INCORPORATING VETERINARY SCIENCE CDE STANDARDS INTO
CURRENT COMPANION ANIMAL SCIENCE COURSE

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A Project
Presented
to the faculty of
California State University, Chico

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In Partial Fulfillment
of the Requirements for the Degree
Master of Science
in
Agricultural Education

___________

By
Elizabeth Ammon

Spring 2014
INCORPORATING VETERINARY SCIENCE CDE STANDARDS INTO CURRENT COMPANION ANIMAL SCIENCE COURSE

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Elizabeth Ammon

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DEDICATION

This is dedicated to my husband, Jefferson Ammon, and my parents, Larry and Susan Sholtis, who have always pushed me to fulfill my educational dreams and never for one second let me believe anything was out of reach.
ACKNOWLEDGEMENTS

Dr. Aschenbrener: Thank you for dedicating so much of your patience and time to helping me finish my project. Dr. Spiess: Thank you for offering great advice and hours of formatting time.
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ABSTRACT

INCORPORATING VETERINARY SCIENCE CDE STANDARDS INTO CURRENT COMPANION ANIMAL SCIENCE COURSE

By

Elizabeth Ammon

Master of Science in Agricultural Education

California State University, Chico

Spring 2014

To allow students to reach the full potential of the three-ring agriculture education model, students must excel in all three categories: FFA (formally Future Farmers of America), Supervised Agricultural Experience (SAE) and the classroom/laboratory. SAE experience begins at the local level. Students in the Lassen High School agriculture program volunteer at local veterinary clinics for their SAE and compete in the veterinary science career development event in FFA. To tie these two to the classroom/laboratory component, the current companion animal care curriculum required addition of veterinary science standards. These standards were embedded into the existing curriculum to provide a model agriculture program. Adding this curriculum allows students to develop knowledge about veterinary sciences. Students will be well prepared for the veterinary science
contest, volunteering at the local veterinary clinics and to further their education at the university level.
CHAPTER I

INTRODUCTION

Purpose of the Project

Agriculture Education and Science Standards

The agricultural education program has three integral, intra-curricular components: classroom/laboratory instruction, experiential learning through supervised experiences, and FFA (Dailey, Conroy, & Shelley-Tolbert, 2001). The classroom/laboratory instruction component of the three ring model focuses on contextual learning reinforcing the hands-on theory of agricultural instruction (FFA, 2014).

Additionally, students must be enrolled in an agricultural course to have access to the three components of the agricultural education program. Agricultural courses may be offered as components of broader educational programs. For example, California Career Technical Education (CCTE) offers career pathways based on a 15 industry sectors. The Agriculture and Natural Resources sector includes agricultural business, agricultural mechanics, agri-science, animal science, forestry and natural resources, ornamental horticulture and plant and soil science pathways (CDE, 2006). These pathways include rigorous academic and technical courses that allow students to apply academics and develop technical skills in a
curricular area. Agriculture pathways emphasize real-world, occupationally relevant experiences of significant scope and depth. Students completing these courses of study are prepared for continued training, advanced educational opportunities or entry into a career. These standards, along with California science standards, create the foundation for all agricultural courses (CDE, 2006).

Common Core State Standard's (CCSS) mission statement suggests CCSS are designed to reflect real world knowledge and skills necessary for student success in college and careers. Today’s science standards require real world scenarios and questions that force students to be able to apply their learning (Common Core State Standards Initiative, 2014). In an effort to increase the number of students prepared to enter professions with real world experience, the United States Department of Education has implemented programs to meet the growing demand. Science, Technology, Engineering and Mathematics, also referred to as STEM, focuses on developing standards in leadership while educating students in those corresponding subject areas. President Barak Obama stated that “…Leadership tomorrow depends on how we educate our students today- especially in science, technology engineering and math (par.1)” (Ed.gov, 2010).

STEM focuses on preparing youth with invaluable experiences in educational fields where the demand for these professions are not being met. The veterinary science field is one scientific area where higher standards must to be met. According to Texas A&M, one of the oldest and most prestigious veterinary science programs
of its kind in the United States, “Becoming a veterinarian requires dedication and
diligent study. The veterinary medical student must meet high standards of ethics
and academic performance (par.1)” (Texas A&M University, 2013).

Veterinary Sciences and Agriculture Education.

In order to become a successful veterinarian, formal training and experience
as well as contact and handling are critical. Applicants into veterinary science
medical programs must be familiar with animals and animal behaviors. (Veterinary
Medicine & Biomedical Sciences, 2013).

Furthermore, to provide students the contextual learning and work-based
experiences necessary for this field, classroom curriculum must be developed that
exceeds the scope of basic science. To ensure this goal was achieved, the agriculture
education three ring model was developed. One component of the three ring model
requires all students to have a supervised agricultural experience project (SAE). SAE
begins at the local level. For example in the local community of Susanville, ten to 15
% of students at Lassen High School will choose to volunteer their required five
hours at local veterinary facilities in town. Students in the Companion Animal
Science class increase that percentage to 30%. In order to determine if this
profession is interesting as a potential career choice, students are provided a
glimpse into this real-world career. However, students may be ill-prepared to work
in the veterinary filed. It is vital for these students who are entering these facilities
to be prepared with basic veterinary science principles in handling, restraining,
identification of breeds and equipment, and knowledge of basic veterinary science terminology and information.

According to the CATA Curricular Activities Code, the Veterinary Science Career Development Event (CDE) “… seeks to effectively prepare the students for the expectations for the animal health care and services workplace. Workers seeking careers in the health care field must develop a high degree of knowledge, skill and ability to solve difficult problems” (Veterinary Science, 2013, par.1) (See Appendix 1).

To properly prepare students to be well versed in veterinary science practices prior to a clinical experience, it is crucial to provide students the skills necessary for success in the classroom. The incorporation of veterinary science CDE standards into the companion animal science class at Lassen High School will allow the incorporation of this higher level knowledge, skill and ability in all students. They can then leave the classroom with advanced knowledge and step foot into a veterinary clinic, veterinary college program, or veterinary science CDE contest and be prepared for success.

Scope

Objectives:

1. To develop a syllabus for a companion animal science class that includes the criteria of the veterinary sciences CDE contest (ID, test bank and practicum)(See Appendix 1).
2. Develop a curriculum unit plan that includes the veterinary science CDE curriculum (See Appendix 2).

3. To prepare a sample unit and lessons that will be used in the companion animal science course that meets the veterinary science CDE outline (See Appendices 4-6).

4. Create assessments that will test advanced knowledge of students taking the companion animal science courses (See Appendix 6).

Significance of the Project

Incorporation of the Veterinary Science CDE Standards into the companion animal science class will allow components of the three-ring model to overlap, creating a culminating experience for students. Students will be taught veterinary science standards in their classroom/labatory component, and can thus master skills and be more prepared to volunteer at local veterinary science facilities for their SAE project. Additionally, student will also be able to use these skills when competing in the FFA Veterinary Science CDE contest (See Appendix 1).

Limitations of the Project

Limitations of the project include funding and laboratory space. Purchasing equipment and tools for the identification portion of the veterinary science standards, the materials used for the practicum and sample parasites for the parasite identification may also pose problematic. Finding funding during budget crisis can become a limitation.
The second limitation for the project includes lab space needed to perform practicums on the high school campus. The companion animal science class is taught in a small portable previously used for a computer class. Therefore, this classroom is small and does not have any lab stations/counters to perform practicum on or a sink to clean up during, before and after live practicum.

Definitions of Terms

<table>
<thead>
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<th>Term</th>
<th>Definition</th>
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<tbody>
<tr>
<td>Parasites</td>
<td>An organism that lives in or on another organism (its host) and benefits by deriving nutrients at the host’s expense.</td>
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<tr>
<td>Practicum</td>
<td>A high level course, often in a specialized field of study, that is designed to give students supervised practical application of a previously or concurrently field of study.</td>
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<tr>
<td>Career Development Event (CDE)</td>
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<td>California Career Technical Education Science, Technology, Engineering and Math (CCTE)</td>
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<td>California Ag Teachers Association (CATA)</td>
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CHAPTER II

REVIEW OF LITERATURE

Ag Education, CCSS, and STEM

The agricultural education mission states that it “…prepares students for successful careers and a lifetime of informed choices in the global agriculture, food, fiber and natural resource systems” (National FFA Organization, 2014, Par. 3). The model of the agricultural education program encompasses three main components. These integral components summarize components each agriculture teacher strives to include and master in their local programs. The classroom/laboratory component is completed during daily instruction. Student’s SAE projects are a form of experiential learning that is completed in conjunction with their class grade. The third ring is the FFA program, which includes career development teams, speaking contests and a variety of conferences and conventions. A local program that truly encompasses and strives for excellence in all of the three areas creates the ultimate agricultural education experience (National FFA Organization, 2014).

