Assessment Cycle Plan

Academic Year 2016 – 2017

Program – Veterinary Technology Program Associate Degree

College: Arts and Sciences

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Northwestern Mission. Northwestern State University is a responsive, student-oriented institution that is committed to the creation, dissemination, and acquisition of knowledge through teaching, research, and service. The University maintains as its highest priority excellence in teaching in graduate and undergraduate programs. Northwestern State University prepares its students to become productive members of society and promotes economic development and improvements in the quality of life of the citizens in its region.

College of Arts and Sciences' Mission. College of Arts and Sciences' Mission. The College of Arts & Sciences, the largest college at Northwestern State University, is a diverse community of scholars, teachers, and students, working collaboratively to acquire, create, and disseminate knowledge through transformational, high-impact experiential learning practices, research, and service. The College strives to produce graduates who are productive members of society equipped with the capability to promote economic and social development and improve the overall quality of life in the region. The College provides an unequaled undergraduate education in the social and behavioral sciences, English, communication, journalism, media arts, biological and physical sciences, and the creative and performing arts, and at the graduate level in the creative and performing arts, English, TESOL, and Homeland Security. Uniquely, the College houses the Louisiana Scholars' College (the State's designated Honors College), the Louisiana Folklife Center, and the Creole Center, demonstrating its commitment to community service, research, and preservation of Louisiana's precious resources.

School of Biological and Physical Sciences Mission. The School of Biological and Physical Sciences serves and inspires the students of Northwestern State University and the public through the development of lifelong learners who are excited about science, are disciplined in analytical and critical thinking skills, and are socially, environmentally, and ethically responsible. The School is comprised of the Department of Biology, Microbiology, and Veterinary Technology and the Department of Physical Sciences.

Department of Biology, Microbiology, and Veterinary Technology: The Department of Biological Sciences offers a Bachelor of Science in Biology with available concentrations in Biomedical, Clinical Laboratory Science, Forensic Science, Natural Science, and Veterinary Technology. An Associate Degree in Veterinary Technology is also available to students in the department.

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Veterinary Technology Program Mission Statement: The mission of the Northwestern State University of Louisiana Veterinary Technology Program is to prepare graduates who as veterinary technicians or technologists are clinically competent and who demonstrate:

- Excellent and compassionate patient care and services
- Excellent technical skills
- Professionalism and high ethical standards
- Promotion of public health
- Commitment to lifelong learning

Purpose: The associate degree program in Veterinary Technology will prepare graduates to become veterinary technicians working in academia, animal research facilities, zoological parks, private industry, animal specialty veterinary practices, and general veterinary practices. Some graduates may further their education in attaining the Biology B.S. degree with Veterinary Technology concentration and/or attending professional veterinary schools to become veterinarians. The program goal is to educate graduates who possess entry level technical skills and a knowledge base in all areas of veterinary medicine.

Methodology: The assessment process for the AD Veterinary Technology program is as follows:

(1) Data from assessment tools (both direct and indirect, quantitative and qualitative) are collected and returned to the program director;

(2) The program director analyzes the data to determine if students have met required measurable outcomes;

(3) Results from the assessment are discussed with the program faculty and technical staff;

(4) Individual meetings are held with faculty/staff teaching core veterinary technology courses as required (show cause);

(5) The program director, in consultation with the Veterinary Technology Program Advisory Committee, will propose changes to measurable outcomes, assessment tools for the next assessment period and, where needed, curricula and program changes. Substantive changes will be reported to the American Veterinary Medical Association Committee on Veterinary Technology Education and Activities (AVMA-CVTEA), the program's accrediting agency, within 60 days.

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Student Learning Outcomes:

SLO 1. Students completing the first year sequence of courses in Veterinary Technology will demonstrate required didactic knowledge base, and will demonstrate required "hands-on" technical skills application which will be documented for each student.

Course Map: Tied to course syllabus objectives/outline.

