



**Veterinary Science  
Program Review  
2019-2020**

### **Occupational Advisory Members**

Michelle Thomas, MS	York Rd Veterinary Hospital
Amy Schollenberger, BS	Montco 4-H/ Penn State
Kristie Machalete, CVT	North Penn Animal Hospital
Brandon Mumbauer	All Star Pet Grooming
Rebecca Hughes, BS	Delaware Valley University
Melissa Goldberg, DVM	Heart and Paw Veterinary Hospital
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### **Executive Advisory Committee Representative**

Gary Bissig	LabRepCo.
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## OCCUPATIONAL OUTLOOK

Data from the U.S. Department of Labor, Bureau of Labor Statistics Occupational Outlook Handbook, 2017-2018 Edition indicates that employment of qualified Veterinary Science professionals is expected to grow much faster than average as compared to all occupations through the year 2028. Veterinary Science occupations are estimated to have an 19% growth rate creating over 300,000 new jobs by 2028. The BLS predicts that by 2028, there will be about 109,400 vacancies for Veterinary Technicians in the U.S. These numbers are echoed in vacancies for Veterinarians and Veterinary Assistants.

Please see below for individual professions and their projected increases:

<b>Profession</b>	<b>Projected Increase</b>
Veterinarian	18% (much faster than average)
Veterinary Technician/Technologist	19% (much faster than average)
Veterinary Assistant	19% (much faster than average)
Animal Care & Service	16% (much faster than average)
Clinical Laboratory Technologist	11% (much faster than average)
Agricultural & Food Scientist	7% (faster than average)

The increasing demand for Veterinary Science occupations is influenced by the following factors.

- An increase in the popularity of companion animals living in U.S. homes.
- The increase in humane use of the animal model in Biomedical Research.
- The increased need for highly trained working animals for military, first responder, medical assistance/alert and personal support use.
- The use of companion animals in translational medicine research especially in genetic, hematologic and oncologic disease research.
- An increased need for trained personnel to facilitate wildlife rescue and rehabilitative care as urban sprawl continues to expand.

- Increasing demands on the meat and dairy industry require trained support and regulatory personnel.

The Occupational Advisory Committee reviewed the outlook for employment data and agreed that the current data is an accurate reflection of our industry. Growth is especially possible in the Philadelphia area as it is near a major veterinary school, several veterinary emergency and referral centers and a variety of research facilities. Eastern graduates from the Veterinary Science program will be able to move directly into the animal care industry but most will continue their education in Veterinary Technology, Animal Science or Pre-Veterinary career tracks. The continuation of the Veterinary Science program was unanimously supported.

### **STUDENT COMPLETION, PLACEMENT AND FOLLOW-UP INFORMATION**

Graduate follow up data for the three-year period June 2017 through June 2019 indicates that 87.7% of all students completed all tasks for their career objective and received a final grade of 70% or above. The overall placement rate for entry into related occupations or related schooling immediately following graduation was approximately 63.6 % using our 2018-19 standard. Current placement standards would most likely result in an even higher percentage. Veterinary Science students earning NOCTI Competent over the three-year period was 89.85% with 73.3% of the students earning NOCTI Advanced in 2019. The first year of required OSHA Healthcare certification had 100% of students earning the industry certificate. Enrollment and retention in the Veterinary Science program reached 100% in 2018 and has had a waitlist for the past three years.

Based on the labor market data and the graduate placement data for EASTERN's students, the OAC agreed that the Veterinary Science Program is an important program to offer to students in our community. It provides an excellent steppingstone to gain entrance into the competitive veterinary academic post-secondary programs. In addition, it offers training for job placement to the industry directly after graduation.

