Agriculture, Food & Natural Resources Career Cluster  
Veterinary Science  
Course Number: 02.42400

Course Description:
The agricultural education course in veterinary science covers the basics of animal care. Topics covered include disease, parasites, feeding, shelter, grooming, and general animal care. The target population is career preparatory students desiring to continue education after high school or to enter the workforce after graduation from high school. College preparatory students benefit from the course as an elective if they plan to enter college and pursue a degree to enter the veterinary profession. This course allows students entering the workforce after graduation from high school to develop entry-level skills to become employed and to continue education on the job.

Course Standard 1

AFNR-VS-1
The following standard is included in all CTAE courses adopted for the Career Cluster/Pathways. Teachers should incorporate the elements of this standard into lesson plans during the course. The topics listed for each element of the standard may be addressed in differentiated instruction matching the content of each course. These elements may also be addressed with specific lessons from a variety of resources. This content is not to be treated as a unit or separate body of knowledge but rather integrated into class activities as applications of the concept.

Standard: Demonstrate employability skills required by business and industry.
The following elements should be integrated throughout the content of this course.

1.1 Communicate effectively through writing, speaking, listening, reading, and interpersonal abilities.

<table>
<thead>
<tr>
<th>Person-to-Person Etiquette</th>
<th>Telephone and Email Etiquette</th>
<th>Cell Phone and Internet Etiquette</th>
<th>Communicating At Work</th>
<th>Listening</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interacting with Your Boss</td>
<td>Telephone Conversations</td>
<td>Using Blogs</td>
<td>Improving Communication Skills</td>
<td>Reasons, Benefits, and Barriers</td>
</tr>
<tr>
<td>Interacting with Subordinates</td>
<td>Barriers to Phone conversations</td>
<td>Using Social Media</td>
<td>Effective Oral Communication</td>
<td>Listening Strategies</td>
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<tr>
<td>Interacting with Co-workers</td>
<td>Making and Returning Calls</td>
<td>Effective Written Communication</td>
<td>Ways We Filter What We Hear</td>
<td></td>
</tr>
<tr>
<td>Interacting with Suppliers</td>
<td>Making Cold Calls</td>
<td>Effective Nonverbal Skills</td>
<td>Developing a Listening Attitude</td>
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</tr>
<tr>
<td></td>
<td>Handling Conference Calls</td>
<td>Effective Word Use</td>
<td>Show You Are Listening</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Handling Unsolicited Calls</td>
<td>Giving and Receiving Feedback</td>
<td>Asking Questions</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Obtaining Feedback</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>Getting Others to Listen</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Nonverbal Communication</th>
<th>Written Communication</th>
<th>Speaking</th>
<th>Applications and Effective Résumés</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communicating Nonverbally</td>
<td>Writing Documents</td>
<td>Using Language Carefully</td>
<td>Completing a Job Application</td>
</tr>
<tr>
<td>Reading Body Language and mixed Messages</td>
<td>Constructive Criticism in Writing</td>
<td>One-on-One Conversations</td>
<td>Writing a Cover Letter</td>
</tr>
<tr>
<td>Matching Verbal and Nonverbal communication</td>
<td>Small Group Communication</td>
<td></td>
<td>Things to Include in a Résumé</td>
</tr>
</tbody>
</table>
Improving Nonverbal Indicators
Nonverbal Feedback
Showing Confidence Nonverbally
Showing Assertiveness

Large Group Communication
Making Speeches
Involving the Audience
Answering Questions
Visual and Media Aids
Errors in Presentation

Selling Yourself in a Résumé
Terms to Use in a Résumé
Describing Your Job Strengths
Organizing Your Résumé
Writing an Electronic Résumé
Dressing Up Your Résumé

1.2 **Demonstrate creativity by asking challenging questions and applying innovative procedures and methods.**

<table>
<thead>
<tr>
<th>Teamwork and Problem Solving</th>
<th>Meeting Etiquette</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thinking Creatively</td>
<td>Preparation and Participation in Meetings</td>
</tr>
<tr>
<td>Taking Risks</td>
<td>Conducting Two-Person or Large Group Meetings</td>
</tr>
<tr>
<td>Building Team Communication</td>
<td>Inviting and Introducing Speakers</td>
</tr>
<tr>
<td></td>
<td>Facilitating Discussions and Closing</td>
</tr>
<tr>
<td></td>
<td>Preparing Visual Aids</td>
</tr>
<tr>
<td></td>
<td>Virtual Meetings</td>
</tr>
</tbody>
</table>

