VETERINARY TECHNOLOGY SYSTEMS

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Veterinary Technology Mission
The Veterinary Technology Systems division is dedicated to the development of innovative individuals for careers in the animal health industry. The focus of the Veterinary Technology Associate of Applied Science degree is to provide the hands-on skills and academic background needed for graduates to accept and be successful in career opportunities within the animal health industry, be lifelong learners and involved community members. NCTA maintains a wide variety of animals to provide the students with a consistent and broad background of experience.

ASSOCIATE OF APPLIED SCIENCE DEGREE OPTIONS

• Veterinary Technician Option
  • Eligible to sit for the Veterinary Technician National Exam (VTNE) and become a licensed veterinary technician.

• Veterinary Assistant Option

• Animal Husbandry Option

• Animal Health Management Option

• Equine Health Care Option

Certificates
• Animal Health Care Certificate

Associate of Applied Science-Veterinary Technician Option

The focus of NCTA’s Associate of Applied Science, Veterinary Technician Option is to provide the hands-on skills and academic background needed to accept career opportunities as an entry level veterinary technician. The program is American Veterinary Medical Association (AVMA) accredited with the curriculum based around the AVMA essential tasks and skill list. Veterinary Technology – Technician Option graduates are qualified to sit for the VTNE and become a licensed Veterinary Technician. NCTA maintains a wide variety of animals to provide the students with a consistent and broad background of experience. The program requires structured classes covering AVMA essential skills, an 8 week internship, passing the exit exam and a CGPA of 80%.

Veterinary Technician Option Entrance Requirements

Observation hours
Observation hours are a prerequisite for Facility Management class. Incoming students need to spend 20 hours observing or working with technicians and veterinarians in a veterinary practice. We want prospective technicians to know the work and hours that go into caring for the animals people love and care for. Most clinics are very happy to let you observe once you explain that you are pursuing veterinary technology as a career.

Background classes
A strong background in math and science is recommended.

ACT Score
An ACT Score of 18 or higher is recommended to enroll in and complete the Veterinary Assistant or the Technician Option Honors Program in two years. With an ACT score of less than 18, it is recommended that students plan to complete the program in 3 years. The Animal Husbandry, Equine Health, and Animal Health Management Option are open to all students and can be completed in 2 years.

Veterinary Technologist
A baccalaureate degree as a Veterinary Technologist can be pursued through a collaborative effort with NCTA’s Veterinary Technician Option Degree and the University of Nebraska-Lincoln. Students interested should inform their advisor of their intent upon initial registration.

Final Assessment – Veterinary Technician Option - Exit Exam
The Exit Exam is one required criteria for the Veterinary Technician Option. At the end of the student’s last spring semester session, the Veterinary Technician Exit Exam is offered. To be eligible to take this exam the Vet Tech student must be able to have successfully completed (with the exception of internship) all required credit hours by the end of the semester. The entire comprehensive examination must be passed with an average grade of 70% or better and each section must be passed with a minimum grade of 60% or higher. A maximum of two sections may be repeated during the provided repeat time. Each student must complete the required classes, have a CGPA of 80% and pass the Exit Exam to graduate with the Veterinary Technician Option.

Final Assessment – Veterinary Assistant
Upon successful completion of the Veterinary Assistant Option students will be able to demonstrate the academic background needed to enter the work force as an entry level assistant. This is assessed through the VT Exit Exam. The Exit exam is taken at the same time as Technician Option students but without passing grade requirements.

Final Assessment - Veterinary Technology Animal Husbandry, Animal Health Care Management, Equine Healthcare
The 200 question written comprehensive final assessment is administered at the end of student’s last on-campus semester/session.

Veterinary Technology Handbook
All Veterinary Technology students should read the Veterinary Technology Student Handbook that can be found on the NCTA web page.

Veterinary Technician Option and Licensing
To be eligible to work as or to refer to yourself as a veterinary technician in Nebraska, one must graduate from an AVMA accredited Veterinary Technology Program (Technician Option), pass the VTNE, and become licensed with the state. Each student must complete the required credit hours of classes, have a CGPA of 80% and pass the exit exam to graduate with the Veterinary Technician Option and be eligible to become a licensed technician.

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Veterinary Technology Student Handbook
Veterinary Technician Option-Associate of applied science Degree

The Veterinary Technician Option requires the successful completion of all required classes, an 8 week internship, passing the exit exam and a CGPA of 80%.

| College General Education Core | 17 |
| Veterinary Technology Required Courses | 51 |
| VTS 1301 | MEDICAL TERMINOLOGY |
| VTS 1511 | LARGE ANIMAL TECHNIQUES I |
| VTS 1513 | ANIMAL CARE |
| VTS 1403 | ANATOMY AND PHYSIOLOGY |
| VTS 1521 | LARGE ANIMAL TECHNIQUES II (P) |
| VTS 1542 | FACILITY MANAGEMENT (P) |
| VTS 1713 | PHARMACY-ANESTHESIA |
| VTS 1822 | RADIOLOGY I |
| VTS 2533 | LARGE ANIMAL TECHNIQUES III (P) |
| VTS 2563 | FUR AND FEATHER |
| VTS 2583 | NURSING I (P) |
| VTS 2823 | RADIOLOGY II (P) |
| VTS 2593 | NURSING II (P) |
| VTS 2652 | PARASITOLOGY (P) |
| VTS 2662 | HEMATOLOGY (P) |
| VTS 2672 | CLINICAL PATHOLOGY (P) |
| VTS 2733 | DISEASES OF VET MED (P) |
| VTS 2933 | ANESTHESIOLOGY (P) |
| VTS 2954 | SURGERY PREPARATION |
| Nutrition-selection one 3 credit hour nutrition |
| VTE 2423 | CANINE & FELINE NUTRITION |
| VTE 2623 | FEEDING THE EQUINE PATIENT |
| ASI 1253 | NUTRITION |
| Internship | 3 |
| Total Credit Hours | 71 |

(P) denotes that there is a prerequisite class that must be passed with a 70% or above.