With more than 11,000 FFA advisors teaching 579,678 FFA members, teachers strive to provide students with innovative and leading-edge education. The goal is to enable students to grow into competent leaders. FFA classroom activities include math and science as well as hands-on work experience and the development
of life skills. With these life skills, FFA members are able to discover their career path and visualize success. FFA members compete and learn advanced career skills in 49 national proficiency areas based on their hands-on work experiences, including veterinary sciences (National FFA Organization, 2014). With 87% of FFA students demonstrating an interest in learning career exploration, 81% wanting to explore college preparation and 81% interested in technology, substantial demand exists for student placement. The FFA offers 24 national career development event (CDE) areas where FFA members are challenged to a real-life, hands-on test of skills used to prepare them for one of the over 300 careers in the agriculture industry. One of these career development events is the area of veterinary sciences (National FFA Organization, 2014).

Along with the opportunities FFA has to offer students, the Common Core State Standards (CCSS) are the first step in providing young people a high-quality education. These standards are designed to reflect real world knowledge and skills necessary for student success in college and careers. No longer a basic test, science standards will require real world scenarios and questions that force students to apply their learning. Higher metcognitive levels will be sought and students will be required to apply information they have learned (Common Core State Standards Initiative, 2014).

Science, Technology, Engineering and Mathematics (STEM) education focuses on developing standards in leadership while educating students in those
corresponding subject areas. The United States Department of Education has addressed the need expressed by businesses and industries who suggested schools are not prepared to enter STEM professions. More specifically, the United States Department of Education has implemented programs to meet the demand for graduates with professional experience (Ed.gov, 2010).

**Veterinary Sciences and the AgEd Model.**

There are a growing number of opportunities for students planning careers in the area of veterinary science. The main aspects of veterinary research are grouped as “public health and food safety, animal health and welfare, comparative medicine and emerging issues” (“Critical needs for,” 2005, Par. 1). There is a high demand for qualified veterinarians in these fields of studies (“Critical needs for,” 2005).

Before entering the veterinary science programs at major universities, a student must obtain their bachelors degree in the area of animal science. Students in these studies receive a broad foundation in biological sciences, animal production and management and biomedical research. Teaching is achieved by lectures and practical classes with animal-based work to gain practical tools, including animal handling (Charles Sturt University, 2014).

Veterinary science is a career path that challenges students in the science field to meet these levels of higher standards. Colorado State’s DVM program only admits 138 new students to their Professional Veterinary Medicine Program each
year and not all students will receive their Doctor of Veterinary Science Degree. Colorado State students thrive upon hands-on learning, clinical experiences and specialty residencies (Colorado State University, 2014). Real life clinical skills, formal training and experience, as well as contact and handling practices are critical skills to become a successful veterinarian. In order to be considered into veterinary science medical programs, students must be familiar with animals and animal behaviors (Veterinary Medicine & Biomedical Sciences, 2013).

Veterinary trade magazines have addressed workforce needs in veterinary medicine and found the following: “There is little evidence of widespread workforce shortages, although industry and some areas of academic veterinary medicine are experiencing shortages of veterinarians with advanced training” (Wren, 2012, Par. 3). The authors also concluded that “The veterinary profession is losing its presence in food-animal production and care...recommends that veterinary schools should create centers of emphasis on food-animal medicine, and new services” (Wren, 2012, par. 3).

There is a growing national need to increase the number of well-trained veterinarian-scientists to meet societal needs. High level training, flexible curriculum, clinical and research technologies are needed to prepare these students for careers in veterinary sciences (Cornell University, 2014). With the growing demand for students entering veterinary science programs, it is important for students to have as much real life experience as possible. Veterinary science
programs are highly competitive, and possessing additional hands on experience may be a determining factor into being accepted into veterinary science programs.

Classroom instruction is critical to meet the increased demand. Agricultural curriculum must meet CCSS and furthermore, prepare students for engaging careers. Students need the contextual learning and work-based experiences in preparation for career demands. This leads to the need to develop classroom curriculum that moves beyond the scope of basic science. The curriculum must be oriented to standards outlined by these colleges and veterinary science programs (National FFA Organization, 2014).

At Lassen High School, the companion animal science class includes biological testing standards as well as some cat and dog breed identification, health care, grooming and reproduction. The course provides applicable options for students who need a science class, yet desire to learn more about small animals. For students pursuing advanced small animal care curriculum, real life practice and experience to progress on to vet school the class is lacking.

In the companion animal science class, 30% of students volunteer at Dr. Taylor and Dr. Meinert’s veterinary facilities to meet the criteria for their SAEP. This course provides opportunity for students to determine if they may wish to pursue a career in the veterinary science. Additionally, the course allows students to connect their classroom learning to SAE, a desire strongly encouraged since the formation of Stimson’s home project model integrated into the modern agricultural education
model. Students are often eager to gain experience, but are not prepared for the content of their SAE experience. The tools are unfamiliar, the terminology the veterinarians use is too advanced, and they lack the practical experience to perform some of the tasks required by the veterinary office. The students may feel unprepared and a little discouraged after their SAE experience. It is crucial for these students who are entering these facilities to be prepared with basic veterinary science principles in handling, restraining, identification of breeds and equipment, and knowledge of basic veterinary science terminology and information.

Beyond SAE experience, students also have the opportunity to apply knowledge to the third component of agricultural education. The FFA Specialty Animal Career Development Event (CDE) contest was recently changed to the Veterinary Science CDE and now reflects standards and practical applications needed for students pursuing careers in the veterinary science field. The California Agriculture Teacher Association’s Curricular Activities Code describes the Veterinary Science CDE as an avenue for students to meet the needs of workers in the animal health care field and develops the high degree of knowledge, skill and ability to solve difficult problems (CATA, 2013). (See Appendix 1.)

The integral components of the agriculture education model are classroom/laboratory, FFA and SAE. The veterinary science curriculum from the veterinary science CDE contest can be applied into the classroom to meet the need to prepare students in the veterinary science field. This combines all three
components of the agricultural education model. Where these circles overlap in the center the full agriculture education experience is obtained (FFA, 2014).

The curriculum outlined in the contest allows students to develop the skills to compete in the competition, volunteer at clinics, and/or attend veterinary science schooling. The curriculum contains real life practicum with animal handling, parasite identification, animal breed identification, equipment and material identification and a test bank of 300 biological and veterinary science related questions. Practicums students need to complete vary from restraining a cat in a cat bag, filling a syringe, tying a reefer knot, laying a dog in sterna recumbancy, and many more. There are a total of 44 practicums students must master over the next four years. These practicums allow students to show mastery of basic and advanced level skills needed in the veterinary industry. Students are graded based upon their ability to complete all components of the practicum. Figure 1 demonstrates an example of the grading system of the practicums (CATA, 2013).

Additionally, the veterinary science entrepreneurship/placement SAE proficiency rewards students who excel in working for veterinary businesses. These students have advanced knowledge of veterinary medicine, the animal health industry focusing on the welfare of large and small animals. Student activities include hands-on care of animals, management of business aspects of a veterinary practice and/or working on regulations relating to animals (National FFA Organization, 2014).
**EXAMPLE RUBRIC**

*Veterinary Science*
*Handling and Restraining Practicum* 

**Carrying a Cat**

Participant Name: _______________ State: ________________

Participant must talk through practicum steps with judge.

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Points Possible</th>
<th>Points Earned</th>
</tr>
</thead>
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<tr>
<td>1. The student ensures that the cat is calm and happy.</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>2. The student places one hand on the front of the cat’s body to control the head and front limbs.</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>3. The student places his/her other hand under the abdomen and rump to control the rear limbs.</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>4. The student pulls the cat close to their body for support.</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

**TOTAL POINTS**

25

Total Points x 2 = Final Score

50

____________________________________                   __________________________
Judge’s Signature                   Date

*Figure 1: Example Rubric for Carrying a Cat*
CHAPTER III

METHODOLOGY

Veterinary Science Standards

Objective One:
The first objective in the project was to develop a syllabus for a companion animal science class that includes the criteria of the veterinary sciences CDE contest (ID, test bank and practicum). The old companion animal class syllabus was used as a template to complete this objective. The veterinary science CDE contest outline was then used as a guideline for what needed to be added to the current syllabus (See Appendix 2).