VTEC 1030-1031: Introductory Veterinary Technology II Lecture/Laboratory (71 skills)

Measure 1.1. (Direct – Knowledge)

Students enrolled in VTEC 1030 will demonstrate proficiency in accrediting-agency (AVMA-CVTEA) required didactic skills/knowledge base following standard criteria for evaluating essential skills (document following). Eighty percent of students completing the course will be able to demonstrate a basic understanding by averaging 70% or higher scores on the examinations.

Measure 1.2. (Direct – Skill / Ability)

One hundred percent of students enrolled in VTEC 1031 will each demonstrate ability to complete 71 required technical skills following standard criteria established for each skill (document following) and faculty veterinarian or credentialed veterinary technician will document completion of demonstration of each skill for each student successfully completing the laboratory course. Essential skills list documentation booklet example follows.

SLO 2. Students completing the second-third year sequence of courses in Veterinary Technology will demonstrate required didactic knowledge base, and will demonstrate required "hands-on" technical skills application which will be documented for each student.

Course Map: Tied to course syllabus objectives/outline.

VTEC 2060: Veterinary Pharmacological Calculations Lecture
VTEC 2600: Animal Care and Health Lecture
VTEC 3010: Animal Diseases Lecture
VTEC 3200-3201: Veterinary Hospital Technology II Lecture/Laboratory (63 skills)
VTEC 3700-3701: Veterinary Radiology Lecture/Laboratory (11 skills)

Measure: 2.1. (Direct – Knowledge)

Students enrolled in VTEC 2060, 2600, 3010, 3200-3201, and 3700-3701 will demonstrate proficiency in accrediting-agency (AVMA-CVTEA) required didactic

skills/knowledge base following standard criteria for evaluating essential skills (document following). Eighty percent of students completing the course(s) will be able to demonstrate a basic understanding by averaging 70% or higher scores on the examinations.

Measure: 2.2. (Direct – Skill / Ability)

One hundred percent of students enrolled in VTEC 3201 must each demonstrate mastery of 63 animal medical and surgical nursing and anesthetist skills through participation in live animal surgical procedures laboratories. One hundred percent of students enrolled in VTEC 3701 must demonstrate ability to complete 11 technical skills pertaining to diagnostic imaging. Essential skills list documentation booklet example follows, and each skill will be documented for student demonstration/completion. Booklets will be evaluated for entire completion prior to student enrollment in internship practicum courses.

SLO 3. Following completion of other required courses entitled Veterinary Technology (VTEC), each student must enroll in a 12-credit hour internship practicum for 480 clock hours working under the direct supervision of veterinarians and/or credentialed veterinary technicians/technologists. The supervisor must submit comprehensive evaluations of each student's technical skills, reliability, and attitude while completing the practicum(s). Each student submits an evaluation of the internship site and supervisory staff to the program director at the completion of the internship practicum course. The students will receive positive ratings greater than or equal to 90% of the time.

Course Map: Tied to course syllabus objectives/outline.

VTEC 2900: Veterinary Internship Practicum

Measure 3.1. (Direct – Skill / Ability)

For VTEC 2900 participating students, each student's direct internship supervising veterinary professional will submit a written evaluation of the student's technical performance of the required 301 technical skills, rating the skills performance for each one on a scale of measurement of 0 – not applicable; 1 – poor; 2 – good; or 3 – excellent. Program expectations are that ratings of good-excellent will be earned for 95% or more of skills rated for each class of interns.

Measure 3.2. (Indirect – Attitude / Reliability)

Each student enrolled in VTEC 2900 is evaluated by the supervisor in the veterinary setting on a number of subjective performance indicators which pertain to job performance. The final evaluation includes ratings of Above Average, Average, Below Average, or Not Observed, for each student's maturity and judgment,

dependability/reliability, initiative/originality, function as a team member, communication skills, work-place character/integrity/ethics, and potential as a veterinary technician. Additionally, the supervisor is asked to state the student's strongest and weakest points. The program expects less than 5% negative ratings (Below Average) for each class of interns.