Students with ACT Less Than 18 will need to take:

| ENG 103 | INTRODUCTION TO COLLEGE READING AND WRITING | 3 |

and complete the program over 3 years instead of 2 years, taking 12 to 15 hours each semester.

Veterinary Assistant Option-Associate of applied science Degree

The Veterinary Assistant Option requires the successful completion of all required classes, an 8 week internship and a CGPA of 70%.

The course work is the same as the Veterinary Technician Option above. Please see Veterinary Technician Option.

Animal Husbandry Option-Associate of Applied Science Degree

| Associate of Applied Science-General Education Core | 17 |
| Veterinary Technology Courses | 3 |
| Internship | 3 |

<table>
<thead>
<tr>
<th>Veterinary Technology Courses</th>
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<tbody>
<tr>
<td>VTS 1822</td>
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<tr>
<td>or VTE 2821</td>
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<tr>
<td>VTS 1542</td>
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<tr>
<td>or ASI 1442</td>
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<td>VTS 2243</td>
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| Veterinary Technology Classes (advisor guided) | 31 |
| VT or APS Advisory guided classes | 14 |
| Electives | 3 |
| Total Credit Hours | 71 |

Equine Health Option-Associate of Applied Science Degree

| Associate of Applied Science-General Education Core | 17 |
| Veterinary Technology Internship | 3 |

| Required Veterinary Technology Courses | 43 |
|-----------------------------|
| ASI 1442 | EQUINE PRACTICUM I |
| ASI 1501 | EQUINE SAFETY |
| ASI 2433 | EQUINE INDUS MNST I |
| VTE 1623 | EQUINE LABORATORY DIAGNOSTICS (P) |
| VTE 1633 | EQUINE DISEASES |
| VTE 1643 | EQUINE HEALTH RECORDS |
| VTE 2611 | EQUINE REPRODUCTION |
| VTE 2613 | EQUINE SURGERY AND ANESTHESIA |
| VTE 2623 | FEEDING THE EQUINE PATIENT |
| VTE 2643 | EQUINE NURSING |
| VTS 1301 | MEDICAL TERMINOLOGY |
| VTS 1403 | ANATOMY AND PHYSIOLOGY |
| VTS 1511 | LARGE ANIMAL TECHNIQUES I (P) |
| VTS 1512 | LARGE ANIMAL TECHNIQUES II |
| VTS 1713 | PHARMACY-ANESTHESIA |
| VTS 1822 | RADIOLOGY I (P) |
| VTS 2533 | LARGE ANIMAL TECHNIQUES III (P) |
| VTS 2823 | RADIOLOGY II |

Choose 8 Credit hours from the following (advisor guided):

| ACT 1103 | ACCOUNTING I |
| AEQ 1171 | FARM EQUIP & SAFETY |
| ASI 1241 | RANCH HORSE I |
| ASI 1253 | NUTRITION |
| ASI 1263 | BASIC EQUATION |
| ASI 2412 | EQUINE MARKETING TECHNIQUES |
| ASI 2443 | EQUINE INDUS MNST II |
| VTE 2021 | SPECIAL INTEREST |
| VTE 2032 | THE WORLD OF WORK |
| VTE 2342 | SPANISH FOR ANIMAL HEALTH |
| VTE 2811 | ULTRASOUND |
| VTS 2652 | PARASITOLOGY (P) |
## Animal Health Management Option - Associate of Applied Science Degree

### Required Veterinary Technology Courses
- **VTE 1511**  ANIMAL CARE LAB 
- **VTE 2821**  RADIATION SAFETY 
- **VTS 1301**  MEDICAL TERMINOLOGY 
- **ASI 1253**  NUTRITION 
- **VTE 2423**  CANINE & FELINE NUTRITION 
- **VTE 2623**  FEEDING THE EQUINE PATIENT 

### Select One Nutrition Class
- **ASI 1253**  NUTRITION 
- **VTE 2423**  CANINE & FELINE NUTRITION 
- **VTE 2623**  FEEDING THE EQUINE PATIENT 

### Select 21 Credit Hours from the following Production Ag and Vet Tech Courses:
- **AEQ 1171**  FARM EQUIP & SAFETY 
- **ASI 1253**  NUTRITION 
- **ASI 1303**  ANIMAL MANAGEMENT 
- **ASI 1501**  EQUINE SAFETY 
- **ASI 2353**  LIVESTOCK BREEDING 
- **VTE 1623**  EQUINE LABORATORY DIAGNOSTICS (P) 
- **VTE 1633**  EQUINE DISEASES 
- **VTE 1643**  EQUINE HEALTH RECORDS 
- **VTE 2611**  EQUINE REPRODUCTION 
- **VTE 2423**  CANINE & FELINE NUTRITION 
- **VTE 2623**  FEEDING THE EQUINE PATIENT 
- **VTE 2342**  SPANISH FOR ANIMAL HEALTH 
- **VTE 2811**  ULTRASOUND 
- **VTS 1403**  ANATOMY AND PHYSIOLOGY 
- **VTS 1513**  ANIMAL CARE 
- **VTS 1521**  LARGE ANIMAL TECHNIQUES II 
- **VTS 1542**  FACILITY MANAGEMENT (P) 
- **VTS 1713**  PHARMACY-ANESTHESIA 
- **VTS 1822**  RADIOLOGY I (P) 
- **VTS 2733**  DISEASES OF VET MED (P) 
- **VTS 2533**  LARGE ANIMAL TECHNIQUES III 
- **VTS 2563**  FUR AND FEATHER 