Objective Two:
The second objective was to develop a curriculum unit plan that includes the veterinary science CDE curriculum. In Appendix A, the unit plan is included in the second half of the syllabus. The objectives from that CDE outline were then infused into the companion animal syllabus in units that were present or by adding new units. The description, objectives and timeline were all updated and revised (See Appendix 2).
Objective Three:
The third objective was to prepare a sample unit and lessons that will be used in the companion animal science course that meets the veterinary science CDE outline.
Unit II of the course syllabus was created covering the area of animal safety. A unit outline, power points and handouts are included (See Appendices 3 through 6).

Objective Four:
The fourth objective was to create assessments that will test advanced knowledge of students taking the companion animal science course (See Appendix 6).

Incorporating Veterinary Science CDE Standards
Developing the new course syllabus allowed numerous additions to the curriculum.
Table 1 addresses the existing curriculum for the class, the items that were added into the curriculum, the methodology or how the items were added, and the rational for adding (See Table 1). The syllabus and the existing curriculum were compared to the veterinary sciences CDE curriculum. Items not present in the existing curriculum were incorporated to create the new curriculum.
<table>
<thead>
<tr>
<th>Existing Curriculum</th>
<th>Added Curriculum</th>
<th>Methodology</th>
<th>Rational</th>
</tr>
</thead>
<tbody>
<tr>
<td>No practicums</td>
<td>44 Practicums</td>
<td>Incorporated the practicums into the syllabus in applicable units</td>
<td>Practicums give students hands on experience with real life vet practices</td>
</tr>
<tr>
<td>Breeds covered are dog, cat and rabbit breeds</td>
<td>Added 8 small mammal breeds</td>
<td>Added small animal identification into the rabbit unit</td>
<td>Small mammals are a commonality in vet facilities today and students need to be able to identify these.</td>
</tr>
<tr>
<td>A short overview of how to take vital signs of dogs</td>
<td>Gestation and vital signs of all small animal species</td>
<td>The unit was altered to include gestation and vital signs of all small animal species and hands on practicum where students perform taking vitals on 3 species of animals.</td>
<td>Including the extra knowledge on vitals and gestation will better prepare these students to perform these tasks in a veterinary clinic.</td>
</tr>
<tr>
<td>Science standards and minimal dog and cat knowledge.</td>
<td>General knowledge test questions</td>
<td>The 300 question bank used for the veterinary science CDE contest will be covered during 2nd semester.</td>
<td>These questions create real life questions and scenarios veterinarians are faced with or must be able to demonstrate.</td>
</tr>
<tr>
<td>One day overview of veterinary tools and equipment. Description of parasites that affect dogs and cats.</td>
<td>Equipment and parasite identification</td>
<td>A unit will be added to cover the ID, purpose, use of 128 pieces of equipment and materials used in veterinary clinics</td>
<td>In the veterinary clinic students need to be able to identify these tools, know why they are used, and how they are used.</td>
</tr>
<tr>
<td>No review of knots</td>
<td>How to tie 6 knots</td>
<td>A new unit will be created to teach students how to tie 6 different knots used in a vet clinic</td>
<td>Students would need to be able to possibly perform these standards in real life situations with their animals or in the clinic setting.</td>
</tr>
</tbody>
</table>
CHAPTER IV

RESULTS AND DISCUSSION

Objectives

Course Syllabus

To complete the objectives, a new companion animal science course syllabus, course units, sample lessons and assessment were established. The objectives were completed by first revamping the existing companion animal science course curriculum and embedding the veterinary science CTE contest standards. Each component of the contest is now included in the course syllabus. A new course description and objectives were created to meet the standards (See Appendix 2).

Unit Plan

A new unit plan was created in conjunction with the course syllabus to align the semester of unit instruction the veterinary science standards will be addressed (See Appendix 2).

The practicums that all students must be able to demonstrate over the next four years were also placed in the syllabus. These practicums were designed to be introduced in units where curriculum pertaining to those practicums aligned. These practicums were distributed over the course of the school year.

One of the practicums includes a series of rope work which did not align with
an existing unit. Thus new curriculum was established. Semester two, unit VII was created to introduce rope work and allow the practicum component.

The identification component was included in three units of the syllabi. Rabbits and small mammal breeds identified in the veterinary science outline was included in semester one, unit VIII, under rabbits and other small mammals. The equipment and materials identification lessons were added to semester two, unit II. Parasite identification was included into semester two, unit V under diseases and parasites.

The last inclusion into the new curriculum included adding the 300 test bank questions into semester two, unit I, labeled general knowledge. In this unit, questions will be posed in groupings and introduced to students in modules. Some of the information will be discussed throughout the second semester and unit exams will test students on these questions. This introduces the language and student expectations for the semester.

Sample Lesson

This sample unit and lesson plan was created in the area of animal safety, which will be taught in semester one, unit 2. The unit outline, lesson plans, handouts, and power point are included in this sample. This is a four day unit which requires substantial numbers of animals and materials to correctly complete all the practicum areas (See Appendices 4-6).

Assessment
A grading rubric for a sample practicum from the veterinary science standards was also created. This was created by revising the national rubric to a rubric that can be used as a form of assessment for the handling unit. All of the practicums outlined by the National FFA Organization veterinary science CDE can be altered similarly to be more applicable for a classroom setting (See Appendix 6).
CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

In summary, a need was established to update the companion animal science course taught at Lassen High School. There is a need in the community for agriculture students to be well versed and educated in the area of veterinary science. To meet this need, the veterinary science CDE standards from the FFA veterinary science competition were incorporated into the old course outline. This allowed the incorporation of the standards necessary for students in an agriculture science course.

Upon completing the companion animal course, students will have a better breadth of identification knowledge, general knowledge and ability to perform practicums. The identification knowledge will include information on dogs, cats, rabbits and small mammals, parasites and equipment and materials. The items students are learning to identify are items that veterinarians would interact with on a regular basis.

The general knowledge question bank includes 300 questions that encompass all general knowledge needed by a veterinarian. This information can be infused in units throughout the semester. This not only reinforces to students what they would need to know working in a veterinary clinic, but the level of
understanding required of this profession. This level of knowledge requires students to be able to apply the information learned. Mathematics are also covered in this unit as students must solve math problems through calculating how to fill out prescription refills and vaccination methods.

Recommendations are to present this updated companion animal course curriculum, unit plan, sample unit and assessments to my administration and school board for approval. Upon approval, this updated course should begin for the 2014-2015 school year.

Further recommendations include encouraging all FFA students competing in the veterinary science CDE contest to enroll in the course to help prepare these students to compete in the veterinary science contest. It will also be suggested that students wishing to volunteer at local veterinary clinics take this course to help improve their knowledge and better prepare them to volunteer. Knowing veterinary schools require students to have experience before entering college, the updated course will also provide students with necessary experience. Students will have a depth of knowledge and the hands on experience of practicums, lab processes and surgery preparation. Upon completion of this course students would have the skill set to successfully enter a veterinary science school.


ED.gov. (2010). *Science, technology, engineering and math: Education for global...*

FFA. (2014, 1 1). Career Development Events. Retrieved from FFA:

http://www.ffa.org/CDE


https://www.ffa.org/About/WhoWeAre/Pages/AgriculturalEducation.aspx


Revised 6/2013

Purpose and Standards

The Veterinary Science event seeks to effectively prepare the students for the expectations of the animal health care and services (Veterinary Hospitals/Clinics, Grooming Facilities, Pet Stores, Kennels/Boarding Facilities, and Feed Stores) workplace. Workers seeking careers in the animal health care field must develop a high degree of knowledge, skill and ability to solve difficult problems. This event blends the testing of skills and knowledge required for careers in the animal science career pathway. California Career Technical Education Model Curriculum Standards addressed by this event include:

Foundation Standards: Listening and Speaking 1.1, 2.2c, 2.2f, 1.8, Technology 4.2, 4.6, Health and Safety 6.2, 6.5, Ethics and Legal Responsibilities 8.3, Leadership and Teamwork 9.1, 9.2, 9.3.


Contestants

The contest team will be made up of four members. Each member will compete in all events individually. The three high individuals will make up the team score.