## **Veterinary Science Program Description**

The Veterinary Science program at Eastern Center for Arts and Technology is a two-year college and career preparatory program that trains students in all aspects of the veterinary field. The program is a challenging and inclusive environment for students to explore their interests in animal science, conservation, healthcare and more. This STEM based program encourages literacy, critical thinking, and preparation for college level writing and presentation. In addition, graduates hone in on their teamwork, personal interaction and management skills while learning the value of a strong work ethic in today's job market. Students work with a variety of foster animals to learn medication, socialization and safe handling techniques. They also work with the public in facilitating grooming appointments and doggy daycare. Several guest speakers visit the program to discuss the wide variety of careers available in the animal care industry. In addition, the students attend several class trips that reinforce career exploration and curriculum relate skills. We help our community by modeling stewardship to the animals who live with us and around us. The program's goal is to develop compassionate, well informed members of the veterinary and animal science field who are prepared to be leaders in their career.

### **Areas of study include:**

Anatomy & Physiology

Infection Control

Principles of Disease & Injury

Communications

Patient record and billing

Legal and Ethical issues

Medical Math

Safe Handling and Restraint

Patient Assessment and Care

Aseptic Technique

Diagnostic Procedures

Principles of Nutrition

Emergency Response

Medical Terminology

Human/Animal Bond

## **Skills and Enrichment:**

- Speakers from a variety of healthcare and animal care industries
- OSHA Healthcare Certification
- Resume and job acquisition
- Patient handling for exotic and large animals
- Opportunities for Co-Op
- Wide variety of surgical, laboratory and exam room hands on skills

## **TRENDS IN THE HEALTHCARE INDUSTRY**

### **Technology**

Technology is fully integrated into the Veterinary Science industry in a variety of ways. Virtually all radiology studies are now digitally processed. Many patients' medical records, appointment and billing systems are electronic as well. The students currently work with an electronic appointment and billing system to track incoming visiting patient flow within our facility. As the program builds, we would like to add even more technology as this will give our students entering the field an added advantage.

Students work with a variety of industry standard equipment such as a Massimo Pulse Oximeter, doppler blood pressure monitoring and other small devices that aid in diagnostics. The students each have a lap-top computer for class work, projects, research and online certification programs. The classroom is also equipped with SMART board technology for teacher/ student interactive teaching/learning.

### **Structure of the Industry**

Employment in the veterinary field is unique in its competitive academic programs and in the variety of paths that employees can take to enter the field.

Veterinary Assistants can enter the industry either as an on-the-job trained position or with prior training through a Veterinary Assistant Program. The National Association of Veterinary Technicians of America (NAVTA) is the only certifying body for Veterinary Assistant training that is approved by the American Veterinary Medical Association (AVMA).

Veterinary Technicians with either an associate or bachelor's degree from an American Veterinary Medical Association (AVMA) accredited Veterinary Technology program are highly sought after in the field. Currently there are only 10 schools in Pennsylvania with accredited programs. In order to receive state licensure in Pennsylvania as a Veterinary Technician a student must graduate from an AVMA accredited school. Yet some states, including Pennsylvania, still allow individuals to work in a Veterinary Technician's role without specific certification. On the job trained technicians typically enter the field as a veterinary assistant or kennel attendant and work their way up the ranks. It is difficult to predict how long this will continue to be a sanctioned practice in Pennsylvania as there are many in the industry who would like to see the industry mirror human medicine in their credentialing processes. Many technicians work in the role while earning their degree and certification. As such, having Veterinary Science training that prepares students for the role of a veterinary assistant gives students and employers a distinct advantage.

There are currently 32 Veterinary Schools in the country, making entrance into Veterinary School more competitive than Medical School. Students looking to become Veterinarians must graduate from a four-year undergraduate program of their choice and complete a variety of pre-requisite classes. In addition, they need to achieve a high score on the GRE, MCAT or VMAT exams depending on their school's requirements. Veterinary Schools look for students with experience in the industry. They want to see that students know the reality that those in industry face and are willing to put forth the tremendous financial and time investment to complete the 4-year DVM (or VMD) program. Perspective students often spend most of their academic training prior to school gaining hands on experience in a variety of school based and personal volunteer programs. Participation in a program such as Eastern's Veterinary Science Program gives students an advantage as they are introduced to the skills and concepts of the veterinary medical world as an early as their junior year of high school.