### Select 24 Credit Hours from the Following Business Management Courses
- **ABM 2963**  FARM, RANCH, AND SMALL BUSINESS RECORD KEEPING 
- **ABM 2103**  PERSONAL FINANCE (P) 
- **ABM 2403**  AG FINANCE (P) 
- **ABM 2503**  AGRICULTURAL DECISION ANALYSIS (P) 
- **ABM 2854**  FARM & RANCH MANAGEMENT 
- **ABM 2903**  ENTREPRENEURSHIP (P) 
- **ACT 1103**  ACCOUNTING I 
- **ACT 1203**  ACCOUNTING II (P) 
- **AIT 1073**  INTRODUCTION TO DATABASES 
- **AIT 1083**  DESKTOP PUBLISHING & WEB DESIGN BASICS 
- **ECN 1103**  INTRODUCTION TO AG ECONOMICS 
- **ECN 1203**  MICROECONOMICS 
- **ECN 1303**  MACROECONOMICS (P) 
- **ECN 1803**  STATISTICS 
- **MGT 2103**  MGT CONCEPTS (P) 
- **MGT 2503**  HUMAN RESOURCES MGT (P) 
- **MKT 2103**  RETAIL MARKETING 

## Animal Care Certificate

Select 12 hours from the following:
- **ASI 1501**  EQUINE SAFETY 
- **VTS 1511**  LARGE ANIMAL TECHNIQUES I 
- **VTS 2563**  FUR AND FEATHER 
- **VTE 2423**  CANINE & FELINE NUTRITION 
- **VTE 2522**  EXOTIC PETS SELECTION & CARE 
- **VTE 1021**  BASIC DOG GROOMING 
- **VTE 2553**  EXOTICS 
- **VTE 1403**  ANATOMY AND PHYSIOLOGY 
- **VTE 1512**  ANIMAL CARE 
- **VTS 1513**  ANIMAL CARE 
- **VTE 2101**  DOG TRAINING 
- **VTE 2322**  INTRO TO VET OFFICE 
- **VTS 1301**  MEDICAL TERMINOLOGY 
- **VTS 1313**  MATH FOR VET TECHS 
- **VTS 1542**  FACILITY MANAGEMENT 

## VTE 21 S.T.A.R.S

### Description:
This class is intended to enrich the student learning experience here at NCTA by helping the student take charge of their education. This time will allow students to ask specific questions about a class. They may choose to review for a quiz or test with peers or consult with the instruction about class questions. The STAR instructors and peer study partners will assist students with keeping on track and focused on their educational goals. The students are responsible for coming to class prepared with specific questions, resources and notes. This is a chance to revisit all the things talked about in Learning Communities and MAKE THEM WORK! Grades are based on attendance and participation. Passing requires a minimum attendance of 16 class sessions.

### Credit Hours:
- Max credits per semester: 1
- Max credits per degree: 1

### Format:
LEC
VTE 1021 BASIC DOG GROOMING
Description: Basic Dog Grooming provides an introduction to professional grooming. The entire process will be demonstrated and practiced. It includes prepping, bathing, drying, grooming, cuts and finishing. Creative grooming patterns for mixed breeds and purebreds are taught. An introduction to the dynamics of running a successful pet groomer course.
Credit Hours: 1
Max credits per semester: 1
Max credits per degree: 1
Format: LEC

VTE 1111 STOCK DOG I
Description: A course for first-year students designed to help the student and their stock dog learn and practice the skills necessary to be successful in the low-stress handling of livestock as well as in trial competition. This course will be taught by a variety of dog training philosophies with a concentration on stock dog handling. The class will also take advantage of training DVD’s, guest clinicians and regular practices with various species of hoof stock. Max credits per semester: 1
Max credits per degree: 2
Format: LAB
Credit Hours: 1
Max credits per semester: 1
Max credits per degree: 2

VTE 1401 ANATOMY & PHYSIOLOGY LAB
Description: This class includes the clinical skills (labs) for VTE 1403 Anatomy. Basic body systems are studied at the tissue, organ and systems levels. Comparison of various species of common domestic animals is stressed. Laboratory exercises include a study of the skeletal system and dissection of dog and cat specimens. Availability of large animal organs for comparison is encouraged. The on-site instructor is responsible for lab instruction grading of laboratory assignments and delivery of lab exams. The on-site instructor may develop an assignment (s) worth 50 points total to customize the class to their site. Student must have a grade of at least 70% (C) to use as a pre-requisite course.
Credit Hours: 1
Max credits per semester: 1
Max credits per degree: 1
Format: LAB

VTE 1403 ANATOMY AND PHYSIOLOGY
Description: This off-line class studies basic body systems at the tissue, organ and system levels. Comparison of various species of common domestic animals is stressed. Student must have a grade of at least 70% in VTE 1403 and VTE 1301 to use as a pre-requisite course.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Format: LEC

