



Letter of Intent

Veterinary Technician Program

AAS Degree in Veterinary Technology

Office of the Provost

and

Department of Nursing

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1. Purposes and Goals

A. Educational Goal

The goal of the Veterinary Technology program will be:

To prepare veterinary technicians to be highly competent in the knowledge, skills and professional demeanor consistent with local employer expectations and national standards as described by the current AVMA Committee on Veterinary Technician Education and Activities (CVTEA) standards.

B. Status of the profession

Today, owners of pets and other animals expect state-of-the-art veterinary care. To provide these services, veterinarians depend on the skills of veterinary technologists and technicians for routine laboratory and clinical procedures. Although specific job duties vary by employer, often there is little difference between the tasks carried out by technicians or technologists, despite some differences in formal education and training. As a result, most workers in this occupation are called technicians for a range of task and skill levels.

Veterinary technicians typically conduct clinical work in a private practice under the supervision of a veterinarian—often performing various medical tests along with treating and diagnosing medical conditions and diseases in animals. For example, they may perform laboratory tests such as urinalysis and blood counts, assist with dental prophylaxis, prepare tissue samples, take blood samples or assist veterinarians in a variety of tests and analyses in which they often handle test tubes and diagnostic equipment.

Some veterinary technicians obtain and record patients' case histories, expose and develop x rays and provide specialized care. In addition, experienced veterinary technicians may discuss a pet's condition with its owners and train new clinic personnel. Veterinary technologists and technicians assisting small-animal practitioners usually care for companion animals such as cats and dogs; but can perform a variety of duties with mice, rats, sheep, pigs, cattle, monkeys, birds, fish, and frogs. Very few veterinary technologists work in mixed animal practices where they care for both small companion animals and larger, non-domestic animals.

Besides working in private clinics and animal hospitals, veterinary technologists and technicians may work in research facilities, where they may administer medications orally or topically, prepare samples for laboratory examinations, and record information on an animal's genealogy, diet, weight, medications, food intake, and clinical signs of pain and distress. Some may be required to sterilize laboratory and surgical equipment and provide routine postoperative care. At research facilities, veterinary technologists typically work under the guidance of veterinarians, physicians and other laboratory personnel. Some veterinary technologists vaccinate animals and occasionally are required to euthanize seriously ill, severely injured or unwanted animals.

While the goal of most veterinary technologists and technicians is to promote animal health, some contribute to human health as well. Veterinary technologists occasionally assist veterinarians as they work with other scientists in medical-related fields such as gene therapy and cloning. Some find opportunities in biomedical research, wildlife medicine, the military, livestock management or animal pharmaceutical sales.

C. National and Local Educational Trends

There are two levels of education and training for entry to this occupation: a two-year program for veterinary technicians and a four-year program for veterinary technologists. Most entry-level veterinary technicians have a two-year degree from an accredited community college program in veterinary technology in which courses are taught in clinical and laboratory settings using live animals. About 16 colleges offer veterinary technology programs that culminate in a bachelor's degree in veterinary technology. These four-year colleges, in addition to some vocational schools, also offer four-year programs in laboratory animal science. Approximately five offer distance learning programs.

At this time there are 131 veterinary technology programs accredited by the American Veterinary Medical Association (AVMA). Graduation from an AVMA-accredited veterinary technology program allows students to take the credentialing exam in any State in the country.

Technologists and technicians usually begin work as trainees performing routine tasks under the direct supervision of a veterinarian. Entry-level workers who have training or educational background which includes extensive hands-on experience with a variety of laboratory, diagnostic and medical equipment, usually require a shorter period of on-the-job training. As they gain experience, technologists and technicians take on more responsibility and carry out more assignments under only general veterinary supervision. Some may eventually become supervisors.

More than 60,000 veterinary technologists and technicians hold jobs in the United States. Most work in veterinary services; the remainder work in boarding kennels, animal shelters, stables, grooming salons, zoos, and local, State, and federal agencies.

Employment of veterinary technologists and technicians is expected to grow much faster than average for all occupations through 2014. Job openings will also stem from the need to replace veterinary technologists and technicians who are expected to leave the profession over the 2004–14 period.