SLO 4. Students will demonstrate proficiency in Veterinary Technology by passing scores of first-time test takers on the Veterinary Technician Examination equal to the national average when evaluated over the most recent three-year window of time, and will meet or exceed the national average for each measured domain score in the most recent evaluation available.

Measure 4.1. (Direct – Knowledge)

Students taking the **Veterinary Technician National Examination (VTNE)** will demonstrate proficiency by obtaining passing scores in percentages equal to the national average percent of students passing the examination on the first attempt, when examining the most recent available three-year school report. The VTNE is scored from 200-800, with 425 being a passing score. School reports are provided by the test administrators for each examination cycle and for the most recent three years ending on June 30.

Measure 4.2. (Direct – Knowledge)
Additionally, nine domain scores by subject are provided to each school, which is helpful in determining when/where program curriculum changes/improvements are needed. The program director, along with program veterinary faculty/staff, evaluates the data provided in the most recent available school report for a comprehensive view of a comparison of our graduates to a national standard by subject. The goal is to have students meeting or exceeding the national average score for each domain subject.

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Veterinary Technology A.D. Program Assessment 2016-2017

Findings SLO 1:

Measure 1.1. Target not met.

Course	# Students Enrolled	# Students Scoring 70% avg.or higher on exams	Percent Students Meeting Measure
VTEC 1030	45	32	71%

Measure 1.2. Target not met.

Course	# Students Enrolled	# Students Performing All Documented Skills	Percent Students Meeting Measure
VTEC 1031	42	41	97%

Findings SLO 2:

Measure 2.1. Target not met for 3/6; Target met for 3/6.

Course	# Students Enrolled	# Students Scoring 70% avg. or higher on exams	Percent Students Meeting Measure
VTEC 2060	45	32	71%
VTEC 2600	31	17	54%
VTEC 3010	13	13	100%
VTEC 3200	13	12	92%
VTEC 3700	16	13	81%
TOTAL	118	87	73%

Measure 2.2. Target not met.

Course	# Students Enrolled	# Students Performing All Documented Skills	Percent Students Meeting Measure
VTEC 3201	13	12	92%
VTEC 3701	16	15	93%
TOTAL	29	27	93%

Findings SLO 3:

Measure 3.1. Target met.

VTEC 2900	Excellent	Good	Poor
# ratings of skills performance	1,713	743	7
% ratings of skills performance	69.5%	30.1%	0.4%

Measure 3.2. Target met.

VTEC 2900	Above Average	Average	Below Average
# ratings of subjective characteristics	82	55	4
% ratings of subjective characteristics	58.1%	39.1%	2.8%

Findings SLO 4:

Measure 4.1. Target not met.

VTNE July 2013—June 2016	Pass	Fail
NSU graduates performance (#)	17	13
NSU graduates' performance (%)	56.67%	43.33%
National average (%)	71.24%	28.76%

Measure 4.2. Target not met for 6/10. Target met for 4/10.

VTNE Domain November 15-December 15, 2016	NSU Grad. Avg. Scale Score	National Avg. Scale Score
Pharmacy & Pharmacology	464.33	466.47
Surgical Nursing	444.33	408.49
Dentistry	434.00	422.14
Laboratory Procedures	417.33	487.82
Animal Care & Nursing	505.67	510.72
Diagnostic Imaging	582.67	461.07
Anesthesia	375.17	445.17
Emergency Med/Critical Care	482.00	472.17
Pain Management/Analgesia	418.00	484.49
TOTAL	453.17	463.72

Analysis

The first learning outcome (SLO 1) data analysis shows that the program is successful in teaching first-year students to perform specific hands-on skills required of veterinary technicians (Measure 1.2), but less successful with preparing students to demonstrate acquired didactic knowledge through examination (Measure 1.1). The only student failing to complete the required hands-on skills demonstrations dropped out of school mid-semester, so the 100% target would probably have been met with all students completing the course. Even with a modest goal of 80% of students successfully scoring greater than 70% on written examinations, the course participants analyzed were unable to reach the target goal (71% were successful).