VTE 1511 ANIMAL CARE LAB
Description: This lab course contains the clinical skills corresponding to VTE 1512 Animal Care. Both VTE 1512 and VTE 1511 must be taken and passed with a 70% to take Nursing I.
Credit Hours: 1
Max credits per semester: 1
Max credits per degree: 1
Format: LAB

VTE 1512 ANIMAL CARE
Description: This on-line survey course introduces the student to canine and feline husbandry, including restraint, behavior, species and breed identification, basic technical techniques and the human-animal bond. Humane animal care and management is emphasized. The care, handling, feeding, basic nursing skills, normal values, administration techniques, basic grooming and sample collection are included. Both VTE 1512 and VTE 1511 must be taken and passed with a 70% to take Nursing I.
Credit Hours: 2
Max credits per semester: 2
Max credits per degree: 2
Format: LEC

VTE 1611 CONCEPTS IN BITS
Description: Students explore theories and designs of bits in relation to mouth anatomy and discipline functions. History of bits to current industry trend will be explored with the goal of students gaining a thorough understanding of what a bits role is in riding.
Credit Hours: 1
Max credits per semester: 1
Max credits per degree: 1
Format: LEC

VTE 1621 CALVING ROTATION I
Description: Students observe and assist in calving. Enrollment limited. (Pre req: VTS 2532 Lg Animal Techniques, VTS 2593 Nursing II)
Credit Hours: 1
Max credits per semester: 1
Max credits per degree: 1
Format: FLD

VTE 1623 EQUINE LABORATORY DIAGNOSTICS
Description: This course will help familiarize students interested in equine health with a variety of tests and equipment available for equine diagnostics. complete blood counts, biochemical tests, urinalysis and other evaluation techniques will be discussed and practiced in this course.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Format: LEC

VTE 1633 EQUINE DISEASES
Description: In this course students study the causes of equine diseases and the principles of preventive veterinary medicine pertaining to equine health. Study includes investigation of specific diseases and disease control measures as well as parasite management in the equine. Important zoonoses are covered. The course includes dosage calculations, and a survey of the common drug types used in equine medicine. Adverse drug reactions are discussed, labeling and packaging requirements, handling and storage of hazardous material and controlled drugs, preparing medications and vaccines, appropriate routes and methods of drug and vaccine administration are included.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Format: LEC
VTE 1643 EQUINE HEALTH RECORDS
Description: This course will introduce students to the paperwork and record keeping associated with the horse. Medical records, breeding records, coggins papers, insurance applications, health permits for transportation to events across state borders, and other equine related record keeping will be included in the course. Equine law applications and business issues are introduced as well.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Format: LEC

VTE 2011 LIFETIME LEARNING
Description: Continuing education topics designed for Veterinary Technicians to meet continuing education licensing requirements. This class may be repeated for additional CE hours and can be taken by technicians, assistants, and veterinary technology students.
Credit Hours: 1
Max credits per semester: 1
Max credits per degree: 1
Format: IND

VTE 2021 SPECIAL INTEREST
Description: In this elective class, the student pursues a subject of special interest to them. It may include but is not limited to research and/or group tours. The project is developed under the supervision and evaluation of a faculty member who is willing and available to contract with the student. (Pre req: VT faculty permission)
Credit Hours: 1
Max credits per semester: 1
Max credits per degree: 1
Format: IND

VTE 2031 EMERGENCY MEDICINE
Description: Pre req: Nursing I with a grade of 70% (C) or higher. Students observe and assist in animal care at an emergency clinic for a minimum of 40 hours.
Credit Hours: 1
Max credits per semester: 1
Max credits per degree: 1
Format: FLD

VTE 2032 THE WORLD OF WORK
Description: Course involves a minimum of 80 hours of field experience at an approved location. This study is tailored to the needs of an individual. Statement of objectives will be required and progress notes will be checked. This class is developed by the student and under the supervision and evaluation of a faculty member. (Pre req: VT faculty permission)
Credit Hours: 2
Max credits per semester: 2
Max credits per degree: 2
Format: FLD

VTE 2041 MAKING A DIFFERENCE
Description: Make a difference in the lives of hundreds of unwanted animals. Do 40 hours of volunteer work at a humane society or animal shelter and receive college credit. Enrollment is limited.
Credit Hours: 1
Max credits per semester: 1
Max credits per degree: 1
Format: FLD

VTE 2101 DOG TRAINING
Description: This course includes principles and rationale of canine training. Basic behavior, exploration of techniques and basic training goals are included. Limited enrollment.
Credit Hours: 1
Max credits per semester: 1
Max credits per degree: 1
Format: LEC

VTE 2111 STOCK DOG II
Description: A course for second-year students designed to help the student and their stock dog learn and practice the skills necessary to be successful in the low-stress handling of livestock as well as in trial competition. This course will be taught by a variety of dog training philosophies with a concentration on stock dog handling. The class will also take advantage of training DVD’s, guest clinicians and regular practices with various species of hoof stock. Max credits per semester: 1 Max credits per degree: 2 Format: Lab
Credit Hours: 1
Max credits per semester: 1
Max credits per degree: 4
Format: LEC