Pet owners are becoming more affluent, consider their pet to be a member of the family and are willing to pay for advanced care. This growing affluence and view of pets will spur employment growth for veterinary technicians. The availability of advanced veterinary services, such as preventive dental care and surgical procedures, may provide opportunities for workers specializing in those areas. Biomedical facilities, diagnostic laboratories, wildlife facilities, humane societies, animal control facilities, drug or food manufacturing companies, and food safety inspection facilities will provide additional jobs for veterinary technicians. Demand for these workers will also stem from the desire to replace veterinary assistants with

more highly skilled technicians in animal clinics and hospitals, shelters, kennels, and humane societies.

Median hourly earnings of veterinary technicians were \$11.99 in May 2004. The middle 50 percent earned between \$9.88 and \$14.56. The bottom 10 percent earned less than \$8.51, and the top 10 percent earned more than \$17.12 (*Occupational Outlook Handbook, 2006-07 Edition, U.S. Department of Labor, Bureau of Labor Statistics*). According to practitioners and veterinarians in the community who were interviewed, salaries in Brooklyn average \$15-\$20/hr for a certified veterinary technician with an associate degree.

D. Community Interest in the Program

As a result of a survey of veterinary clinics in Brooklyn, seven respondents (12 %) offered to support the program. In addition, the NY Aquarium expressed interest in the program and offered to serve as a clinical site. The Aquarium has just opened a \$40 million hospital which is less than five miles from Kingsborough's campus.

Ed Wilenski from the Rachel Carson High School of Coastal Studies has offered his support and cooperation. Kingsborough's A.A.S. in Veterinary Technology will provide an attractive educational option for graduates of this local high school.

Last spring more than 2,000 students were enrolled in courses offered by the Department of Biological Sciences at KCC. The A.A.S. in Veterinary Technician will offer another career and employment opportunity for students who are interested in biology and love animals.

E. Related College Offerings

The administration of Kingsborough has demonstrated a significant interest in programs of this type by its recent commitment to associate degree programs for surgical technologists and physical therapist assistants. The College has a long-standing A.A.S. in Nursing which has 42 faculty members, 15 of whom are full-time. Each of these programs has its own office space, classrooms and learning laboratories. The campus also offers programs in community and mental health, therapeutic recreation and transfer options to baccalaureate health professions programs, and is developing a biotechnology program.

In its July 2006 *Report of Institutional Goals* to CUNY, Kingsborough made a commitment to target new certificate and degree programs in health occupations. Currently, Letters of Intent are being prepared for five other health professions programs. These are: Radiologic Technician, Occupational Therapy Assistant, Respiratory Therapist, EMT-Paramedic and Pharmacy Technician.

The College is pursuing the creation of a new academic department which will be responsible for the A.A.S. in Veterinary Technology as well as the five other new health-technician programs. During this initial stage between the Letter of Intent and CUNY approval to develop a full proposal, and until a new department is established, the Department of Nursing has taken responsibility for the development of the A.A.S. in Veterinary Technology.

2. Need for the Curriculum

There are more than 90 veterinary clinics in Brooklyn serving a population of more than two million people. Surveys of these clinics indicated a strong need for qualified veterinary technicians. Companion animals are commonplace in the community and the need for qualified veterinary care is growing. In addition there are a number of facilities such as the New York Aquarium and several zoos with extensive display animal populations. Research facilities in various health care facilities and laboratories also offer opportunities for graduates.

The only large domestic animals in Brooklyn are horses which are found at a riding academy and at the Aqueduct race track. Field trips for training and experience in the required basic skills associated with this portion of the program will need to be arranged. Opportunities for employment in large domestic animal venues exist in all other parts of the country. Graduates interested in practicing in this specialty should be willing to relocate. Furthermore, Kingsborough's program will provide only fundamental skills in these areas in order to stress those skills needed overwhelmingly in Brooklyn and that is the care of household pets.

3. Students

Enrollment at Kingsborough Community College (excluding College Now) reached 11,790 students in the Spring 2005 semester. In spite of the interest of significant numbers of these students in allied health career education, many do not have access due to the limited number of programs and program seats available. Therefore, Kingsborough should address this unmet need and develop additional, equally viable health-related career programs.

Department of Student Development personnel has enthusiastically endorsed the development of the A.A.S. in Veterinary Technology. They will shadow veterinary technicians to strengthen their understanding of their work environment and scope of practice. This will better equip them to help potential students make the best career choice and may increase retention in the program.

LaGuardia Community College offers the only accredited veterinary technician program in Kingsborough's vicinity.