Classes

The contest will include:

<table>
<thead>
<tr>
<th>Class</th>
<th>Individual Points</th>
<th>Team Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Identification Tests</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
1. Equipment and Materials  |  150  |  450  
2. Parasites              |  50   |  150  
3. Breed identification   |  100  |  300  
B. Practicum #1          |  50   |  150  
Practicum #2             |  50   |  150  
Practicum #3             |  50   |  150  
C. General Knowledge Test (50 questions) | 100 | 300  
TOTAL POINTS              | 550   | 1,650

**Tie Breaker**

1. Individual or team ties will be broken with highest General Knowledge test score.
2. If there still is a tie, it will be broken with highest Breed I.D. test score.
3. Individual or team ties will be broken with highest practicum score.

**Sub-contest Awards**

Sub-contest awards will be given for high teams and individuals in the following areas: Identification, Practicums, and Knowledge Test.

**Rules**

I. Contestants in this contest will be divided into groups. Only one group will be allowed at one site at one time. Only one member of a team shall be allowed in a group.

II. All equipment and practicum materials needed by the contestants will be available at the judging sites.

III. All contestants must fill out the official score sheets and will be graded according to the points shown on the score card.

IV. The contestants will be allowed 45 minutes at each test site to complete that section. Equipment/Materials, Parasites/Breed Identification, General Knowledge Test – three rotations.

V. Three Practicums will be allowed 90 minutes for completion.

VI. Identification Test (Time: Equipment/Materials = 45 minutes, Breed/Parasites = 45 minutes)

A. Equipment and Materials can be picked at random from the approved list.

Seventy-five items will be chosen for this contest. Two points for each correct answer.
B. Parasites are to be picked from the list provided. Twenty-five items will be used in the contest. Two points for each correct answer.
C. Students will identify 50 animals from the approved list. Each correct answer will be worth two points.

VII. Practicums (Time: 90 minutes)
Practicums will consist of three from the list of current year practicums: Students will go in order from one practicum to the other until all contestants are finished in each group. The list of practicums will come from the list provided by the National FFA contest for Veterinary Science. The score will be doubled to make each practicum worth 50 points.

Practicum List Examples:

**2013-2014 Practicum**
Carrying a Cat
Restraint of the Cat for the femoral Venipuncture
Removing a dog from a floor level cage or kennel
Restraint of the dog in Sternal Recumbency
Restraint of a rabbit
Haltering cattle
Filling a syringe
Tying a bowline knot
Administarting Aural medication
Bandage removal
Tying a reefer knot

**2014-2015 Practicum**
Using a Cat Bag
Restraint of the cat for Jugular Venipuncture
Use a microscope
Open a gown and gloves
Applying a gauze dog muzzle
Restraint of a small dog in lateral recumbency
Haltering a Horse
Tying a half hitch
Administering Ophthalmic medication
Fecal flotation with fecalzer
Cat Stretch- restraint of the cat lateral recumbency

**2015-2016 Practicum**
Removing a cat from a cage
Applying a cat muzzle
Restraint of the dog for Venipuncture of Lateral Saphenous vein
Tying a double half hitch knot
Tying a square Knot
Administrating topical wound treatment
Administrating an Intramuscular injection
Prepare a Gram-Stained slide
Opening a surgery pack
Prescription filling
Administrating topical parasiticide

2016-2017 Practicum
Placing a tail tie
Bandage Application
Building an temporary rope halter for a cow
Restraint of a dog for Jugular venipuncture
Restraint of a dog for Cephalic Venipuncture
Applying a commercial dog muzzle
Surgical Preparation
Removal of sutures
Administrating a subcutaneous injection
Preparing a surgical pack for sterilization
Collect a sample of dermatophyte culture and Inoculate Dermatophyte culture
Restraint of the cat for Cephalic IV Catheter placement

VIII. General Knowledge Test (Time: 45 minutes)
A. The written exam will consist of 50 multiple choice questions drawn from a compiled test bank of 300 which will be made available to teams no later than January 1st. There will be a general knowledge test to cover behavior, vitals, dog groups, restraint, laws, math, anatomy/physiology, tool use, medical terms, genetics, nutrition, medical records, diseases, and husbandry. The addendum will still be used. (Addendum: To be created by the Specialty Animals Committee to set definitive values for body temperature (in Fahrenheit), gestation, heart rate and respiration for goats, dogs, rats, cats, mice, cavies, and rabbits). Tool use (from the tool ID list) and the seven dog group classifications (from the AKC). The test will also include math applications common in veterinary care.
B. Test will be generated in scantron form including multiple choice, true/false and/or matching.
C. The test will be 50 questions in length with each question being worth 2 points each.
### Equipment and Materials Identification List

<table>
<thead>
<tr>
<th>Equipment/Material</th>
<th>Description</th>
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<td>Ambubag</td>
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<td>Anesthetic machines</td>
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<td>Animal clippers</td>
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<td>Autoclave</td>
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<td>Autoclave tape indicator</td>
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<td>Backhaus towel clamps</td>
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<tr>
<td>Balling gun</td>
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<tr>
<td>Bands (castration or docking)</td>
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<tr>
<td>Bandaging material- Elasticon</td>
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<tr>
<td>Bandaging material- roll gauze</td>
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<td>Bandaging material- vet wrap</td>
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<td>Basket muzzle</td>
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<td>Betadine</td>
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<td>Brush - Body (soft bristle)</td>
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<tr>
<td>Brush - Dandy (stiff bristle)</td>
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<td>Brush - Slicker</td>
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<td>Brush - Pin</td>
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<td>Bulb syringe</td>
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<td>Carmalt</td>
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<td>Catch pole (dog snare)</td>
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<td>Comb - Flea</td>
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<td>Comb - Scotch</td>
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<td>Cover slips</td>
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<td>Dehorner - electric</td>
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<td>Dehorner - scoop or tube</td>
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<td>Disposable hypodermic needles</td>
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<td>Ear notcher</td>
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<td>Forceps- Babcock tissue</td>
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<td>Forceps- Crile</td>
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<td>Forceps- Halstead mosquito hemostatic</td>
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<td>Forceps- Kelly</td>
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<tr>
<td>Forceps - Rat tooth thumb</td>
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<tr>
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<td>Gag mouth speculum (large)</td>
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<td>Gavage needle</td>
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<td>Gravity feeder / J tube</td>
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<td>Hog snare</td>
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<td>Hoof knife</td>
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<td>Hoof nippers</td>
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<td>Hoof pick</td>
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<td>Hoof rasp</td>
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<td>Hoof trimmers</td>
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<td>Hydraulic chute</td>
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<td>Identification tag applicator</td>
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<td>IV administration</td>
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<td>Laryngoscopes</td>
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<td>Lead rope</td>
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<td>Lead gloves</td>
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</tbody>
</table>
Equipment and Materials Identification List – continued

Needle holder – Mayo-Hegar
Needle holder – Olsen-Hegar
Microscope slides
Muzzle – commercial
Nail clippers – guillotine
Nail clippers - plier
Obstetrical chain and handle
Ophthalmoscope
Otoscope
Paste gun
Pig tooth nippers
Pill counting tray
Radiology personal protective equipment
Rumen magnet
Scalpel blade
Scalpel handle
Scissors – Bandage
Scissors – Lister bandage
Scissors – Littauer suture removal
Scissors – Mayo dissecting
Scissors – Metzenbaum dissecting
Shedding blade
Silver nitrate sticks
Small animal oxygen cage
Snook ovariohysterectomy hook
Squeeze chute
Staple remover
Steel lift table
Stethoscope
Surgical cap
Surgical gloves
Surgical gown
Surgical masks
Surgical tray
Suture materials
Suture needle
Suture wire cutting scissors
Syringe - leur lock
Syringe - slip tip
Syringe - automatic, multi-dose
Tattooing instruments - small & large
Tourniquet
Trocar & cannula
Weight tape
Parasite Identification List