1.3 **Exhibit critical thinking and problem solving skills to locate, analyze and apply information in career planning and employment situations.**

<table>
<thead>
<tr>
<th>Problem Solving</th>
<th>Customer Service</th>
<th>The Application Process</th>
<th>Interviewing Skills</th>
<th>Finding the Right Job</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transferable Job Skills</td>
<td>Gaining Trust and Interacting with Customers</td>
<td>Providing Information, Accuracy and Double Checking</td>
<td>Preparing for an Interview</td>
<td>Locating Jobs and Networking</td>
</tr>
<tr>
<td>Becoming a Problem Solver</td>
<td>Learning and Giving Customers What They Want</td>
<td>Online Application Process</td>
<td>Questions to Ask in an Interview</td>
<td>Job Shopping Online</td>
</tr>
<tr>
<td>Identifying a Problem</td>
<td>Keeping Customers Coming Back</td>
<td>Following Up After Submitting an Application</td>
<td>Things to Include in a Career Portfolio</td>
<td>Job Search Websites</td>
</tr>
<tr>
<td>Becoming a Critical Thinker</td>
<td>Seeing the Customer’s Point</td>
<td>Effective Résumés:</td>
<td>Traits Employers are Seeking</td>
<td>Participation in Job Fairs</td>
</tr>
<tr>
<td>Managing</td>
<td>Selling Yourself and the Company</td>
<td>Matching Your Talents to a Job</td>
<td>Considerations Before Taking a Job</td>
<td>Searching the Classified Ads</td>
</tr>
<tr>
<td>Handling Customer Complaints</td>
<td>Strategies for Customer Service</td>
<td>When a Résumé Should be Used</td>
<td></td>
<td>Using Employment Agencies</td>
</tr>
</tbody>
</table>

1.4 **Model work readiness traits required for success in the workplace including integrity, honesty, accountability, punctuality, time management, and respect for diversity.**

<table>
<thead>
<tr>
<th>Workplace Ethics</th>
<th>Personal Characteristics</th>
<th>Employer Expectations</th>
<th>Business Etiquette</th>
<th>Communicating at Work</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demonstrating Good Work Ethic</td>
<td>Demonstrating a Good Attitude</td>
<td>Behaviors Employers Expect</td>
<td>Language and Behavior</td>
<td>Handling Anger</td>
</tr>
<tr>
<td>Behaving Appropriately</td>
<td>Gaining and Showing Respect</td>
<td>Objectionable Behaviors</td>
<td>Keeping Information Confidential</td>
<td>Dealing with Difficult Coworkers</td>
</tr>
<tr>
<td>Maintaining Honesty</td>
<td>Demonstrating Responsibility</td>
<td>Establishing Credibility</td>
<td>Avoiding Gossip</td>
<td>Dealing with a Difficult Boss</td>
</tr>
<tr>
<td>Playing Fair</td>
<td>Showing Dependability</td>
<td>Demonstrating Your Skills</td>
<td>Appropriate Work Email</td>
<td>Dealing with Difficult Customers</td>
</tr>
</tbody>
</table>
Using Ethical Language | Being Courteous | Building Work Relationships | Cell Phone Etiquette | Dealing with Conflict
---|---|---|---|---
Showing Responsibility | Gaining Coworkers’ Trust | | Appropriate Work Texting |
Reducing Harassment | Persevering | | Understanding Copyright |
Respecting Diversity | Handling Criticism | | Social Networking |
Making Truthfulness a Habit | Showing Professionalism | | |
Leaving a Job Ethically | | | |

1.5 **Apply the appropriate skill sets to be productive in a changing, technological, diverse workplace to be able to work independently and apply team work skills.**

<table>
<thead>
<tr>
<th>Expected Work Traits</th>
<th>Teamwork</th>
<th>Time Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demonstrating Responsibility</td>
<td>Teamwork Skills</td>
<td>Managing Time</td>
</tr>
<tr>
<td>Dealing with Information Overload</td>
<td>Reasons Companies Use Teams</td>
<td>Putting First Things First</td>
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<tr>
<td>Transferable Job Skills</td>
<td>Decisions Teams Make</td>
<td>Juggling Many Priorities</td>
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<tr>
<td>Managing Change</td>
<td>Team Responsibilities</td>
<td>Overcoming Procrastination</td>
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<tr>
<td>Adopting a New Technology</td>
<td>Problems That Affect Teams</td>
<td>Organizing Workspace and Tasks</td>
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<td></td>
<td>Expressing Yourself on a Team</td>
<td>Staying Organized</td>
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<td></td>
<td>Giving and Receiving Constructive Criticism</td>
<td>Finding More Time</td>
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<td>Managing Projects</td>
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<td></td>
<td></td>
<td>Prioritizing Personal and Work Life</td>
</tr>
</tbody>
</table>