4. Curriculum

The curriculum is designed to prepare students who will succeed in earning State and national credentialing and are ready to work anywhere in the United States as highly qualified veterinary technicians. The curriculum includes the science of animal physiology and anatomy all veterinary technicians must know and is prerequisite to clinical courses, and the humanities, social science and other general education courses, which are essential for all associate degree graduates, provide a foundation for further higher education and help create a well-rounded individual and citizen. The College will request a waiver of the sixty-credit limit for associate degree programs so that the curriculum can meet the standards for accreditation. The curriculum meets the NY State Education requirement for liberal arts and sciences credits with 24 out of the proposed 67, which includes the 20 General Education credits and four credits for Animal Pathophysiology.

A. Description of New Courses

17 Medical Calculations

Credits

1

Basic mathematics, elementary algebra, measurements, and how those principles apply to drug orders, doses and other calculations. Calculations used in determining dilutions of medications and gasses and applying physiologic formulas to the practice of medicine will be emphasized.

101 - Introduction to Veterinary Science

Credits

3

Introduction to medical terminology and basic scientific concepts which are the foundation of veterinary medicine. Topics include: professional behavior and ethics, the role of professional organizations and the responsibility of veterinary technicians as members of the health care team in various types of professional practices. Legal issues associated with the practice of veterinary medicine and an overview of the use of certain animals in veterinary and laboratory animal sciences; pharmacology, diseases in animals, sanitation and contamination control will be presented.

210 Veterinary Care I

Credits

4

A basic course with laboratory work emphasizing the techniques and equipment which are used for animal care and restraint. Students will learn how to handle various species comfortably. An introduction to veterinary care procedures applied in a veterinary practice are also presented. Students learn about medication administration and the underlying pharmacology of medicines and vaccines.

211 Veterinary Care II

Credits

4

A continuation of Veterinary Care I covering more advanced skills and additional animal species. Laboratory work emphasizes skills needed to use equipment and assist with procedures. Additional pharmacologic modalities including intravenous administration techniques are covered. Animal feeding principles and nutrition are also covered.

Prerequisite: Veterinary Care I

212 – Veterinary Radiographic Procedures

Credits

2

Students will learn to position animals for x-ray exposures of various parts of the body, process the exposed film in the dark room and evaluate the results. Topics include radiation safety, positioning and exposure of animals and the use of contrast media. Students will also learn the principles of ultrasonography and gain experience using this equipment.

213 – Veterinary Lab Techniques

Credits

2

The examination of blood, urine, feces, exudates and cells for diagnostic and prognostic purposes in veterinary practice. Students become familiar with the underlying theories on which the tests are based and the relevance of laboratory results to the evaluation of animal health.

214 Animal Pathophysiology

Credits

4

Based upon the principles of physiology presented in Animal Anatomy and Physiology (BIO 16), common diseases and conditions are studied as they relate to normal physiology. Microbiological, parasitological and oncological conditions are studied and the rationale for pharmacological, surgical and other interventions are studied.

Prerequisite: BIO 16

221 - Surgical Care

Credits

4

The role of the veterinary technician as a surgical assistant. Instruments and equipment used in surgery are learned and their functions described. Sterile techniques used in the surgical suite are mastered.

222 – Anesthesia and Intensive Care Techniques

Credits

2

The equipment and techniques use to induce, monitor and maintain anesthesia and ventilation in a variety of species. Students will learn methods for post operative management of animals who are sedated and/or recovering from anesthesia. Pharmacologic agents and gasses used in anesthesia and post operative care are studied and dosage calculations are mastered.

161 – Exotic and Display Animal Care

Credits

2

The practical techniques of veterinary care as they apply to exotic pets and display animal species are explored. Students learn techniques used to restrain and treat various animal species.

251 Lab Animal Care

Credits

2

The principles relating to the breeding and use of research animals are introduced. Humane care, ethics, and husbandry practices are also covered. Techniques involving clinical observation and bi methodology along with an introduction to asepsis and surgical technique are practiced in the laboratory.

271 Farm Animal Care

Credits

2

The practical aspects of veterinary care as they apply to large domestic and farm animal species are explored. Students learn methods of proper handling and medication of farm animal species.

241 - Veterinary Office and Clinic Management

Credits

2

This is a business management course for veterinary technology students. Included are such topics as: recordkeeping; time and stress management; receptionist duties and dealing with difficult clients; both clinical and personal finance; human-animal bonding; death and dying; career goals, resume-writing and job interviews. State and federal laws are also discussed regarding the veterinary profession, sexual harassment, Right to Know, O.S.H.A., prescription and O.T.C. drugs and various other legal forms and paperwork necessary in dealing with employees, employers and clients.