VTE 2322 INTRO TO VET OFFICE
Description: This on-line class provides an introduction into the Veterinarian’s office and the knowledge essential for working in this position. It focuses on the terminology used in the clinic that is important for communication with clients, technicians, and veterinarians. Terminology expands into knowledge of areas such as infectious diseases, surgery, client relationships, animal care, and vaccinations.
Credit Hours: 2
Max credits per semester: 2
Max credits per degree: 2
Format: LEC

VTE 2342 SPANISH FOR ANIMAL HEALTH
Description: A beginning Spanish course to help one become familiar with terms used when working with people and animals in agriculture and animal health.
Credit Hours: 2
Max credits per semester: 2
Max credits per degree: 2
Format: LEC

VTE 2423 CANINE & FELINE NUTRITION
Description: This is an introductory canine and feline nutrition course. The course provides identification and function of nutrients, understanding pet food labels, and nutritional applications for well and unwell pets. It takes into account the various life stages of dogs and cats and disease processes that diet can affect.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Format: LEC

VTE 2522 EXOTIC PETS SELECTION & CARE
Description: This course is designed to introduce students to the selection decisions and overall concerns of owning common exotic animal pets. Specifics about animal species, housing and nutrition requirements as well as expectations of pet behavior and interaction will be addressed within this course.
Credit Hours: 2
Max credits per semester: 2
Max credits per degree: 2
Format: LEC
VTE 2532 BASIC BIRD BEHAVIOR AND TRAINING METHODS
Description: This course will introduce students to the basics of bird behavior that influences training methods. The goal of the course is to help students of veterinary technology practice the best care for birds coming into the clinic by providing birds with cooperative skills via training methods. The philosophy of training without force and utilizing reinforcement will be discussed and utilized within the class.
Credit Hours: 2
Max credits per semester: 2
Max credits per degree: 2
Format: LEC

VTE 2542 WALK THE WILD SIDE
Description: Learn about the untamed side of veterinary technician medicine. Discover the positive impact Zoos and Wildlife Rehab centers can make. Work with endangered and rescued animals. Observe the business side of these operations. Do 80 hours of volunteer work at a zoo or wildlife rehab center and receive college credit. Enrollment is limited. (Pre req: Enrollment in Veterinary Technology)
Credit Hours: 2
Max credits per semester: 2
Max credits per degree: 2
Format: LEC

VTE 2552 FACILITY MANAGEMENT II
Description: Students study and assist with the daily work flow and management of animal facilities utilizing accepted animal welfare practices and standard operating procedures. Front office skill may be practiced and students have the opportunity to provide daily and special care for a selection of animals involved in the veterinary technology program. The course may include some weekend care of animals and facilities. The class is tailored to the student’s interest and the division’s needs. This class is offered as needed by students and must be prearranged with the division and class sponsor.
Credit Hours: 2
Max credits per semester: 2
Max credits per degree: 2
Format: LLB

VTE 2553 EXOTICS
Description: This course is designed as a continuation in learning to care for exotic animals that the veterinary technician may encounter in clinical practice. Species identification, housing requirements, nursing care, dietary needs, reproduction, and potential health problems will be discussed. Emphasis is usually placed on birds, reptiles, amphibians, small mammals, and alternative livestock species. The goal of this course is to provide the student with skills essential for entry-level positions as veterinary technicians working with non-domestic animals.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Format: LEC

VTE 2573 SAFARI
Description: This course of study is intended for students with a special interest in wildlife and/or exotic animals. Students from other divisions may contribute to a special design based on their department goals or interests. With the guidance of the instructor, students plan the study trip to expand their knowledge in topics outside the scope of college courses. Prior to the “safari”, students will set educational goals based on research pertinent to their trip. An open to the public presentation is developed following the experience and is intended to address their educational goals. (Pre req for Vet Tech is Fur and Feather and Exotic Animal Care. Other divisions will select courses at the discretion of the area instructor).
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Format: LEC

VTE 2611 EQUINE REPRODUCTION
Description: (Lab 1 hr) This course trains individuals in the techniques of Equine artificial insemination, semen collection, semen handling and shipping, as well as record keeping and various breed association requirements.
Credit Hours: 1
Max credits per semester: 1
Max credits per degree: 1
Format: LEC

VTE 2613 EQUINE SURGERY AND ANESTHESIA
Prerequisites: Equine Nursing or concurrent enrollment
Description: This course will teach an understanding of and basic skills for operating room protocols and anesthesia. The class will cover anesthesia from standing sedation, to basic and commonly used drugs and the anesthetist's responsibilities for induction, through surgery and recovery. Local and general anesthesia techniques and principles will be covered. The surgery portion will cover identification of common instruments, how to prepare them for sterilization, surgical prep and surgery suite management. This information will be presented through lecture, lab and field trips.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Format: LEC

VTE 2621 CALVING ROTATION II
Description: (Pre req: Calving Rotation I) Students observe and assist in calving (if available). Opportunities are available at a variety of sites. Necropsy and various other experiences may present themselves. Enrollment limited.
Credit Hours: 1
Max credits per semester: 1
Max credits per degree: 1
Format: FLD

VTE 2623 FEEDING THE EQUINE PATIENT
Description: This course will introduce students with an equine interest to the nutritional management of the equine patient. Diets and needs for specific classes of horses and the unique nutritional demands placed on horses during various disease processes will be included.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Format: LEC
VTE 2634 EQUINE DENTISTRY
Description: Students gain an understanding in theories and techniques of equine dentistry. Dentistry methods from basic floating to complete mouth balancing using hand tools, and incisor work will be covered. Equine restraint techniques for unsedated work as well as pharmacologically aided methods will be covered. (Pre req: Must be a DVM, LVT, or a student who has completed 35 hours of an AVMA accredited program)
Credit Hours: 4
Max credits per semester: 4
Max credits per degree: 4
Format: LEC