1.6 **Present a professional image through appearance, behavior and language.**

<table>
<thead>
<tr>
<th>On-the-Job Etiquette</th>
<th>Person-to-Person Etiquette</th>
<th>Communication Etiquette</th>
<th>Presenting Yourself</th>
</tr>
</thead>
<tbody>
<tr>
<td>Using Professional Manners</td>
<td>Meeting Business Acquaintances</td>
<td>Creating a Good Impression</td>
<td>Looking Professional</td>
</tr>
<tr>
<td>Introducing People</td>
<td>Meeting People for the First Time</td>
<td>Keeping Phone Calls Professional</td>
<td>Dressing for Success</td>
</tr>
<tr>
<td>Appropriate Dress</td>
<td>Showing Politeness</td>
<td>Proper Use of Work Email</td>
<td>Showing a Professional Attitude</td>
</tr>
<tr>
<td>Business Meal Functions</td>
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<td>Proper Use of Cell Phone</td>
<td>Using Good Posture</td>
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<tr>
<td>Behavior at Work Parties</td>
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<td>Proper Use in Texting</td>
<td>Presenting Yourself to Associates</td>
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<tr>
<td>Behavior at Conventions</td>
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<td>Accepting Criticism</td>
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<tr>
<td>International Etiquette</td>
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<td>Demonstrating Leadership</td>
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<td>Cross-Cultural Etiquette</td>
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<tr>
<td>Working in a Cubicle</td>
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</tbody>
</table>

**Support of CTAE Foundation Course Standards and Georgia Standards of Excellence L9-10RST 1-10 and L9-10WHST 1-10:**
Georgia Standards of Excellence ELA/Literacy standards have been written specifically for technical subjects and have been adopted as part of the official standards for all CTAE courses.
Course Standard 2

AFNR-VS-2
Learn to work safely in the agriculture lab and work sites, demonstrate selected competencies in leadership through the FFA and agricultural industry organizations, and develop plans for a supervised agricultural experience program (SAEP).

2.1 Explain the role of the Agricultural Education program and the FFA in personal development.
2.2 Demonstrate knowledge learned through a Supervised Agricultural Experience Program (SAEP).
2.3 Develop leadership and personal development skills through participation in the FFA.
2.4 Explore career opportunities in agribusiness through the FFA and Agricultural Education Program.
2.5 Explore the professional agricultural organizations associated with the course content.

Course Standard 3

AFNR-VS-3
Define types of hazards common in the veterinary hospital and the organization that regulates safety standards in the workplace.

3.1 Read a material safety data sheet (MSDS) and locate important safety information.
3.2 Demonstrate the solving of mathematical equations to determine chemical concentrations.
3.3 Determine the appropriate safety precautions for a given scenario.
3.4 Formulate percentages and averages, as well as liquid and linear measurement, including converting English and metric units.
3.5 Demonstrate the proper and safe handling and restraint of animals.
3.6 Define and explain the purpose of the Occupational Safety and Health Administration (OSHA) organization.
3.7 Recognize how to protect themselves from potential hazards in the workplace.
3.8 Describe the correct methods of protection given scenarios describing hazardous situations.
3.9 Research zoonotic diseases using the Internet.

Course Standard 4

AFNR-VS-4
Distinguish the differences between sanitation, disinfection, and sterilization, and be able to identify which cleaning method should be used in any given situation.

4.1 Describe the different methods of sanitation and know when to use them.
4.2 Provide examples of the four types of safety hazards.

Course Standard 5

AFNR-VS-5
Recognize and explain Greek and Latin prefixes, suffixes, and roots that compose the language of veterinary medicine, as well as dissect the meaning of veterinary terms.

5.1 Analyze veterinary terms to define the meanings.
5.2 Recognize common Greek and Latin prefixes, suffixes, and roots.
5.3 List and provide examples of abbreviations commonly used in veterinary medicine.
### Course Standard 6

**AFNR-VS-6**  
Investigate body systems and construct a working knowledge of the function, and purpose, including the effect on diseases.