140 Clinical I

Credits

2

This is the first clinical experience for students in the program. The course is offered in the six-week module. There is a three-hour per week lab and a clinical conference at the end of each week to address skills learned and practiced and to discuss clinical experiences encountered. Students spend two eight-hour days per week in various Brooklyn veterinary clinics. Observation, experience and skills objectives are delineated and professional demeanor is practiced.

150 Clinical II

Credits

2

This is the first twelve-week semester of clinical experience and it is integrated with 210 Veterinary Care I. Students will practice skills in clinical settings in veterinary clinics in Brooklyn. Students spend two eight-hour days per week in various veterinary settings. Students observe and practice clinical skills, including professional demeanor. Program faculty and/or on-site supervisors will observe students' mastery of program objectives.

Prerequisite: Clinical I

Corequisite: Veterinary Care I

160 Clinical III

Credits

2

Offered in the six-week module and integrated with 161 Exotic Animal Care, this course includes a three-hour lab and clinical conference each week to address skills learned and practiced and to discuss clinical experiences encountered. Students spend two eight-hour days per week in various veterinary clinics that care for exotic pets. Rotations to the New York Aquarium, the Bronx and Central Park Zoo are a part of this clinical experience. Students will

gain experience and practice program skills including professional demeanor. Program faculty and/or on-site supervisors will observe students' mastery of program objectives.

Prerequisite: Clinical I

Corequisite: Exotic Animal Care

240 Clinical IV

Credits

2

This is the second twelve-week semester of clinical experience and it is integrated with 240 Veterinary Care II. Students will practice skills learned in veterinary clinics. Students spend two eight-hour days per week in various veterinary settings. Skill in x-ray and sonography and advanced care techniques will be practiced. Students will gain experience and practice program skills including professional demeanor. Program faculty and/or on-site supervisors will observe students' mastery of program objectives.

Prerequisite: Clinical II

Co-requisite: Veterinary Care II

250 Clinical V

Credits

This course is offered in the six-week module and it is integrated with 251 Lab Animal Care. There is a three hour per week lab and clinical conference at the end of each week to address skills learned and practiced and to discuss clinical experiences encountered. Special emphasis on breeding, sex determination and isolation techniques associated with lab animal and experimentation. Students spend two eight-hour days per week in various laboratory facilities. Students will gain experience and practice program skills including professional demeanor. Program faculty and/or on site supervisors will observe students' mastery of program objectives.

Prerequisite: Clinical IV

Corequisite: Lab Animal Care

260 Clinical VI

Credits

2

This is the last twelve-week semester of clinical experience and it is integrated with 221 Veterinary Surgical Care and 222 Anesthesia and Intensive Care Techniques. Students will practice skills learned in prior clinical settings. Students spend two eight- hour days per week in various veterinary clinics assisting with surgery and anesthesia as well as developing post operative and intensive care skills. Students will gain experience and practice program skills including professional demeanor. Program faculty and/or on site supervisors will observe students' mastery of program objectives.

Prerequisite: Clinical V

Corequisite: Veterinary Surgical Care, Anesthesia and Intensive Care Techniques

270 Clinical VII

Credits

2

Offered in the six-week module and integrated with Farm Animal Care. A three-hour lab and

clinical conference each week addresses skills learned and practiced and clinical experiences encountered. Students spend two eight-hour days per week in various veterinary clinics finishing all remaining skills objectives and final skills-testing. Field trips to veterinary facilities where farm animals are treated are a part of this clinical experience. Students will gain experience and practice program skills including professional demeanor. Program faculty and/or on site supervisors will observe students' mastery of program objectives.

The entire 67-credit curriculum outline follows.

Kingsborough Community College

Veterinary Technician Program

Course number		Lecture	Lab	Clinic	Credit
101	Introduction to Veterinary Technology	3			3
210	Veterinary Care I	3	3		4
211	Veterinary Care II	3	3		4
212	Veterinary Radiographic Procedures I		6		2
213	Veterinary Lab Techniques		6		2
214	Animal Pathophysiology	3	3		4
221	Veterinary Surgical Care	3	3		4
222	Anesthesia and Intensive Care Techniques	1	3		2
161	Exotic Animal Care	1	3		2
251	Lab Animal Care	1	3		2
271	Farm Animal Care	1	3		2
241	Veterinary Office Management	2			2
140	Clinical I (Six week)		3	96	2
150	Clinical II			182	2
160	Clinical III (Six week)		3	96	2
240	Clinical IV			182	2
250	Clinical V (Six Week)		3	96	2
260	Clinical VI			182	2
270	Clinical VII (Six Week)		3	96	2
				930	47
General Education					
ENG12	English 12 (Six Week)	4			4
ENG24	English 24	3			3
BIO16	Animal Anatomy and Physiology	6		12	6
SCI25	Applied Physical Science for Allied Health	3			3
PSY11	General Psychology	3			3
NUR17	Medical Calculations	1			1
					20

