

BOARD OF HIGHER EDUCATION

REQUEST FOR COMMITTEE AND BOARD ACTION

COMMITTEE: Academic Affairs

NO: AAC 20-08

COMMITTEE DATE: Dec 10, 2019

BOARD DATE: January 10, 2020

**APPROVAL OF LETTER OF INTENT OF THE UNIVERSITY OF MASSACHUSETTS
AMHERST TO AWARD THE BACHELOR OF SCIENCE IN VETERINARY TECHNOLOGY
AND AUTHORIZATION FOR FAST TRACK REVIEW**

MOVED: The Board of Higher Education (BHE) has evaluated the Letter of Intent of the **University of Massachusetts Amherst** to award the **Bachelor of Science in Veterinary Technology** and has determined that the proposal aligns with BHE criteria. Accordingly, the BHE authorizes the Commissioner to review the program and to make a final determination on degree granting authority pursuant to the Fast Track review protocol.

VOTED: Motion adopted by AAC 12/10/2019; adopted by BHE 1/10/2020.

Authority: Massachusetts General Laws Chapter 15A, Section 9(b); AAC 18-40.

Contact: Winifred M. Hagan, Ed.D., Senior Associate Commissioner for Strategic Planning and Public Program Approval

**BOARD OF HIGHER EDUCATION
December 2019**

**University of Massachusetts Amherst
Letter of Intent (LOI)**

Bachelor of Science in Veterinary Technology

DEGREE TITLE ABSTRACT ON INTENT AND MISSION OF PROGRAM

The University of Massachusetts Amherst (UMA) holds that there is significant need for proposed Bachelor of Science in Veterinary Technology (BS/Vet Tech) determined during the closing of the Mount Ida College (MIC) veterinary technology program, that produced more than half of the certified vet techs in Massachusetts. The proposed UMA program obtained teach-out authority at the time MIC closed and is proposing full degree granting authority with this Letter of Intent (LOI) application. UMA expects that graduates of the program will have a set of skills that range from hands-on management of production animals at UMA farms, knowledge of compliance and management of laboratory animals at UMA research facilities, to general education and basic-science knowledge obtained through the course of study. UMA expects that this combination of knowledge and skills with a variety of animals will create sought-after graduates to fill positions at veterinary practices, universities and biotech firms. A number of stakeholders, including the Massachusetts Biotechnology Council, the Massachusetts Society for the Prevention of Cruelty to Animals, and the Senate Committee on Post Audit and Oversight, have stated the need for the continued production of certified Vet Techs and urged UMA to offer an American Veterinary Medical Association (AVMA) accredited veterinary technology program beyond the teach-out period.

After review by the Chief Academic Officer (CAO) at UMA, the proposed program has obtained all necessary governance approvals and was approved by the University of Massachusetts' Board of Trustees on September 11, 2019. The LOI was circulated on October 22, 2019. No comments were received.

A. ALIGNMENT WITH MASSACHUSETTS GOALS FOR HIGHER EDUCATION

Address Gaps in Opportunity and Achievement in Alignment with Campus-Wide Goals

UMA notes that the veterinary technology profession has high female representation with the National Association of Veterinary Technicians in America (NAVTA)'s 2016 demographic survey results indicating that 94.7% of the veterinary technician respondents were female. This reflects UMA's current female: male ratio in the Department of Veterinary and Animal Sciences major. UMA plans the proposed program will continue to support female entry into its STEM disciplines. UMA will also work to leverage existing efforts on campus to increase diversity in

STEM disciplines and to attract students from underrepresented groups. In addition, the framework of MassTransfer provides on-ramps from community colleges currently granting associate degrees in veterinary technology. In this way, UMA plans to broaden diversity and enroll underserved, first-generation, and low-and moderate-income groups.

Program or Department Supports to Ensure Student Retention and Completion

UMA underscores that retention and degree completion are top priorities. The Associate Provost for Student Success coordinates university-wide efforts focused on student success and on overcoming barriers to on-time graduation. Recent efforts have led to a sharp rise in both first-year retention rates as well as 4- and 6-year graduation rates. UMA plans that all students will have individual, departmental faculty advisor meetings at least once per semester, in order to help ensure students are meeting the criteria for an AVMA-accredited program with timely progression toward degree completion. It is also planned that a faculty member who serves as the internship coordinator will work closely with advisors. In this context UMA plans that students will have year-round access to the Academic Advising and Career Advising Offices operated by the College of Natural Sciences. At the college level, an academic alert system monitors student performance in key science subjects. The College of Natural Sciences also runs special programming for underrepresented minorities and first-generation students. Further supports are provided at the university level through the Learning Resource Center (LRC), which supplements classroom instruction by offering students access to peer tutors and supplemental instruction leaders for the majority of first- and second-year core classes. The proposed program also has a built-in component for summer courses to facilitate the progress of students who switch into the major from other majors or transfer from other institutions.