VTE 2643 EQUINE NURSING
Prerequisites: Production Animals
Description: Pre req: Large Animal Techniques II and ASI 1501 Equine Safety) This course provides information to enhance and focus a student’s understanding of equine nursing concepts.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Format: LEC

VTE 2743 VT OVERVIEW
Description: This course is designed to provide a comprehensive review of the field of veterinary technology. It is intended for students that have completed the veterinary technology program and need to review specific areas before entering the work force or sitting for the national veterinary technician exam.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Format: LEC

VTE 2811 ULTRASOUND
Prerequisites: VTS 1404 Anatomy
Description: The principles of ultra-sound are studied. The student is introduced to basic equipment care and use. Procedures are performed on small and large animals.
Credit Hours: 1
Max credits per semester: 1
Max credits per degree: 1
Format: LEC

VTE 2821 RADIATION SAFETY
Description: This course is designed for veterinary assistants who are working in a private practice. The course covers the dangers of radiation and how to protect our patients and ourselves from potential harm. Rules and regulations as they apply to veterinary assistants and technicians are reviewed and a clinic safety plan is developed. Successful completion of this course will allow the individual to meet the State of Nebraska’s Radiation Safety requirements.
Credit Hours: 1
Max credits per semester: 1
Max credits per degree: 1
Format: LEC

VTS 1301 MEDICAL TERMINOLOGY
Description: Medical Terminology introduces the student to basic words and word structure that are essential in reading and writing medical literature. This course is essential for anyone seeking a better understanding of veterinary medical and scientific terms.
Credit Hours: 1
Max credits per semester: 1
Max credits per degree: 1
Format: LEC

VTS 1313 MATH FOR VET TECHS
Description: This course is specifically designed to prepare students for the mathematics used on a daily basis in veterinary nursing as well on national certification board exams. It includes concepts needed for computations in chemistry and veterinary clinical practice classes. Major subject areas and exercises address conversions within a measurement system and between measurement systems. Computations taught in this course focus on single and multiple step dosage problems and the diluting of stock solutions to desired concentrations.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Format: LEC

VTS 1403 ANATOMY AND PHYSIOLOGY
Description: Basic body systems are studied at the tissue, organ, and system levels. Comparison of various species of common domestic animals is stressed. Laboratory exercises include a study of the skeletal system and dissection of a typical mammal.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Format: LEC

VTS 1511 LARGE ANIMAL TECHNIQUES I
Description: A course that deals with animal handling, current issues facing the livestock industry, production trends, terminology, animal growth, structure and selection, breeds, and development.
Credit Hours: 1
Max credits per semester: 1
Max credits per degree: 1
Format: LEC

VTS 1513 ANIMAL CARE
Description: This survey course introduces the student to canine and feline husbandry, behavior, species and breed identification, and the human-animal bond. Humane animal care and management is emphasized. The care, handling, nutritional needs basic nursing skills, normal values, and administration techniques, basic grooming and obtaining objective patient data. Effective and appropriate restraint techniques are stressed. Student must be able to lift and carry 50 lbs. to take this class. This is a lecture and lab class. A 70% or above in this class is required to take Nursing I.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Format: LEC
VTS 1521 LARGE ANIMAL TECHNIQUES II  
**Prerequisites:** ASI 1011 Intro to Animal Science - a grade of 70% or higher  
**Description:** Specific animal physiology of large and small farm animals is studied. The course includes an introduction to nursing procedures required in veterinary practice for farm animals. Safe and effective methods of controlling various kinds of animals are discussed and practiced in a combination lecture and hands-on laboratory format. Equine, bovine, caprine, poultry, and porcine are covered, as well as other species.  
**Credit Hours:** 3  
**Max credits per semester:** 3  
**Max credits per degree:** 3  
**Format:** LEC  

VTS 1542 FACILITY MANAGEMENT  
**Description:** (Pre req: 20 hours of veterinary clinic observation and completing the NCTA Veterinary Technology Clinic Observation Hour Form) Students study the management of animal holding facilities and the implementation of accepted animal welfare practices. Each student will participate in weekly kennel rotations providing the opportunity to care for the wide variety of animals involved in the veterinary technology program. This includes weekend care.  
**Credit Hours:** 2  
**Max credits per semester:** 2  
**Max credits per degree:** 2  
**Format:** LEC  

VTS 1604 INTRODUCTION TO LABORATORY SCIENCE  
**Description:** A study of biological and chemical principles and how they pertain to living systems. Through the application of fundamental biology and chemistry, students will survey the biological world in association with production, companion animals and human health. Topics include parasitology, hematology, bacteriology, virology and an overview of laboratory procedures. The goal of this course is to provide students with an introduction to the world of microbes as a foundation for an integrated approach to understanding and managing for optimal, as well as economic, animal health decisions.  
**Credit Hours:** 4  
**Max credits per semester:** 4  
**Max credits per degree:** 4  
**Format:** LAB  

VTS 1713 PHARMACY-ANESTHESIA  
**Description:** Pre req: A 70% (C) or higher in VTS 1313 Math for Vet Techs. This course includes the study of pharmacokinetics, pharmacodynamics, dosage calculations, and a survey of the common drug types used in veterinary practice. Adverse drug reactions are discussed.  
**Credit Hours:** 3  
**Max credits per semester:** 3  
**Max credits per degree:** 3  
**Format:** LEC  