Blowfly (Family Calliphoridae)
Blowfly Maggot (Family Calliphoridae)
Cat Warble (Genus Cuterebra)
Cattle Grub (Genus Hypoderma)
Coccidia (Genus Isospora or Eimeria)
Demodectic Mite (Genus Demodex)
Ear Mite (Family Ascaridae; Genus Otodectes)
Fleas* (Genus Ctenocephalides)
Flea Larva (Genus Ctenocephalides)
Flea Tapeworm (Genus Dipylidium)
Flea Tapeworm Egg (Genus Dipylidium)
Flea Tapeworm Segments (Genus Dipylidium)
Giardia (Genus Giardia)
Hard Tick (Family Ixodidae; Genus Amblyomma or Dermacentor)
Heartworm Adult* (Genus Dirofilaria)
Heartworm Microfilaria* (Genus Dirofilaria)
Hookworm Adult* (Family Ancylostomatidae; Genus Ancylostoma, Uncinaria, or Globocephalus)
Hookworm Egg* (Family Ancylostomatidae; Genus Ancylostoma, Uncinaria, Globocephalus or Bunostomum)
Horse Bots* (Genus Gasterophilus)
Horse Strongyles* (Family Strongylidae; Genus Strongylus)
Lice - Biting (Order Mallophaga; Genus Bovicola or Trichodectes)
Lice - Sucking (Order Anoplura; Genus Linognathus or Hematopinus)
Liver Fluke (Class Trematoda; Genus Fasciola, Fascioloides or Dicrocoelium)
Lungworm (Family Metastrongylidae; Genus Metastrongylus, Dictyocaulus or Aelurostrongylus)
Mosquito Adult (Family Culicidae; Genus Anopheles, Culex or Aedes)
Mosquito Larva (Family Culicidae; Genus Anopheles, Culex or Aedes)
Pinworm (Genus Oxyuris)
Roundworm Adult* (Family Ascarididae or Toxocaridae; Genus Toxocara, Toxascaris, Ascaris, Parascaris or Neoascaris)
Roundworm Egg* (Family Ascarididae or Toxocaridae; Genus Toxocara, Toxascaris, Ascaris, Parascaris or Neoascaris)
Sarcoptic Mite (Family Ascarididae; Genus Sarcoptes or Notoedres)
Taenia Tapeworm* (Family Taeniidae; Genus Taenia)
Taenia Tapeworm Egg* (Family Taeniidae; Genus Taenia)
Taenia Tapeworm Segment* (Family Taeniidae; Genus Taenia)
Soft Tick (Family Argasidae; Genus Otobius or Argas)
 Whipworm* (Genus Trichuris)
Whipworm Egg* (Genus Trichuris)
*Asterisk indicates which parasite life cycles could have questions.
**Breed Identification List**

### Dogs

**Sporting Group**
- Brittany
- Cocker Spaniel
- English Setter
- English Springer Spaniel
- German Shorthaired Pointer
- Golden Retriever
- Irish Setter
- Labrador Retriever
- Weimaraner

**Herding Group**
- Australian Cattle Dog
- Australian Shepherd
- Border Collie
- Cardigan Welsh Corgi
- Collie
- German Shepherd Dog
- Old English Sheepdog
- Pembroke Welsh Corgi
- Shetland Sheepdog

**Toy Group**
- Cavalier King Charles Spaniel
- Chihuahua
- Italian Greyhound
- Maltese
- Miniature Pinscher
- Papillon
- Pekingese
- Pomeranian
- Poodle
- Pug
- Shih Tzu
- Silky Terrier
- Toy Fox Terrier
- Yorkshire Terrier

**Non-Sporting Group**
- Bichon Frise
- Boston Terrier
- Bulldog
- Chinese Shar-Pei
- Chow Chow
- Dalmatian
- Lhasa Apso
- Poodle

**Working Group**
- Akita
- Alaskan Malamute
- Bernese Mountain Dog
- Boxer
- Bullmastiff
- Doberman Pinscher
- Giant Schnauzer
- Great Dane
- Great Pyrenees
- Mastiff
- Newfoundland
- Portuguese Water Dog
- Rottweiler
- Saint Bernard
- Samoyed
- Siberian Husky
- Standard Schnauzer

**Terrier Group**
- Bull Terrier
- Cairn Terrier
- Miniature Schnauzer
- Parson Russell Terrier
- Scottish Terrier
- Smooth Fox Terrier
- West Highland White Terrier
- Wire Fox Terrier

**Small Mammals**
- Chinchilla
- Degus
- Ferret
- Gerbils
- Guinea Pig
- Hamster
- Hedgehog
- Sugar Glider

**Birds**
- Cockatiel
- Cockatoos
- Love Birds
- Parakeet
- African Gray Parrot
- Canary
- Macaw
- Mynah
- Rainbow Lorikeet
- Society Finch
- Sun Conure
- Zebra Finch

**Reptiles**
- Chameleon
- Gecko
- Iguana
- Bearded Dragon
- Snake
- Turtle
- Frog
- Toad
<table>
<thead>
<tr>
<th>Cats</th>
<th>Poultry</th>
<th>Other</th>
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<tbody>
<tr>
<td>Abyssinian</td>
<td>Chicken-Cornish</td>
<td>Potbellied Pig</td>
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<td>American Shorthair</td>
<td>Chicken-Leghorns</td>
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<td>Chicken- Rhode Island Red</td>
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**Goats**

- **Body temperatures**: 100.9 - 105.3 degrees F
- **Gestation**: 150 days or 5 months
- **Respiration**: 10-30 breaths per minute
- **Heart rate**: 70 - 95 beats per minute

**Dogs**

- **Body temperatures**: 101 to 102.5 degrees F
- **Gestation**: 62 - 63 days
- **Respiration**: 10 to 30 breaths per minute.
- **Heart rate**: 80 – 120 beats per minute

**Cats**

- **Body temperatures**: 101 to 102.2 degrees F
- **Gestation**: 63 - 64 days
- **Respiration**: 20 to 30 breaths per minute.
- **Heart rate**: 160 to 220 beats per minute

**Rabbits**

- **Body temperatures**: 101.5-103 degrees F
- **Gestation**: 29-35 days
- **Respiration**: 35 - 65 breaths per minute
- **Heart rate**: 130-325 beats per minute

**Cavies**

- **Body temperatures**: 103 degrees F
- **Gestation**: 58 - 70 days
- **Respiration**: 84 breaths per minute
- **Heart rate**: 250 - 350 beats per minute

**Rats**

- **Body temperatures**: 95-101 degrees F
- **Gestation**: 21-23 days
- **Respiration**: 80-150 breaths per minute
- **Heart rate**: 320 – 480 beats per minute

**Mice**

- **Body temperatures**: 95-101 degrees F
- **Gestation**: 19-21 days
- **Respiration**: 80-150 breaths per minute
- **Heart rate**: 350-600 beats per minute
Official Rubrics for each practicum can be found at the National FFA website:

https://www.ffa.org/Programs/Awards/CDE/Pages/Veterinary-Science.aspx

EXAMPLE RUBRIC

Veterinary Science

Handling and Restraining Practicum

Carrying a Cat

Participant Name: ____________________ State: ____________________

Participant must talk through practicum steps with judge.

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Points Possible</th>
<th>Points Earned</th>
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<tr>
<td>1. The student ensures that the cat is calm and happy.</td>
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<td>2. The student places one hand on the front of the cat’s body to control the head and front limbs.</td>
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<td>3. The student places his/her other hand under the abdomen and rump to control the rear limbs.</td>
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<td>4. The student pulls the cat close to their body for support.</td>
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<td>TOTAL POINTS</td>
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Total Points x 2 = Final Score

_____________________________  ________________________ Judge’s Signature
Date
APPENDIX 2
APPENDIX 2 - CURRICULUM

LASSEN UNION HIGH SCHOOL DISTRICT

Lassen High school

I. COURSE IDENTIFICATION

A. Course Title: Companion Animal Science

B. Grades: 10th, 11th or 12th grade

C. Length of Course: One Year—180 hours

D. Credits: Life Science (10 units)

II. COURSE DESCRIPTION

This course is designed to give students a working knowledge of the small animal care industry, which includes dogs, cats, and other pets. The course provides an understanding of breeds, animal health, nutrition, training, anatomy and physiology, grooming, handling, medical techniques, instruments and equipment and related employment practicum skills. Students will demonstrate a variety of techniques used in veterinary facilities. Students will develop a thorough knowledge of small animals, their management and an understanding of the veterinary industry, biomedical research and laws. Upon completion of this course, students will have the skills needed for an entry-level position or entrance into a degree program.
III. OBJECTIVES

Each student should develop the concepts, principles, and skills involved in the various areas listed:

1. Students will be able to properly demonstrate a variety of handling techniques with multiple species.
2. Students will be able to describe the process of pet selection.
3. Students will prepare an argument and discuss a variety of animal rights/welfare topics that pertain to the animal industry today.
4. Students will select a small animal care career and prepare a presentation describing that career.
5. Students will be able to identify 76 dog breeds, and describe the history, anatomy, how to properly choose, training, and reproductive aspects of dogs.
6. Students will be able to identify 14 cat breeds, and describe the history, anatomy, how to properly choose, training, and reproductive aspects of cats.
7. Students will demonstrate a variety of practicums with dogs and cats that prepare these species for veterinary procedures in a veterinary clinic.
8. Students will be able to identify 14 rabbits and 8 small animal breeds, and describe the history, anatomy, how to properly choose, training, carrying, and reproductive aspects of rabbits.
9. Students will memorize vital signs of small animals and perform how to take those vitals.
10. Students will learn small animal general knowledge and demonstrate proper use of a microscope.
11. Students will be able to identify 128 pieces of equipment/tools used in a veterinary clinic and demonstrate the proper use of those tools.
12. Students will understand basic surgery procedures and how to prepare equipment in veterinary clinics for those procedures.
13. Students will lean animal cell biology, anatomy, physiology and nutrition and perform lab procedures that teach students hands on instruction.