Alliances and Partnerships with PK-12, Other IHE's, Community Employers

Once the program has obtained BHE approval, UMA plans to explore articulation agreements with Veterinary Technician Associate Degree (AD) granting institutions in the state such as Holyoke, North Shore, and Massasoit community colleges so that students who have completed an associate's degree at those institutions can transfer into the proposed program.

Relationship to MassHire Regional Blueprints

UMA reports that the Massachusetts Executive Office of Labor and Workforce Development projects an 18.61% statewide growth in veterinary technologist and technician positions in Massachusetts by 2026. The annual mean wage of veterinary technicians and technologists in Massachusetts is \$40,950; Massachusetts is the fourth highest paying state for this occupation.

DHE staff found that the Mass Hire Regional Blueprints indicate the top three opportunities related to business and industry in the Pioneer Valley are: incremental growth of small and medium size enterprises and the emergence of new start-ups in selected regional industries; new large-scale employers with potential for regional job multiplier effects may positively

impact job creation and supply chains, and create career pathways for a new and the existing incumbent workforce; and agriculture and sustainable food systems eco-system creating jobs and new business development at a steady rate, providing opportunities to increase the region's concentration in this industry sector.

DHE staff also found Mass Hire Regional Blueprints to indicate that health care and social assistance is the largest and fastest growing industry, and vital to the Berkshire County economy. Mass Hire also showed that Berkshire County is particularly attractive to those looking to start their own business, with affordable space and relatively low cost of living, and a growing entrepreneurial ecosystem. The region is focusing efforts on communication, infrastructure, social opportunities, and workforce programming. There have been recent efforts to "re-image" the region with a focus on the creative and innovative economy with many new start-ups and makerspaces being developed. UMA found the Pioneer Valley Regional Blueprint to provide data supporting the need for graduates of the program with veterinary technologists and technicians listed with a supply gap ratio of 2.61

UMA also found that students graduating from the proposed BS/Vet Tech Program are expected to find employment throughout the Commonwealth and beyond. UMA reported that the majority of students will look for employment in the greater Boston area, where the greatest number of opportunities is concentrated, including biotech firms as well as veterinary practices. UMA also pointed out that 49% of all UMA students come from the Boston area. The students currently in the teach-out program and for the previous generation of Mount Ida College students in the veterinary technology program, the placement rate was essentially 100%, with the majority of students finding employment at one of the over 100 internship sites which were affiliated with the former Mount Ida College program are now with UMA through the teach-out authority.

UMA further reported that data which supports the need for veterinary technologists in the Mass Hire regional blueprints is aggregated in the health care sector. The Mass Hire Regional Blueprint for greater Boston shows several technician occupations that required more than a high school diploma but less than a bachelor's degree identified as being under-supplied. National research has also shown that employers are experiencing difficulty hiring for these mid-skill occupations. veterinary technologists and technicians fall exactly within this range of mid-skill occupations. Health technologists and technicians, the category which include veterinary technologists, are one of the seven specific occupation groupings that are being prioritized as experiencing the highest demand.

The proposed program plans that students coming into the program as first-year students spend the first two years in Amherst and the second two years at the Newton campus. The proposed program targets students who are specifically interested in becoming certified veterinary technologists from all over Massachusetts, New England, and beyond. The number of bachelor's degree programs in veterinary technology is rather small; there are approximately 30

across the nation, and this would be only the second in Massachusetts. The UMass Boston health degree does not offer a program leading to a certified veterinary technology degree and therefore serves an entirely different population of students. UMA is confident that the fact that students will spend one-half of their time in this degree program in the greater Boston area has no impact on UMass Boston enrollments. UMA underscored that when the program was run by Mount Ida College and was therefore housed in its entirety in Newton, it did not compete for students with the UMass Boston health degree that provides a concentration in veterinary technology.

Duplication

UMA reports that there is only one other 4-year bachelor's program in veterinary technology in Massachusetts offered by Becker College, in addition to the existing teach-out underway at the UMA Newton campus. There are 2-year associate degree programs offered at Holyoke, North Shore, and Massasoit community colleges.