VTS 1822 RADIOLOGY I  
**Description:** (Pre req: 18 years of age) The student is presented with an overview of radiation safety, the generation of x-rays, machine operation and maintenance, patient positioning, radio-graphic film exposure, film developing, CI imaging, care of darkroom equipment, evaluation of x-ray quality, and correction in techniques for producing an x-ray the veterinarian can use for diagnostic purposes. The laboratory portion is spent applying radiation safety principles and positioning of animals for radiography using various x-ray machines, film developing and computerized imaging storage techniques. A grade of 70% (C) or higher in Radiology I is required to take Radiology II. Students must be able to lift and carry 50 lbs. and to perform the practical skills to do well in this class. It is important to remember that the hands-on skills in this class must be performed at an adequate entry skill level to do well in the class or on the job.  
**Credit Hours:** 4  
**Max credits per semester:** 4  
**Max credits per degree:** 4  
**Format:** LEC  

VTS 2241 CAREER STRATEGIES  
**Description:** This course will provide students the opportunity to develop their “intercultural knowledge and competence” and “information literacy” skills and abilities. It will include group activities to help formulate career goals, improve academic success skills, develop a resume and cover letter, select and prepare for an appropriate internship. The course provides preparation for future employment. Students will review OSHA standards and learn about types of performance reviews common in the workplace. Goal setting skills will be sharpened by developing objectives and a way to accomplish them as well as a measure for recognizing success in each area chosen. Students will develop job seeking skills as they locate an internship site.  
**Credit Hours:** 1  
**Max credits per semester:** 1  
**Max credits per degree:** 1  
**Format:** LEC  

VTS 2243 VETERINARY TECHNOLOGY INTERNSHIP  
**Description:** (Pre req: Completion of or enrolled in Career Strategies and a CGPA of 2.0 or higher) The internship is for a period of 8 weeks. Internship may be done during school breaks that are of at least one week in length or upon completion of all course work. Internship locations and agreements must be approved. For the Veterinary Technician Option internship must be done with a supervising veterinarian or veterinary technician designated by the veterinarian. Agreements may include more than one site. Official agreements are entered into between the student, the employer, and the college. Students identify learning objectives, design a methodology to accomplish them during the internship and must show substantial progress toward completion of these goals through weekly reports, pictures and evaluations. Students are encouraged to carry their own medical, disability, and liability insurance.  
**Credit Hours:** 2  
**Max credits per semester:** 2  
**Max credits per degree:** 2  
**Format:** LEC
VTS 2331 CLINICAL PRACTICES
Description: Pre req: Parasitology, Radiology I or Radiation Safety Short Course and Nursing I. This class provides practical experience and preparation for working in a veterinary clinic setting. The students will be working in the Dr. Walter Long Veterinary Technology Teaching Clinic where basic technician based services are offered to the clinic clientele consisting of NCTA student, faculty and staff owned animals. As a field experience, students work for a minimum of 64 hours during the semester.
Credit Hours: 1
Max credits per semester: 1
Max credits per degree: 1
Format: LAB

VTS 2533 LARGE ANIMAL TECHNIQUES III
Description: (Pre req: Production Animals with a grade of 70% (C) or above) This course includes nursing procedures, radiology, and surgery for production animals and equine. Safe and effective methods of controlling various kinds of livestock are discussed and practiced in a combination of lecture and hands-on laboratory format. Equine, bovine, ovine, caprine, procine and poultry as well as other species may be covered.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Format: LEC

VTS 2551 LARGE ANIMAL CLINICAL ROTATION
Description: (Pre req: grade of "C" or better in Large Animal Techniques) Students will have several extended days (32+ hours) of experiential learning opportunities with various large animal clinics/operations in the area, where they will assist in physical exams, vaccinations, pregnancy checks, necropsies, surgeries, and other large animal procedures (as available).
Credit Hours: 1
Max credits per semester: 1
Max credits per degree: 1
Format: FLD

VTS 2563 FUR AND FEATHER
Description: This course is an introduction to the care of the smaller furred, feathered, and scaled animals that veterinary technicians may encounter in clinical practice. Species identification, housing requirements, dietary needs, reproduction, and potential health problems will be discussed. Emphasis will be placed on birds, rodents, small mammals, and reptiles housed at NCTA. This class includes a lecture and lab component.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Format: LEC

VTS 2583 NURSING I
Description: Pre req: A 70% (C) or higher in VTS 1313 Math for Vet Techs and VTS 1513 Animal Care. Basic animal nursing skills that are vital to the veterinary technician career are introduced. A large variety of skills are studied and practiced. This class includes a lecture and lab component. This class must be passed with a 70% (C) or higher to take Nursing II.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Format: LEC

VTS 2593 NURSING II
Description: This course is a continuation of Nursing I. Advanced animal nursing skills are studied and practiced. This class includes a lecture and laboratory component. This class is a pre req for Surgery Prep. (Pre req: Facility Mgt. and Nursing I)
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Format: LEC

VTS 2652 PARASITOLOGY
Description: Students study parasitic life cycles and parasite identification methods for both internal and external parasites of domestic animals, lab animals and birds. This class includes the collection and preparation of samples and diagnostic tests commonly used by veterinary technicians in the field and those available through commercial laboratory analysis. A survey of current therapy and products available for use will be included in this course. (Pre req: Intro to Laboratory Science with at least a 70%)
Credit Hours: 2
Max credits per semester: 2
Max credits per degree: 2
Format: LEC