## **CPR Certification Program for Eastern Veterinary Sciences Students**

All body tissues require a steady source of oxygen. If the source is interrupted for only a few minutes, irreversible damage may be done. If cardiac arrest occurs, basic CPR must be initiated immediately. Basic CPR is intended to provide sufficient blood flow and oxygen to the brain and vital organs to support life until more advanced medical therapy can be started. Veterinary assistants and technicians play a critical role in assessing patients at risk of experiencing cardiac arrest and swiftly initiating cardiopulmonary resuscitation (CPR), when necessary. Offering this certification opportunity for students of EASTERN's Veterinary Sciences program will provide graduates with an additional and valuable competency required by employers.

For this certification, the Veterinary Sciences program recommends the RECOVER CPR certification process. RECOVER is the only veterinary CPR certification program recognized by the American College of Veterinary Emergency and Critical Care (ACVECC) and Veterinary Emergency and Critical Care Society (VECCS). It provides a standardized method of both basic and advanced life support derived from the latest evidence-based veterinary CPR guidelines.

### **Types of employees/skills required by the industry**

Students that wish to pursue a career in the veterinary science industry are highly encouraged to complete at least an associate degree program. While there are opportunities for recent high school graduates, the potential for salary and advancement typically requires post-secondary education and state recognized credentials. Graduates of the Veterinary Science program will enter secondary education with a strong foundation in anatomy and physiology, medical terminology, disease processes, animal handling, legal/ethics, and mathematical skills. This foundation will give them an advantage in their post-secondary studies. In addition to academic knowledge those in the Veterinary Science profession must also possess the following qualities:

- Critical thinking skills
- Communication skills
- Compassion

- Detailed Oriented
- Emotional stability
- Interpersonal skills
- Physical stamina

## **PROGRAM RECOMMENDATIONS**

- Seek articulation credits with area Veterinary Tech and Pre-Vet/Animal Science Programs.
- Increase clinical opportunities with an emphasis on surgical experience for 2<sup>nd</sup> year students.
- Acquire Radiograph equipment for use in curriculum-based instruction.
- Acquire additional diagnostic equipment such as ECG, Ultrasound etc. to teach restraint and diagnostic skills.
- Seek computer-based learning equipment to aid in teaching emergency response techniques.
- Acquire electronic CPR learning model.
- Add Expanded Learning Opportunities to increase variety of animal handling experiences.
- Acquire suturing models.
- Acquire Venipuncture/bandaging models.
- Seek NAVTA accreditation.
- Obtain RECOVER CPR certification

## RECOMMENDATIONS WITH TIMELINE

### SCHOOL YEAR 2020-21

### COST ESTIMATE

- |   |         |
|---|---------|
| • Acquire ECG (2)                       | \$5,000 |
| • Acquire CPR monitoring model (5)      | \$5,000 |
| • Acquire X ray demo                    | \$500   |
| • Lead Apron Gloves Thyroid and glasses | \$990   |
| • Cardel Digital BP (5)                 | \$5,000 |

**Total:   \$16,490**

### SCHOOL YEAR 2021-22

- |  |         |
|--|---------|
| • Healthcare education simulation software | \$2,000 |
| • Ultrasound                               | \$5,000 |
| • NAVTA certification                      | \$5,000 |
| • Pulse OX (5)                             | \$5,000 |

**Total:   \$17,000**

### SCHOOL YEAR 2022-23

- |   |         |
|---|---------|
| • Healthcare education simulation software      | \$2,000 |
| • Leg mannequin for injection and wound care(5) | \$2,625 |
| • Charm reader for sanitizing check             | \$4,250 |
| • Doppler (3)                                   | \$6,000 |
| • Rat Models                                    | \$600   |
| • RECOVER CPR certification                     | \$2,445 |

**Total:   \$17,920**

**Grand Total:       \$51,410**