14. Students will learn and identify animal diseases and parasites and methods of prevention and diagnosis.

15. Students will learn how to write lab reports and properly handle samples in a laboratory setting.

16. Students will demonstrate how to create 6 common knots used in a veterinary facility.

**Unit Plan:**

**Semester 1:** Small animal care (17 weeks)

I. FFA (1 day)
   a. What is FFA and what does it have to offer me?

II. Unit I
   a. Introduction to Small Animals (2 days)

III. Unit II
   a. Animal Safety (4 days)
      i. Importance of animal safety
      ii. Diseases that can be transported between animals and humans
      iii. Proper animal restraint
      iv. Guidelines when handling dangerous chemicals
      v. Practicums demonstrated: Carrying a cat, removing a dog from a floor level cage or kennel, haltering cattle, using a cat bag, haltering a horse, removing a cat from a cage, applying a cat muzzle, applying a commercial dog muzzle, applying a gauze dog muzzle

IV. Unit III
   a. Small Animals as Pets (1 week)
i. How to choose a pet
ii. Benefits and responsibilities of pets
iii. Euthanasia

V. Unit IV
a. Animal Rights and Animal Welfare (2 weeks)
   i. Describe the difference between animal rights and animal welfare
   ii. Issues and legislation involving animal rights and animal welfare
   iii. Create an argument about a current issue and debate

VI. Unit V
a. Careers in Small Animal Care (4 days)
   i. Opportunities in small animal care and management

VII. Unit VII
a. Dogs (4 weeks)
   i. Students will be able to identify 76 AKC dogs breeds
   ii. Students will learn the history of dogs
   iii. Students will learn a short background each breed of dog
   iv. Students will learn the anatomy of dogs
   v. Students will learn how to properly choose, feed and train dogs
   vi. Students will know the reproduction stages of a dog and how to assist in delivery
   vii. Practicums demonstrated: Restraint of dog in sternal recumbency, lateral recumbency, and jugular venipuncture. Restraint of a dog for venipuncture of lateral saphenous vein. Placing a tail tie

VIII. Unit VII
a. Cats (2 ½ weeks)
i. Students will be able to identify 14 cat breeds
ii. Students will learn the history of cats
iii. Students will learn a short background each cat breed
iv. Students will learn the anatomy of cats
v. Students will learn how to properly choose, feed and train cats
vi. Students will know the reproduction stages of a cat and how to assist in delivery
vii. Practicums demonstrated: restraint of a cat for femoral venipuncture, jugular venipuncture, in lateral recumbency, and for Cephalic IV Catheter placement.

IX. Unit VIII
a. Rabbits and other small mammals (2 weeks)
   i. Students will be able to identify 14 rabbits and 8 small animal breeds.
   ii. Students will learn the history and uses of rabbits
   iii. Students will learn a short background of each breed
   iv. Students will learn the anatomy of rabbits
   v. Students will learn how to properly choose, house, feed and handle rabbits
   vi. Practicum demonstrated: restraint of a rabbit

X. Unit IX
a. Gestation and vital signs (2 weeks)
   i. Students will memorize the body temperature, gestation, respiration and heart rate of goats, dogs, cats, rabbits, cavies, rats and mice.
   ii. Students will perform how to take these vital signs on goats, dogs, cats and rabbits.
**Semester 2:** Introduction to Veterinary Science (20 weeks)

XI. FFA Record Books / SAE (1 week)

XII. Unit I
   a. Small Animal General Knowledge (4 days)
      i. Students will be review the veterinary science question bank describing key terminology and concepts (This will be referred to throughout all units this semester)
   b. How to use a microscope properly
      i. *Practicum demonstrated:* Use a microscope, prepare a gram stained slide

XIII. Unit II
   a. Equipment and Materials (4 weeks)
      i. Students will learn to identify 128 equipment/tools used in veterinary facilities.
      ii. Students will learn proper tool use for the surgical equipment and tools.
      iii. Review test questions from general knowledge question bank that relate to equipment and tools.
   b. Surgery
      i. Principles of surgery and basic surgery procedures
      ii. *Practicums demonstrated:* Collect a sample of dermatophyte culture and inoculate dermatophyte culture, prepare a surgical pack for sterilization, removal of sutures, surgical preparation, bandage application, prescription filling, opening a surgery pack, administering topical wound treatment, administering ophthalmic medication, open a gown and gloves, bandage removal, administering aura medication.
XIV. Unit III
   a. Basic Animal Cell Biology (2 weeks)
      i. Cell makeup, structure and function
      ii. Animal Reproduction
      iii. Review test questions from general knowledge question bank that relate to cell biology

XV. Unit IV
   a. Physiology and Anatomy (3 weeks)
      i. Skeletal systems
      ii. Digestive, reproductive, endocrine and cardiopulmonary systems
      iii. Review test questions from general knowledge question bank that relate to physiology and anatomy
   b. Nutrition and Digestive Systems (2 weeks)
      i. Nutrition and Nutrients
      ii. Nutrient Groups
      iii. Ruminant and non ruminant animals
      iv. Pet food labels
      v. Review test questions from general knowledge question bank that relate to nutrition and the digestive system

XVI. Unit V
   a. Diseases (4 weeks)
      i. Principles of Diseases
      ii. Students will be able to identify 36 parasites found in animals.
      iii. Canine/Feline
         1. Infectious diseases
         2. Noninfectious diseases
         3. Fungus Diseases
4. Internal Parasites
5. External parasites
6. Poisonings
   iv. Disease Prevention and diagnosis
v. Vaccines
   1. Administering types of vaccines
   2. *Practicums demonstrated:* Filling a syringe, administering a subcutaneous injection, administering an intramuscular injection, administering topical parasiticide

XVII. Unit VII (2 weeks)
   a. Lab reports and handling samples
      i. Fecal analysis
      ii. Urinalysis
      iii. *Practicum demonstrated:* fecal float with fecalizer

XVIII. Unit VII (1 week)
   a. How to properly tie knots used in a veterinary clinic.
   b. *Practicums demonstrated:* tying bowline knot, tying a reefer knot, tying a half hitch, tying a double half hitch, tying a square knot, building a temporary rope halter.
COURSE: COMPANION ANIMAL SCIENCE

TEACHER: MRS. AMMON

UNIT 2: ANIMAL SAFETY

Day 1:

Daily objective:
1. Explain the importance of safety when working and playing with small animals
2. List 10 types of diseases that can be transmitted from animals to humans
3. Describe how to prevent becoming infected
4. Describe proper restraint procedures when working with small animals
5. List guidelines for safety when handling dangerous chemicals and when working with small animals

Key Vocabulary: Evulsions, immune gamma globlin, intermediate hosts, intradermal, intramuscular, parasites, reservoir, sustenance, zoonoses

Anticipatory set: Have you ever been confronted with an animal and had to carry it, move it or restrain it and you were unsure how to do it without being scratched, bit, or injured?

Assignment/Activity:
• I do: Lecture: Unit 2: Animal Safety power point
• We do: Review of questions at conclusion of power point. Review Animal Handing and restraint reading
• You do: Animal Handling and Restraint worksheet.

Assessment: Students will complete the questions at the end of the power point and the animal handling and restraint worksheet.
Day 2:

**Daily objective:** I will demonstrate proper restraint procedures when working with animals including how to properly carry a cat, use a cat bag, remove a cat from a cage, and apply a cat muzzle.

Anticipatory set: How many of you have owned, do own, or may someday own a cat? The unit today will address proper ways to carry or restrain a cat as needed whether it is your cat, a friend’s cat, or a cat in the veterinary clinic.

