and how to administer the correct dosage of medication.

Anchor Standards: 1.0, 4.1, 4.7, 6.2, 6.7, 7.2, 8.3, 8.4, 8.5, 8.6, 8.7, 10.1, 10.2, 10.3, 10.4, 10.7

Pathway Standards: D3.1, D3.2, D3.3, D6.1, D6.2, D6.3, D6.4, D6.5, D6.6, D6.7, D9.1, D9.2, D9.4, D12.1

Unit 9: Ultrasound Imaging

Learning Objectives:

1. Understand and demonstrate the correct use of the ultrasound equipment
2. Demonstrate proper positioning and techniques
3. Understand the basic interpretation of images

Sample Assignments or Projects

Lab – Anatomical Positioning and Performing an Ultrasound; students will perform ultrasounds on sheep at the farm.

Anchor Standards: 1.0, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 10.1, 10.2, 10.3, 10.4, 10.7, 10.8, 11.1, 11.2, 11.5

Pathway Standards: C3.2, C3.5, C6.2, C7.4, D3.1, D3.3, D4.1, D4.2, D4.3, D4.4, D4.5

Unit 10: Genetics and Heredity

Learning Objectives

1. Describe genetic traits, pattern of variation, gene regulation, and manipulation of DNA,
2. Describe the theory of classification of the animal kingdom - Taxonomy, Vertebrate & Invertebrate
3. List common genetic diseases and disorders

Sample Assignments or Projects

Debate - Genetic Engineering; students research and debate the pros and cons of genetic engineering animals for food, conservation and domestic pets

Ethics Debate/Discussion; students discuss current issues and ethical considerations related to genetics.

Anchor Standards: 1.0, 2.5, 2.6, 4.4, 4.5, 4.6, 4.7, 5.3, 5.4, 7.7, 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, 9.2, 9.3, 9.4, 9.5, 9.7, 9.9, 9.10, 9.11, 9.12, 9.13, 10.1, 10.4

Pathway Standards: D5.1, D5.2, D5.3, D5.4, D5.5

Unit 11: Professional Career Opportunities

Learning Objectives:

1. List requirements to become a registered animal health professional in California
2. Outline the steps to acquiring a veterinary license in California
3. Demonstrate professional growth and explain the importance of work ethics in the health profession
4. Create a professional portfolio including resume and demonstrate its use in the interview process for college or career

Sample Assignments or Projects

Career Exploration; students research a career of interest in the Ag Veterinary and Animal Science field, students present their findings.

Portfolio; students create a portfolio that highlights their education and skills, including a resume

Mock Interviews; students participate in work or school interviews with an authentic interviewer.

Anchor Standards: 1.0, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8, 3.9

Pathway Standards: D9.3, D9.4, D11.2

Unit 12: Veterinary Science Research

Learning Objectives:

1. Current animal research and investigation
2. Data presentation
3. Summarization and conclusion

Sample Assignments or Projects

Research Project/Experiment; students design, conduct, write, and present a research project demonstrating inquiry, observation, analysis and professional writing and communication skills.

Anchor Standards: 1.0, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 3.6, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 5.1, 5.2, 5.3, 5.4, 7.2, 7.3, 7.4, 7.7, 7.8, 8.4, 8.6, 8.7, 10.1, 10.2, 10.3, 10.4, 10.5, 10.6, 10.7, 10.8, 11.1, 11.2, 11.3, 11.4, 11.5

Pathway Standards: C13.2, D9.3, D9.4, D11.4

Unit 13: Agricultural Interpersonal & Leadership Development

Learning Objectives:

1. Development of listening, speaking, writing & reading skill activities
2. Critical thinking & group team building activities
3. Speaking & Seminar Presentations
4. Starting and Running a Business

Sample Assignments or Projects

Future Farmers of America; students compete in various FFA events. Students complete a Supervised Agricultural Experience Program and Record Book according to FFH guidelines and requirements. Students will develop communication, collaboration, critical thinking and creativity skills. Students will participate in a business or enterprise such as raising and selling livestock or providing animal services.

Business Plan; students collaborate to write a business plan or “lean canvas” and pitch the plan to a potential investor. Students successfully run a profitable student enterprise.

Anchor Standards: 1.0, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 7.1, 7.2, 7.3, 7.4, 7.5, 7.6, 7.7, 7.8, 9.1, 9.2, 9.3, 9.4, 9.5, 9.6, 9.7, 9.8, 9.9, 9.10, 9.11, 9.12, 9.13, 10.1, 10.2, 10.3, 10.4, 10.5, 10.6, 10.7, 11.1, 11.2, 11.3, 11.4, 11.5
Pathway Standards: C4.4, C13.2, D1.4, D10.2, D11.4

INSTRUCTIONAL STRATEGIES

Lecture and Demonstrations

Class Discussions

Laboratory Experiments and Lab Journals

Research Assignments

Oral Presentations using Multimedia Sources

Project-Based Learning

Work-Based Learning

Skill-based and Performance-based Assessments

INSTRUCTIONAL MATERIALS / TEXTBOOKS

TEXTBOOK 1:

Title: Introduction to Veterinary Science

Edition: 2nd Edition

Date: 2010

Publisher: Thomson Learning

Author(s): Lawhead & Baker

SUPPLEMENTAL INSTRUCTIONAL MATERIALS

Biology – The Dynamics of Life, Glencoe Sciences, McGraw Hill, 2004

An Illustrated Guide to Veterinary Medical Terminology, Janet A. Romich, 4th Edition, Cengage, 2015

Veterinary Assisting, Fundamentals and Applications, Vanhorn & Clark, 1st edition, Delmar.Cengage, 2010

“Turning Risk into Success (TRIS), An Entrepreneurship Program for Teenagers”, Curtis DeBerg, 2012
Sageglobal

STANDARDS SUMMARY

Agriculture and Natural Resources Knowledge and Performance Anchor Standards: All Anchor standards met.

Agriscience Pathway Standards: C3.2, C3.5, C4.4, C5.1-5.4, C6.1, C6.2, C7.4, C9.1-9.5, C13.2,
Animal Science Pathway Standards: D1.3, D1.4, D2.1-2.4, D3.1-3.3, D4.1-4.5, D5.1-5.5, D6.1-6.7, D9.1-9.4,
D10.2, D11.2, D11.4, D12.1
Common Core and Academic Standards: RLST 9-10.3, 9-10.4, 9-10.5, 9-10.7, 11-12.3, 11-12.4, WS 9-10.4,
9-10.7, 9-10.8, 9-10.9, 11-12.4, 11-12.7, 11-12.9, 11-12.10, A-CED 1, A-APR 1, A-REI 3, F-IF 4, G-CO 12,
G-MD 3, G-MG 2, G-SRT 8, S-IC 1, 3, 5, S-ID 1, 2, 7, SEP 1, 2, 3, 4, 5, 6, 7, 8, CC 1, 2, 3, 4, 5, 6, 7, PS1,
PS3, LS1A-D, LS2A-D, LS3A-B, LS4B-D, ESS3.C, ETS2.