As students move into second/third year courses, as measured by SLO 2, the outcome is similar for hands-on skills, with students who dropped laboratory courses being the only ones to not demonstrate required and documented skills. For most lecture courses

evaluated in this sequence, outcomes improve over those of first-year students. This is almost certainly due to the fact that students who are not as interested and motivated to learn veterinary technician required knowledge have changed to another major course of study by their sophomore or junior year. The veterinary technology program remains an open enrollment program, and students experiencing the first-year courses learn whether or not they are suited to the demands of a challenging program and career in veterinary medicine. Third-year courses evaluated met the target pass rates for examinations. The second-year courses (VTEC 2060 and VTEC 2600) did not. VTEC 2060 students are often second semester freshmen and their performance at 71% pass rate matches that of the freshman class. VTEC 2600 is the first course that students in the curriculum encounter that illustrates the full demands of veterinary medical education examinations, with short answer and essay questions the normal testing method, and the lower pass rate (54%) is well below the target of 80%.

The third learning outcome (SLO 3) measures the perception and rating of VTEC 2900 internship practicum students by supervising veterinarians/credentialed veterinary technicians in a veterinary hospital setting. Program students during the last academic year earned very few (2.8% or less) negative ratings from supervisors in skills performance and in subjective characteristics such as work-place character/integrity/ethics, reliability, etc. This demonstrates that students who complete the course curriculum prior to the internship course are prepared to handle the demands of the workplace, and have the characteristics that please employers.

The fourth learning outcome analysis relates to the Veterinary Technicians National Examination (VTNE) pass rate and domain scores. The expected outcome is that graduates will equal the national pass rate percentage on their first attempt to pass the VTNE. This has not happened over the past three years. When the domain scores are evaluated, on average our graduates score above passing in six of nine categories, and above the national average in Dentistry, Diagnostic Imaging, Surgical Nursing, and Emergency Med/Critical Care. The total domain score average is within about ten points of the national average, well above passing. This demonstrates that the students are being exposed to the materials required to be successful on the examination. Some individual students are not well motivated to review and prepare for the examination before attempting it for the first time.

Decision

After careful analysis of the data derived from this process, some clear directions for progress are evident to faculty/staff for improvement:

1) More efforts need to be made to work with first and second year students in examination preparation. This may take the form of examination review sessions and/or peer tutoring, as well as providing practice exams and motivational talks.
2) A focus will be made in the VTNE domain areas where our graduates on average score below their peers in a national average in the coming year, in Laboratory

Procedures in VTEC 3190-3191 and VTEC 3100-3101, and in Anesthesia and Pain Management/Analgesia in VTEC 3200-3201 and VTEC 4090.

3) Selective admissions to the clinical portion of the program remains a goal of the faculty/staff, and has the potential to alleviate some of the problems detected in data analysis. More motivated students, willing to engage in the selection process, would be expected to perform at a higher level on examinations, both in school and at the national board examination level.

Summary of Key Findings/Decisions

The program is succeeding in teaching students hands-on skills required of a competent veterinary technician, but is not reaching pass rate goals on didactic examinations in the first-year and beginning second year students. Efforts to boost student examination preparation will be made in the coming academic year. By the late second and third years of education, veterinary technology students are reaching target goals.

The program is meeting its mission of producing clinically competent veterinary technicians, as evidenced by meeting target goals of internship practicum student evaluations by supervising veterinarians and veterinary technicians in the field.

The program is not yet meeting the goal of Veterinary Technicians National Examination (VTNE) pass rates meeting the national average when evaluated over the past three years. The faculty/staff plan to invest efforts in improving domain scores in three clinical areas indicated by the latest evaluation as areas where students score below the pass rate on average. An encouraging note is that in the most recent test window (March-April 2017), 4/4 NSU students earned 100% pass rate on the VTNE.