**Assignment/Activity:**

- **I do:** I will demonstrate the procedure of how to properly carry a cat (see rubric for carrying a cat). Students will record the steps. Show you tube clip for how to properly carry a cat.

```
* Carrying a Cat *
1. The student ensures that the cat is calm and happy.
2. The student places one hand on the front of the cat’s body to control the head and front limbs.
3. The student places his/her other hand under the abdomen and rump to control the rear limbs.
4. The student pulls the cat close to their body for support.
http://www.youtube.com/watch?v=cbQkbkd_ZSQ
```

- **We do:** Students will verbalize the steps while I perform the steps.
- **You do:** Students will practice how to properly carry a cat. (There will be a few cats brought to school for students to practice)
- Repeat for using a cat bag, removing a cat from a cage and applying a cat muzzle.

**Assessment:** Students will properly demonstrate how to perform these 4 practicums.
Day 3:

**Daily objective:** I will demonstrate proper restraint procedures when working with animals including how to halter cattle and how to halter a horse.

**Anticipatory set:** Imagine working in a veterinary clinic and you are asked to halter a cow inside a trailer and bring it out for the vet to examine. How many of you would be able to properly perform this? How many would have an idea but it may take a while? How many would not have a clue where to start or even the top end from the bottom end of the halter?

**Assignment/Activity:**

- **I do:** I will demonstrate the procedure of how to properly halter cattle. Students will record the steps. Show you tube clip for how to properly halter cattle.

  *Haltering Cattle*

  1. The student places crown piece of halter over ears, then slips nose through nosepiece.
  2. The student properly adjusts the halter such that the nose band crosses over bridge of nose halfway between the nostrils and eyes.
  3. The student ensures that the adjustable portion of the nose band is under the chin, not across the bridge of the nose.
  4. The student keeps the standing end or lead rope portion on the left side of the cow.

  [http://www.youtube.com/watch?v=puEBUSNIYLc](http://www.youtube.com/watch?v=puEBUSNIYLc)

- **We do:** Students will verbalize the steps while I perform the steps.
- **You do:** Students will practice how to halter cattle. (A Steer and a horse will be brought to school for students to demo)
- **Repeat for how to halter a horse.**

**Assessment:** Students will properly demonstrate how to perform these 2 practicums.
Day 4:

*Daily objective:* I will demonstrate proper restraint procedures when working with animals including how to remove a dog from a floor level cage or kennel, applying a commercial dog muzzle, and applying a gauze dog muzzle.

*Anticipatory set:* Everyone in this room has either owned a dog, knows someone who has owned a dog or has run into a dog in their lifetime. It is a commonality in a veterinarian clinic to work with dogs and to need to be able to handle them properly. There are many different techniques as to how to handle and restrain them but there are ways that are right and wrong. Today we will teach you those ‘right’ ways.

*Assignment/Activity:*

- **I do:** I will demonstrate the procedure of how to properly remove a dog from a floor level cage or kennel. Students will record the steps. Show you tube clip for how to perform properly.

* *Removing a dog from a floor level cage or kennel*
  1. The student places a leash in one hand with a large loop open and ready to place over the dog’s head.
  2. While blocking the opening, the student opens the cage door enough to slip the hand holding the leash into the cage.
  3. The student slips the leash over the neck of the dog and gently tightens the leash around the neck.
  4. The student opens the door and allows the dog to exit the cage.
  5. The student keeps the dog to their side while maintaining a slight tension on the leash.

    [https://www.youtube.com/watch?v=pul76X1-gg&list=PLphcaJ5_u3- ao990hPPtor1arltUhr6m&index=13](https://www.youtube.com/watch?v=pul76X1-gg&list=PLphcaJ5_u3- ao990hPPtor1arltUhr6m&index=13)

- **We do:** Students will verbalize the steps while I perform the steps.
- **You do:** Students will practice how to remove a dog from a floor level cage or kennel. (A few dogs, leashes, a couple kennels, and muzzles will be present)
• Repeat for how to apply a commercial dog muzzle and how to apply a gauze dog muzzle.

Assessment: Students will properly demonstrate how to perform these 3 practicums.
APPENDIX 3
Unit 2: Animal Safety

Objectives:
1. Explain the importance of safety when working and playing with small animals
2. List 10 types of diseases that can be transmitted from animals to humans
3. Describe how to prevent becoming infected
4. Describe proper restraint procedures when working with small animals
5. List guidelines for safety when handling dangerous chemicals and when working with small animals
Terms to Know

- Evulsions
- Immune gamma globulin
- Intermediate hosts
- Intradermal
- Intramuscular
- Parasites
- Reservoir
- Sustenance
- Zoonoses

Risks with Small Animals

- Zoonoses are diseases that can be transmitted from animals to humans
- Examples: Rabies, bubonic plague
• Parasites are organisms that live on or within another organism or host which derives its sustenance (food) from the host

• Examples: Ascarids and hookworms (types of roundworms) all be passed on to humans

• Who is more at risk? Adult or kids?
• Parasite is transmitted through contact with the animal’s feces or contaminated soil
• Symptoms of roundworms in humans are fever, headache, cough and poor appetite.
• Most effective means of prevention?
  – De-worm your animals!
Physical restraint of animals

- Reasons to restrain animals:
  - Examination
  - Collection of blood or samples
  - Administration of drugs
  - Therapy

- Cats are known to bite when subjected to new situations
- When working around the head or neck the animal can be wrapped in a blanket thus controlling the legs of the animal. They can also be placed in zipper-ed-type canvas bags
• Cats can also be transported in small cages or “cat carriers”. Wear gloves as the cat can bite in this situation. Grab with one hand on the scruff of the neck and the other hand on the rear legs.

• Cats can also be caught or restrained with a catch pole. The noose is slipped over the head and front legs to go around the chest. This should be the last resort.

• As a general rule, it is advisable to reach down and pick up a cat from above. A face-to-face confrontation might provoke a cat into becoming uncooperative or aggressive.

  **Cooperative Cat:** Place one hand around the abdomen beneath the chest and take hold of the front legs so they cross over each other, keeping your index finger between them for a secure grip. Pick up the cat and snuggle it close to your body. Cradle the chin with your other hand.

  **Apprehensive Cat:** Reach down and lift the cat by the scruff of its neck. Most cats go limp—as they did when their mothers carried them as kittens. Support the back feet with your other hand.

  **Frightened Cat:** Cover the animal with a towel. After a minute or two, as the cat becomes calmer, slide the rest of the towel underneath and lift up the cat as a bundle.

  **Aggressive Cat:** Slip a leash or a loop of rope over the cat’s head and one front leg. Then lift the animal by the leash and set it down on a table or into a cat carrier or box. This method should be used only as a last resort because it is certain to agitate the cat further.
• Dogs can be restrained while the animal is in standing or sitting position by placing one arm under the dog’s neck with the forearm holding the head. The other arm is placed around the animal’s body, and the animal is held close to the handler’s body

• Muzzles can be used to prevent bites
How to make a muzzle

- Cross the ends under the dog’s jaw and bring them up behind the ears and tie them in a bow
- The bow can be quickly untied by pulling on the ends

Restraining rabbits

- Rabbits can be picked up by the scruff of the neck with one hand lifting up and placing the other hand on the rump or abdomen. Make sure the hindquarters are supported!
- Rabbits seldom bite but can cause injury with their hind legs.
- Rabbits should not be placed on a smooth surface. They can cause injury to themselves while trying to hop or move. Rabbits should be placed on a piece of carpet or on a towel.
- Restrain boxes are also available

Rat and Mice restraint

- Rats and mice that have not been handled may bite. Wear gloves and place animal on a carpet surface. Grab gently by the tail but grab as close to the body of the animal as possible. When it is in a stretched out position use your other hand to grab the loose skin on the neck and shoulders.
General Guidelines for Safety

- 1. Always wear protective clothing and equipment
- 2. Always wash clothing and equipment after use to prevent contamination
- 3. Wash hands and face after completing a job to make sure all chemical residue is removed.
- 4. If required, shower after completing a job so that chemical residue is completely removed from the body

- 5. Wash hands frequently while working with animals. This will prevent contamination from animal to animal
- 6. Keep hands away from the mouth, eyes and face when working with chemicals and animals
- 7. Do not consume food or drink in areas where contamination can occur
- 8. Remove uniforms, lab coats or coveralls when leaving an area that can be contaminated
- 9. Never wash items above with regular clothes
• 10. Make sure all containers are correctly labeled to prevent misuse
• 11. Dispose of all chemicals and their containers according to proper procedure or instructions on the label.
• Students and small animal workers should be instructed in the proper handling of small animals
• First aid kits should be kept in the work area

Review

1. What is a parasite?
2. What is a host?
3. What is zoonoses?
4. Why are children and the elderly more at risk from some of the diseases?
5. Why shouldn’t a pregnant woman handle a cat litter box?
6. What are some safety guidelines to follow when working with small animals?
APPENDIX 4
Animal Handling Skills - Professionalism and Safety

- The public watches us to learn how to properly handle animals.
- Being professional means being SAFE and HUMANE.
- Good animal handling skills prevent staff from being injured.
- Good animal handling skills reduce stress for the animal.