Innovative Approaches to Teaching and Learning

The proposed program includes several online and hybrid courses in order to make sure that during the time when students are resident at the Newton campus, they can still take advantage of those courses being offered at the Amherst campus and remain on schedule for on-time graduation. The program has a significant experiential component with all students required to complete 12 credits of internships.

B. ALIGNMENT WITH CAMPUS STRATEGIC PLAN AND MISSION

Priority Rationale and Support of Strategic Plan and Overall Mission of Institution

The mission of UMA to create a positive impact through education and advancing knowledge is supported by the proposed program. The first of three strategic goals in the current strategic plan includes making UMA a destination of choice for academically accomplished, socially responsible education seekers that will succeed in its' learning community. The UMA Department of Veterinary and Animal Sciences has a tradition of attracting students interested in careers in veterinary medicine and biomedical research. UMA plans that the proposed program will enhance this profile as a destination of choice by extending the opportunity by offering former Mount Ida College veterinary technology students the ability to continue their progress through degree completion. The implementation of the current proposal will allow future UMass Amherst students the same opportunity.

Overall Goals, Learning Objectives, Outcomes Evaluation (see Form B Appendices)

The intent of the proposed program is to prepare students for a career in veterinary medicine or biomedical research and to meet the workforce needs of the Commonwealth. The program is expected to continue to prepare students to be Certified Veterinary Technologist, as a student who has graduated from an AVMA-accredited bachelor's degree program and passed the Veterinary Technology National Exam (VTNE). Veterinary Technologists are educated to be veterinary nurses, laboratory technicians, radiography technicians, anesthetists, surgical nurses and client educators. Many Veterinary Technologists are placed in a supervisory role in veterinary practices, research institutions and other settings.

The proposed program is also expected to provide its graduates with a grounding in biomedical science and the essential veterinary skills required by the AVMA, which accredits veterinary technology programs. UMA has received continuing AVMA accreditation for the program based at the Newton campus; it will seek approval of the new UMass Amherst BS-Vet Tech program from AVMA, so that graduates can take the National Veterinary Technician Licensing Exam (VTNE), access to which is usually limited to graduates of AVMA-accredited programs by most state veterinary medical boards, including the veterinary medical board of Massachusetts. Passing the VTNE is required to become a certified Veterinary Technologist (CVT). To gain initial accreditation and remain an accredited program, the AVMA requires continued assessment and improvement, with a self-study submitted during the accreditation process and annual reports required after initial accreditation. Further, the CVTEA monitors the VTNE passing percentage for first-time test takers and therefore, assessment of these passing rates and efforts to improve them will serve as annual reminder to ensure quality and effectiveness. UMA also expects to form an external advisory board with members from the Massachusetts Veterinary Medical Association, CVTs practicing in Massachusetts, and private practice veterinarians to provide external input regarding the skills needed to succeed in practice as well as suggestions for new training.

C. ALIGNMENT WITH OPERATIONAL AND FINANCIAL OBJECTIVES OF INSTITUTION

Enrollment Projections (see Form C Appendices)

The proposed program is expected to accept 50 students per year, yielding a steady-state enrollment of 200 students after the first four years.

Resources and Financial Statement of Estimated Net Impact on Institution (see FORM D Appendices)

In order to meet AVMA accreditation, the proposed program includes funding for a Program Director, who must be a licensed veterinarian, and a full-time credentialed veterinary technician

who is a graduate of an AVMA-CVTEA-accredited program. Funds are also requested for an office manager and animal care staff for the Newton campus.

Administratively, the business office and the department's office for the undergraduate program, which are currently staffed with 3 and 2 administrative assistants, respectively, are expected to adequately handle the demands that the new major will impose both in terms of handling accounting and expenditures as well as registrations of new students. An additional part-time administrative assistant at the Newton campus will be hired to assist students and faculty there.

All laboratories, equipment, and library resources used for the veterinary technology program as run by the former Mount Ida College have been retained at the Newton campus. This includes a state-of-the-art building dedicated exclusively to the veterinary technology program, which as of September 1, 2018 is being used by UMass Amherst to educate the approximately 150 students in the Vet Tech teach-out. The Veterinary Technology Center was built in 2009. The VTC consists of one lecture classroom seating 24 students and office space for faculty, staff, and adjuncts. There is one microscopy lab with a prep/storage room, which can be used for microbiology, clinical pathology, parasitology, and anatomy & physiology labs. The animal housing space and clinical labs are located off a locked key card accessed "U" shaped hall. There are two flex rooms for visiting animals (birds, goats, turtles, snakes etc.) and a large dog run area leading out to an indoor and outdoor "play" space. There are "cat condos", a rabbit room, rodent room, and two recovery rooms. There are also two clinical classrooms and a surgical suite. The facilities in Newton are primarily designed for small animal care.