VTS 2662 HEMATOLOGY
Prerequisites: Parasitology with at least 70%
Description: Student will learn skills pertaining to the study of blood. Included in the class will be: principles of laboratory safety, proper operation and maintenance of clinical laboratory equipment (microscope, centrifuge, hemacytometer, refractometer, and hemoglobinometer) and preparation of microscopic slides (collection of samples, staining techniques, identification of blood elements, reporting of results, and identification of blood parasites). Correct techniques for performing total blood counts, hematocrits, differentials, reticulocyte counts, coagulation tests and hemoglobin determinations will also be included in this course.
Credit Hours: 2
Max credits per semester: 2
Max credits per degree: 2
Format: LEC

VTS 2672 CLINICAL PATHOLOGY
Prerequisites: Hematology with at least 70%
Description: Students will continue laboratory testing in the areas of hematology (including blood chemistries); parasitology (including skin scraping analysis); bacteriological culturing, isolation and identification; urinalysis and sample submission.
Credit Hours: 2
Max credits per semester: 2
Max credits per degree: 2
Format: LEC
VTS 2733 DISEASES OF VET MED
Description: Students study the causes of animal diseases and the principles of preventive veterinary medicine pertaining to livestock, dogs, cats and laboratory animals. Study includes investigation of specific diseases and disease control measures including biosecurity as well as parasite management in animals. Important zoonoses are covered as well. The necropsy lab provides students the opportunity to learn proper necropsy technique, sample collection and submission for diagnostic tests and appropriate disposal procedures. (Pre req: Anatomy and Physiology and Intro to Microbiology)
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Format: LEC

VTS 2823 RADIOLOGY II
Description: This course is a continuation of Radiology I with emphasis placed on principles governing x-ray generation, establishment of technique charts, automatic film development, computerized imaging, exotic, equine, canine and feline radiographs and small animal contrast studies. (Pre req: D (60%) or higher grade in Radiology I)
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Format: LEC

VTS 2933 ANESTHESIOLOGY
Prerequisites: A grade of 70% or currently enrolled in Radiology II, Nursing II, Pharmacology and Hematology
Description: Principles of small animal inhalation anesthesia, pre-anesthetics, induction and maintenance anesthesia are covered in this class. Pre-surgical patient evaluations, risk classifications, monitoring techniques, equipment, inhalation machines, systems and safety are all studied in both a lecture and lab format. A 70% or higher in Anesthesiology is a pre-requisite Surgery Prep.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Format: LEC

VTS 2954 SURGERY PREPARATION
Description: The student is introduced to the proper preparation of the surgical theater, instruments, equipment and the animal for aseptic surgery. Students perform all the supporting operating room tasks including pre-surgical screening, anesthesia, patient preparation, surgical assisting, suite set-up, pack preparation and recovery. Correct pre-operative and post-operative care of the patient is stressed. The lab is an integral portion of this course. Pre req: 70% (C) or higher in Anesthesia, Nursing II, Radiology I and Clinical Pathology II.
Credit Hours: 4
Max credits per semester: 4
Max credits per degree: 4
Format: LEC

Program Outcomes For Veterinary Technician Option
1. Upon successful completion of the Veterinary Technician Option, students will be able to demonstrate proficiency in the essential skill tasks outlined by the American Veterinary Medical Association. The Skills List represents the complex role of the veterinary technician and encourages instruction in motor skills, critical thinking, entrepreneurship, and clinical application at the entry veterinary technician level in the following areas.
   - Office and Hospital Procedures
   - Pharmacy and Pharmacology
   - Nursing Skills
   - Anesthesia
   - Radiology
   - Surgical Prep & Nursing
   - Parasitology, Hematology, and Clinical Pathology
   - Animal Husbandry, Handling, Behavior, and Restraint
   - Anatomy

2. Upon successful completion of the Veterinary Technician Option, students will be able to demonstrate the academic background needed to pass a national Veterinary Technician National Exam (licensing). This is assessed through the VT Exit Exam and obtaining a 3.0 CGPA.

Program Outcomes For Veterinary Assistant Option
1. Students will be able to effectively communicate in oral and written formats.
2. Upon successful completion of the Veterinary Assistant Option, students will be able to demonstrate proficiency in the essential skills and tasks outlined by the American Veterinary Medical Association. The skills list represents the complex role of the veterinary assistant and encourages instruction in motor skills, critical thinking, entrepreneurship and clinical application at the entry veterinary technician level in the following areas:
   - Office and Hospital Procedures
   - Pharmacy and Pharmacology
   - Nursing Skills
   - Anesthesia
   - Radiology
   - Surgical Prep and Nursing
   - Parasitology, Hematology, and Clinical Pathology
   - Animal Husbandry, Handling, Behavior, and Restraint
   - Anatomy

Program Outcomes For Animal Husbandry, Animal Health Management, Equine Health Care
1. Students will be able to effectively communicate in oral and written formats.
2. Students will be able to exhibit required knowledge and skills consistent with their chosen field of study. (Technical Competence)
   - Office and Hospital Procedures
   - Pharmacy and Pharmacology
   - Nursing Skills
   - Nursing
   - Animal Husbandry, Handling, Behavior, and Restraint
   - Anatomy