Examples of Safe Animal Handling:

- Be aware of the special stressors for animals in the clinic setting.
- The clinic is extremely chaotic for any animal - there are an incredible number of smells and other stimuli and animals are likely to be confused and distressed.
- Many of our patients have lived entirely outdoors and have not been handled or examined before. They may not have any experience on a leash and may panic in response.
- Even the most social animal may exhibit aggression toward other animals, particularly in a strange environment and may redirect to nearby people when over-stimulated.
- Never put your face directly into the face of a dog or cat.
- Do not move in behind or crowd around a dog.
- Concentrate on the animal you are handling without being distracted by other activities.
- NEVER sit on the floor while handling/examining a dog. If the animal becomes aggressive or roused you will be unable to move away or protect yourself and risk serious facial bites.
- Always be prepared to protect yourself or move away quickly in the event an animal becomes aggressive unexpectedly. Safe and effective animal handling requires a thorough understanding of the normal behavior and responses of each species. Below is some general information on animal behavior and handling techniques. There is no substitute, however, for careful observation and experience.
If there is any doubt about the temperament of an animal-ASK FOR ASSISTANCE. There are no extra points for being a 'hero'. The safety of staff and patients is most important!

Communication

Any animal exhibiting potentially aggressive behavior should have a kennel sign (CAUTION) posted to alert others who may be handling the animal. Specific alerts or recommendations should be written on the sign and in the medical record to provide staff and other volunteers with as much information as possible when handling the animal.

Restraint or Control

The first rule to keep in mind when handling any kind of animal is that the least restraint is often the best restraint. This does not mean that you give up your control, just that you use as little restraint as necessary while maintaining control of the situation. Every animal and every situation is different so there are no hard and fast rules as to what method works best in which situation.

Before attempting to restrain an animal you should take a moment to allow the animal to become comfortable with you:

- Crouch down so that you are on their level. Do not sit on the ground as you will be unable to move away or protect yourself if necessary.
- Avoid direct eye contact but maintain safe visual contact with the animal
- Talk in soothing tones. Avoid high-pitched, excited talk.
- Try patting your leg or the ground, motioning the animal towards you.

**TYPES OF RESTRAINT**

**VERBAL RESTRAINT:**
Many dogs know some commands or can at least recognize authority, even if the command is unfamiliar.

Commands such as SIT, STAY, COME, DOWN, NO or even HEEL may be useful tools to encourage a dog to cooperate. Also, soft quiet words can calm a frightened animal. Yelling or screaming should never be used as it can cause the animal to become more fearful or aggressive.

**PHYSICAL RESTRAINT: TOOLS AND EQUIPMENT**

**Leash:** The most common tool used to handle animals in the clinic is the leash. Placed around a dog’s neck it normally controls even the largest dog. In the event a dog refuses to cooperate with a leash – carry him. Some dogs have never seen a leash and will freeze up to the sensation around a sensitive area like the neck. Leashes can be abused; never drag or strangle an animal with a leash; if the animal starts to struggle, pulling and jerking away from you, she is probably not leash trained. Pause and let the dog calm down and try again after reassuring her. Sometimes a quick tug on the leash will encourage a fearful dog to walk. If the dog refuses to walk, apply a muzzle (if necessary) and carry her.
When handling cats, a leash should be used as a back-up in the event the cat should become frightened and resist restraint. Make a figure-eight harness by looping the free end of a slip lead back through the metal ring. The looser loop is placed around the chest behind the cat’s front legs and the other loop placed around the neck with the metal ring/handle on top between the shoulders. This will prevent the cat from escaping or injuring someone should she get loose from your restraint. The harness should be put on at intake and can be left on the cat throughout their stay.

**EVERY animal being transported or handled in the clinic must ALWAYS wear a slip-lead.** This includes puppies, cats and sedated animals. It is too easy for a frightened animal to get loose and escape. Animals presented on leash/collar should be transferred to a slip lead and the leash returned to the client so that it is not lost during the animal’s stay.

**Your hand:** A very effective form of restraint, your hands are sensitive to the amount of pressure that is being exerted on the animal and can be quickly modified to the situation. Hands can be used to gently stroke a dog or to firmly grasp a struggling cat. Although hands can be the most versatile, they are also the most vulnerable to injury. Recognizing when they would not be effective is very important.
**Towels:** A towel or blanket is a very useful tool for cats and small dogs. A towel can be used to decrease an animal’s arousal by covering the head and body and can help protect from sharp claws.

**Come-a-long or control pole:** The control pole is used to safely handle extremely aggressive dogs. Used appropriately it is an effective tool. Inappropriate or unskilled use can cause serious injury to the animal. The control pole may further distress an upset animal and should only be used when the handler or other’s safety is genuinely threatened. Volunteers are NOT to use the control pole unassisted. If an animal is aggressive enough to warrant the use of a control pole an experienced staff member should be consulted for assistance as the animal will also be evaluated for chemical restraint options.

**Nets:** The net is the primary tool used to handle fractious cats or wildlife. It allows for the safe handling and transfer of even the most aggressive small mammal. Effective use of the net requires some training and practice. If you need to handle a feral or fractious cat ask for assistance from a staff member.

**Muzzles:** Muzzles are used when a snappy or potentially aggressive dog must be handled. There are nylon muzzles and plastic basket available. A leash or strip of rolled gauze can be used as a temporary muzzle. Because dogs often try to remove a muzzle, it is important that the muzzle be placed securely. A weak or poorly made muzzle may lead to a false sense of security and the possibility of being...
bitten. Even with a securely placed muzzle, appropriate handling must be used to prevent injury from an animal who resists. Muzzles designed for cats extend up to cover the eyes, reducing visual stimulation. For some cats these can be very useful for calming the animal and helping to protect the handler from injury,

**Drugs:** For animals who are too aggressive or stressed to handle safely for procedures, sedation and/or general anesthesia may be necessary to allow treatment. If you are unable to handle an animal, notify a staff member to determine whether sedation is appropriate. When receiving an animal for surgery who exhibits difficult or aggressive behavior consult the Anesthesia Lead prior to kenneling the animal as we may opt to administer a pre-anesthetic sedative immediately and expedite the surgery process to minimize the animal’s time in the clinic.

**Credo: Never Let Go.**

The place where correct use of restraint is the most critical is when two people are handling the animal. This could be to perform a physical exam, administer anesthetic or to give medications. The "holder" is the person whose job it is to restrain the animal in such a way that the procedure can be accomplished with the least amount of stress to both handlers and animal. The specific amount of restraint used to control the animal is the key to safety for the handlers and comfort for the animal. Too much restraint can cause the animal to fight back, too little restraint can result in the handler or others being injured or in the animal escaping.
APPENDIX 5 - REVIEW - UNIT 2 - ANIMAL RESTRAINT

1. T  or  F  Good handling prevents stress to the animal and can help prevent injury.
2. T  or  F  Place your face in front of the animal to maintain eye contact when trying to calm them down.
3. T  or  F  Sit on the floor next to the dog or cat you are examining to bring your body closer to their level.
4. T  or  F  Signs may be placed on kennels labeling whether or not they are aggressive.
5. T  or  F  The best form of restraint is your hands.
6. What are 4 things to keep in mind before restraining an animal?
   a. 
   b. 
   c. 
   d. 
7. T  or  F  Your volume of commands around an animal can calm or excite them.
8. What are the 6 basic commands?
   a. 
   b. 
   c. 
   d. 
   e. 
   f. 
9. What are the 7 types of physical restraints and a short description of each:
   a. 
   b. 
10. T  or  F  When an animal is fighting you while you are trying to handle it you should let go to prevent injury.
APPENDIX 6 - RUBRIC FOR CARRYING A CAT

Veterinary Science
Handling and Restraining Practicum

Student Name: ________________

Participant must talk through practicum steps with teacher.

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Points Possible</th>
<th>Points Earned</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The student ensures that the cat is calm and happy.</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>2. The student places one hand on the front of the cat’s body to control the head and front limbs.</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>3. The student places his/her other hand under the abdomen and rump to control the rear limbs.</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>4. The student pulls the cat close to their body for support.</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>TOTAL POINTS</td>
<td>10</td>
<td></td>
</tr>
</tbody>
</table>