The Amherst campus, by contrast, has multiple facilities for working with large animals. Two farms located close to the Amherst campus, Hadley Farm (2 miles) and South Deerfield Farm (10 miles), offer excellent accommodation and natural grazing for sheep, goats, poultry, horses and cattle.

As previously mentioned, it is planned that students coming into the program as first-year students spend the first two years in Amherst and the second two years at the Newton campus. There are approximately 800 dormitory beds in the Newton campus, so accommodating 100 students annually is completely feasible, though UMA expects some students from the Boston area will choose not to live on-campus moving the number of beds needed for the program closer to 70. There are also adequate numbers of beds and other facilities available at the Amherst campus for accommodating students in the program. The Newton campus is classified as an additional instructional facility. It is not a branch campus; therefore, registration for courses, meal plans, health services, tuition and fees, etc., will all work in exactly the same way whether students are resident in Amherst or in Newton.

STAFF REVIEW AND VALIDATION

Staff thoroughly reviewed the **LOI** proposing full degree granting authority for the **Bachelor of Science in Veterinary Technology** submitted by the **University of Massachusetts Amherst**. Staff validate that the LOI includes all data required by the Massachusetts Board of Higher Education. Staff recommendation is for BHE authorization for the Commissioner to review the program pursuant to the Fast Track review protocol.

Form A: Curriculum

Major Required (Core) Courses (# Total courses required = 21)		
<i>Course Number</i>	<i>Course Title</i>	<i>Credit Hours</i>
ANIMLSCI 105	Intro to Veterinary Technology	4
ANIMLSCI 115	Clinical Nursing I	4
ANIMLSCI 220	Anatomy & Physiology	4
ANIMLSCI 260	Animal Welfare (Gen Ed SI)	4
ANIMLSCI 200	Animal Cellular & Molecular Biology	4
ANIMLSCI 365	Fundamentals in Veterinary & Biomedical Techniques Lab	3
ANIMLSCI 375	Veterinary Microbiology	3
ANIMLSCI 333	Equine, Cattle and Companion Animal Nutrition	4
ANIMLSCI 390V	Jr. Year Writing (or NATSCI 387, Gen Ed JW)	3
ANIMLSCI 455V	Research Animal Management I	4
ANIMLSCI 456V	Research Animal Management II	3
ANIMLSCI 472	Infection & Immunity	3
ANIMLSCI 425	Parasitology	3
ANIMLSCI 415	Clinical Nursing II	3
ANIMLSCI 435	Pharmacology	3
ANIMLSCI 405	Veterinary Practice Management	3
ANIMLSCI 465	Veterinary Diagnostic Imaging	3
ANIMLSCI 485	Small Anesthesia and Surgery	4
ANIMLSCI 498V	Veterinary Technology Internships	12
ANIMLSCI 492V	Senior seminar	1
ANIMLSCI 494V	Integrative Experience: Veterinary Medical Practice and Ethics (Gen Ed IE)	3
	Sub Total Core Credits	78
Other Required Courses in Related Subject Areas (# Total courses required = 5)		
<i>Course Number</i>	<i>Course Title</i>	<i>Credit Hours</i>
BIOL 151	Intro Biology I	4
BIOL 152	Intro Biology II	3
BIOL 153	Intro Biology Lab	2
CHEM 111	General Chemistry I with lab	4
CHEM 112	General Chemistry II with lab	4
	Sub Total Related Credits	17