Veterinary Technician Program Curriculum

Fall / Winter

17	Medical Calculations	1
16	Animal Anatomy and Physiology	6
11	General Psychology	3
101	Introduction to Veterinary Technology	3
12	English 12	4
140	Clinical I (Six week)	1

Spring / Summer

25	Applied Physical Science for Allied Health	3
210	Veterinary Care I	4
214	Animal Pathophysiology	2
150	Clinical II	2
160	Clinical III (Six Week)	2
161	Exotic Animal Care (Six Week)	2

Fall/ Winter

24	English 24	3
213	Veterinary Lab Techniques	2
211	Veterinary Care II	4
212	Veterinary Radiographic Procedures I	2
240	Clinical IV	2
250	Clinical V(Six Week)	2
251	Lab Animal Care (Six Week)	2

Spring / Summer

221	Veterinary Surgical Care	2
222	Anesthesia and Intensive Care Techniques	3
241	Veterinary Office Management	2
260	Clinical VI	2
270	Clinical VII (Six Week)	2
271	Farm Animal Care (Six week)	2

5. Faculty

Faculty of the A.A.S. in Veterinary Technician Program will meet or exceed the minimum requirements of the AVMA and New York State. The AVMA Standards for the key program faculty are:

The program director must be a licensed veterinarian or a veterinary technician who is a graduate of an AVMA-accredited program and/or is currently credentialed as a veterinary technician with the educational background and occupational experience appropriate to understand and fulfill program goals. The position of the program director should be full time with the institution.

The director must have the responsibility, authority, and support necessary to manage the program successfully. This shall be documented in a written job description that also shall clearly define the position of the director within the institutional hierarchy. The program director's appointment must include sufficient time for administrative and teaching responsibilities as well as opportunities and support for professional development.

Each program must have a minimum equivalent of one full-time licensed veterinarian and a minimum equivalent of one full-time veterinary technician who is a graduate of an AVMA-accredited program and/or is currently credentialed as a veterinary technician. Faculty and staff numbers must be sufficient to deliver the educational program and meet the instructional goals of the program.

Instructors in the program must have knowledge and expertise in the topics they teach and promote the appropriate role of the veterinary technician in the veterinary health care team. Instructional duties must not violate state laws regarding the practice of veterinary medicine.

For off-campus clinical experiences, students and faculty should seek progressive contemporary facilities that employ graduates of AVMA-accredited programs in veterinary technology and/or are credentialed as veterinary technicians to act as professional role models and mentors.

6. Facilities, Laboratory Equipment, Supplies and Library Materials

Kingsborough Community College already offers the A.A.S. in Physical Therapist Assistant which requires approximately the same laboratory, classroom, and faculty and program office space as the A.A.S. in Veterinary Technology.

Several professional journals and instructional texts will be added to the Kibbee Library in sufficient numbers to support student assignments. Arrangements will be made with veterinary clinics and the New York Aquarium Hospital for students to have access to any veterinary medical journals or text that they may need. Local veterinary clinics can be appropriate resources and will meet all national standards as long as arrangements are established and are known to students, including any conditions for access students must satisfy.

Some of the equipment for a typical veterinary technician program laboratory can be acquired by donation, rented or borrowed. Many of the most expensive equipment should not be purchased since equipment becomes obsolete quickly in this profession. Rentals are less expensive and the number of days that laboratory exercises call for this equipment is limited.

7. Cost Assessment

The instructional costs are expected to approximate \$120,000 in the first year. External funds will be sought but if necessary the College will include these costs in its strategic planning and budgeting of College funds. Annual budgets for typical veterinary technician programs include disposables and equipment for the laboratory and classroom, faculty development, accreditation fees as well as other miscellaneous items. The College will plan for these costs in its annual budgeting process while it continues to seek external support as well. Faculty salaries are comparable to those for the current Nursing, PTA and Surgical Technology program faculty and directors which range from \$65,000 to \$85,000.