- 6.1 Recognize and implement common anatomical terminology.
- 6.2 Apply knowledge of veterinary anatomy through the dissection of animal specimens.
- 6.3 Identify common intramuscular injection sites.
- 6.4 Recall common sites for measuring pulses and collecting blood samples.
- 6.5 Describe the functions of the skeletal, muscular, circulatory, respiratory, renal, digestive, reproductive, endocrine, and nervous systems.
- 6.6 Apply knowledge by reading and analyzing several professional journal articles.

### Course Standard 7

**AFNR-VS-7**  
Define vocabulary of directional anatomical terms and identify anatomical structures of animals.

- 7.1 Identify and relate the bones of the skeleton to a live animal.
- 7.2 Identify and relate the ten muscles to a live animal.
- 7.3 Identify and describe the parts of the upper and lower respiratory tract.
- 7.4 Identify and describe the parts of nerve cells and the brain.
- 7.5 Interpret how the body seeks to maintain a state of homeostasis.
- 7.6 Apply knowledge by dissection and assembling anatomical models.

### Course Standard 8

**AFNR-VS-8**  
Critique the various regions of an animal’s body and the signs of illness that may be present.

- 8.1 Correctly operate the stethoscope, otoscope, and ophthalmoscope.
- 8.2 Properly communicate with others to obtain a history of an animal as part of a routine physical exam.
- 8.3 Site evidence of certain signs and symptoms that may indicate a variety of diseases and/or other health problems.

### Course Standard 9

**AFNR-VS-9**  
Perform several common veterinary hospital procedures.

- 9.1 Calculate medication amounts.
- 9.2 Properly label medications.
- 9.3 Demonstrate completing vaccinations schedules, reading and filling syringes, and bandaging and brushing teeth.

### Course Standard 10

**AFNR-VS-10**  
Differentiate common internal and external parasites of small and large animals and recall both the common and the scientific names.

- 10.1 Describe the general clinical signs of an animal with a parasite infestation.
- 10.2 Diagram the life cycles of internal and external parasites.
- 10.3 Properly use a microscope to scan for parasite eggs.
- 10.4 Perform common laboratory procedures for diagnosing parasites.
10.5 Summarize the modes of transmission, life cycle, including the procedures commonly used to diagnose and determine the effect on the host.

**Course Standard 11**

**AFNR-VS-11**

**Analyze animal nutrition required to maintain a healthy animal.**

- 11.1 Define the terms digestion, absorption, and metabolism and describe the processes.
- 11.2 Discuss the differences between ruminant and non-ruminant digestive systems.
- 11.3 Identify and calculate an animal's energy requirements, based on use and stage of life.
- 11.4 Relate the importance of the importance of guaranteed analysis in selecting animal feed.
- 11.5 Illustrate animal digestive systems, as well as classify feeds into nutrient groups and list the steps of the digestion process.
- 11.6 Formulate rations and identify the nutrients found in various animal feeds, and conduct a palatability study to gain an understanding of feed selection.

**Course Standard 12**

**AFNR-VS-12**

**Identify and describe the various components of an animal feed label and make an educated decision on which feed to purchase for an animal in each of the production periods.**

- 12.1 Conduct a feed nutrients lab to identify the level of nutrients in various animal feeds.
- 12.2 Evaluate various feed labels to determine the nutrient components and the quality.
- 12.3 Determine market strategies for various feed labels.
- 12.4 Conduct a palatability study to identify animal feed preferences.
- 12.5 Apply concepts in the marketing of pet food and assess cost comparisons of various feeds.

**Course Standard 13**

**AFNR-VS-13**

**Identify the path a disease takes and access the effects on various body systems.**

- 13.1 Describe the signs of disease.
- 13.2 Explain how different diseases affect the body and the methods used to treat the diseases.

**Course Standard 14**

**AFNR-VS-14**

**Apply concepts of the importance of animals and the contributions that animals make in society.**

- 14.1 Explain the human and animal bond.
- 14.2 List and describe the ways in which animals are a part of human lives.

**Course Standard 15**

**AFNR-VS-15**

**Identify and explain the purpose of the most common breeds of animal species and discuss specific temperament/behavior characteristics of the breed.**

- 15.1 Identify by sight and describe the common breeds of animals.
- 15.2 Demonstrate various methods of behavior modification.
Course Standard 16

AFNR-VS-16

Critique animal behavior through observation and draw conclusions on the interaction with other animals, humans and environment.

16.1 Discuss the most common types of behaviors displayed by various animal species/breeds.
16.2 Explain common animal behaviors based on age, sex, and production period.