Elective Courses (# Total courses required =2)		
<i>Course Number</i>	Course Title	Credit Hours
	First year seminar, can be fulfilled with ANIMLSCI RAP seminar	1
	Elective	1-3
	Sub Total Elective Credits	2-4
Distribution of General Education Requirements		# of Credits
Attach List of General Education Offerings (Course Numbers, Titles, and Credits)		
Arts and Humanities, including Literature and Foreign Languages 1) 1 AL/AT Gen Ed, 4 cr (2 Gen Ed in combination with DU or DG designation) 2) 1 HS Gen Ed, 4 cr (2 Gen Ed in combination with DU or DG designation) 3) ENGLWRIT 112, 3 cr (unless waived, Gen Ed CW)		11
Mathematics and the Natural and Physical Sciences 4) MATH 104 or MATH 101/102 or waiver with minimum score of 20 on part A of math placement exam- Pre-calculus, 3-4 cr (Gen Ed R1) 5) STAT 111, 240 or RESEC 112 Statistics, 3-4 cr (Gen Ed R2)		6-8
Social Sciences 6) 1 SB Gen Ed (2 Gen Ed in combination with DU or DG designation)		4
Sub Total General Education Credits		21-23
Curriculum Summary		
Total number of courses required for the degree		34
Total credit hours required for degree		120
Prerequisite or Other Additional Requirements:		

Form B: Program Goals and Objectives Form B: LOI Goals and Objectives

Goal	Measurable Objective	Strategy for Achievement	Timetable
Critical mass of BS-Vet Tech faculty members	Have enough faculty members in VASCI dept. to teach all Vet Tech courses	Hire licensed veterinarian as program director, certified veterinary technician or technologist, other instructors and teaching assistants need to maintain AVMA ratios.	Hiring schedule: Summer and Fall 2019
Critical mass of BS-Vet Tech students	Have sufficient number of students at the Newton campus to sustain program financially	Admit students to BS-Vet Tech program, advertise program on website and through monthly info sessions and open houses	Fall 2019: advising current and prospective students about their options so as soon as the new major is available, they can choose it. Spring 2020: admit first class as BS-Vet Tech for Fall 2020
Maintain high quality BS-Vet Tech students	Maintain or exceed quality of students at current level in BS-Animal Science and BS-Pre-Vet majors	Brief admissions on science and math requirements for BS-Vet Tech majors, as we currently do for BS-Animal Science and BS-Pre-Vet. Monitor average SAT score of our majors- it is now comparable with that of other life science majors.	Students will be admitted as usual for Fall 2019; the first class that will have BS-Vet Tech listed on the application will be in Fall 2020
High quality education of certified Vet Techs	Achieve AVMA-CVTEA accreditation	Submit application, site visit, submit self-study	Spring 2019 start application process

Successful career start for students	VTNE pass rate and job placement rates	Strongly encourage taking the VTNE so that we can achieve a pass rate above 70%. Maintain and expand student internship opportunities in diverse areas of veterinary medicine. Track student job placement through survey.	Spring 2020. Work with prospective employers.
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Form C: LOI Program Enrollment

	Year 1	Year 2	Year 3	Year 4	Year 5
New Full-Time	35	60	60	60	
Continuing Full-Time		33	87	140	
New Part-Time					
Continuing Part-Time					
Totals	35	93	147	200	

Form D: LOI Program Budget

		<i>Annual Expenses</i>	
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	Cost Categories	Year 1	Year 2	Year 3	Year 4	Year 5
	Full Time Faculty (Salary & Fringe)	\$555,895	\$569,793	\$604,037	\$837,172	\$857,102
	Part Time/Adjunct Faculty (Salary & Fringe)	\$0	\$0	\$20,000	\$40,000	\$40,000
	Staff	\$171,150	\$175,429	\$179,814	\$184,310	\$188,918
	General Administrative Costs	\$0	\$0	\$14,000	\$35,000	\$60,000
	Instructional Materials, Library Acquisitions	\$0	\$5,000	\$50,000	\$50,000	\$50,000
	Facilities/Space/Equipment	\$0	\$4,000	\$10,000	\$35,000	\$60,000
	Field & Clinical Resources	\$20,000	\$20,000	\$20,000	\$65,000	\$100,000
	Marketing					
	Other (Specify) Stipends / Scholarships	\$96,641	\$394,871	\$707,952	\$1,036,440	\$1,380,909
One Time/St art-Up Support			Annual Income			
	Revenue Sources	Year 1	Year 2	Year 3	Year 4	Year 5
	Grants					
	Tuition	\$329,259	\$1,343,075	\$2,407,376	\$3,524,053	\$4,695,059
	Fees	\$15,888	\$67,178	\$121,022	\$177,517	\$236,761
	Departmental					
	Reallocated Funds	\$498,539	\$302,988	\$0	\$0	\$0
	Other (specify)					
	TOTALS=INC-EXP	\$0	\$540,149	\$926,595	\$1,418,648	\$2,194,891