

## Assessment Cycle 2022 – 2023

### Program: Associate Degree (AD) in Veterinary Technology (725)

College: Arts and Sciences

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**Northwestern Mission:** Northwestern State University is a responsive, student-oriented institution committed to acquiring, creating, and disseminating knowledge through innovative teaching, research, and service. With its certificate, undergraduate, and graduate programs, Northwestern State University prepares its increasingly diverse student population to contribute to an inclusive global community with a steadfast dedication to improving our region, state, and nation.

**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 will become a reputable leader in public higher education by providing a transformative science educational experience using innovative instructional methods and through the scholarly achievements of our faculty, staff, students, and alumni. The School 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 delivers Associate degrees in Veterinary Technology, Bachelor of Science degrees in Biology (with concentrations in Biomedical, Clinical Laboratory Science, Forensic Science, Natural Science, and Veterinary Technology), Applied Microbiology (with concentrations in Environmental and Applied Microbiology and Medical and Health Profession), and Physical Sciences. The School also offers minors in Biology, Microbiology, Wildlife Management, and Chemistry.

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**Veterinary Technology Program Mission:** 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 Bachelor of Science degree in Biology with the Veterinary Technology concentration, becoming veterinary technologists, and/or attending professional veterinary schools to become veterinarians. The program's 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 (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 met 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.
- 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 30 days.

Northwestern State University's Veterinary Technology Program continues to be fully accredited by the AVMA-CVTEA pending favorable review of follow-up reporting until its next site visit in 2027.

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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-five percent (85%) of students completing the course will be able to demonstrate a basic understanding by averaging 70% or higher scores on the examinations.

**Finding.** Target was not met.

**Analysis.** In AC 2021-2022, the target was not met. Based on the analysis of the AC 2021-2022 results, in AC 2022-2023, theoretical clinical cases were introduced and discussed to allow the instructor to identify and clarify topics that students didn't completely understand. Individual student outcomes were monitored closely for early intervention with recommended study groups and/or tutoring or time spent with instructors during office hours, referral for individual counselling, and encouragement to spend the necessary time with the study material.

As a result of these changes in AC 2022-2023, the target was not met. There was slight improvement this year with 76% of students meeting the target. However, the students that need help the most are generally not responding to the early intervention efforts by the instructor. Most of these students are not performing well in other courses outside of veterinary technology showing that there are underlying issues with the student's commitment and/or study skills that need to be addressed in order for the student to be successful.

Assessment Year	Course	# Students Enrolled	# Students Scoring 70% avg. or higher on exams	Percent Students Meeting Measure
2021-2022	VTEC 1030	30	22	73%
2022-2023	VTEC 1030	29	22	76%

**Decision.** In AC 2022-2023, the target was not met. Based on the analysis of the AC 2022-2023 results, in AC 2023-2024 and to drive the cycle of improvement, the faculty will review exams during class after all grades are posted and discuss commonly missed questions to clarify any misunderstanding. These questions may be included in future exams to ensure that students truly learn the concepts rather than just moving on.

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**Measure 1.2. (Direct – Skill / Ability):** Eighty five percent (85%) of students completing VTEC 1031 will each demonstrate ability to complete 71 required technical skills following standard criteria established for each skill (document following) and average 70% or higher scores on the course quizzes and examinations. A faculty veterinarian or credentialed veterinary technician will document completion of demonstration of each skill for each student successfully completing the laboratory course.

**Finding.** Target was met.

**Analysis.** In AC 2021-2022, the target was not met. Based on the analysis of the AC 2021-2022 results, in AC 2022-2023, faculty and staff updated PowerPoint presentations and included videos that related to lab material. Students were encouraged to review this material prior to all exams, but especially before the comprehensive final exam. A list of all supplies and equipment that students were responsible for was included in course material.

As a result of these changes in AC 2022-2023, the target was met with 91% of students achieving the measure. The comprehensive list of supplies and equipment that students were responsible for on the exams prevented students from overlooking material that was on the exam. Students also provided positive feedback regarding the videos that were made available to supplement the textbooks and PowerPoints.

Assessment Year	Course	# Students Enrolled	# Students Performing All Documented Skills	Percent Students Meeting Measure
2021-2022	VTEC 1031	31	24	77%*
2022-2023	VTEC 1031	23	21	91%

\*Measure altered in AC 2021-2022

**Decision.** In AC 2022-2023, the target was met. Based on the analysis of the AC 2022-2023 results, in AC 2023-2024 to drive the cycle of improvement, the faculty will generate more educational videos that pertain to the individual labs and post them in the course management system. Students will have hands-on individualized instruction with a student to instructor ratio of <8:1, documentation of each student's attainment of skills as mandated by the AVMA. Students must attain the required skills and knowledge base that pertains to these skills to receive a passing grade of course completion. Attendance of each laboratory session as scheduled or by make-up sessions will be required to ensure that each student attains the required skills.

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

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Course Map: Tied to course syllabus objectives/outline.

VTEC 2060: Veterinary Pharmacological Calculations Lecture

VTEC 2600: Animal Care and Health Lecture

VTEC 3010: Diseases of Animals 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, and 3700 will demonstrate proficiency in accrediting-agency (AVMA-CVTEA) required didactic skills/knowledge base following standard criteria for evaluating essential skills. Eighty percent (80%) of students completing the course(s) will be able to demonstrate a basic understanding demonstrated by earning averaging scores of 70% or higher on the examinations.

**Finding.** Target was met.

**Analysis.** In AC 2021-2022, the target was met. Based on the analysis of the AC 2021-2022 results, in AC 2022-2023, practice problems were given as homework assignments throughout the semester to provide students with more practice and repetition of the veterinary calculations taught in VTEC 2060. In VTEC 2600, Veterinary Anatomy and Physiology (VTEC 2090) was added as a pre-requisite to ensure that students had a better knowledge base pertaining to the functioning of organ systems. While it reduced the number of students in the course, all students successfully passed the course. In VTEC 3010, a link to lecture videos was made available so students could review the material as needed, and the disease chart was expanded to help students organize the material. In VTEC 3200, more lecture time was allotted to pain management and analgesia information, and a chart was added to help students organize the information pertaining to the various anesthetic drugs that were covered. In VTEC 3700, information relating to radiology technique charts and more advanced imaging material was added.

As a result of these changes in AC 2022-2023, the target was met. Overall, 91% of students met the measure and every course exceeded the target except VTEC 2060. This course is primarily composed of first year students. Many are still trying to establish the proper study skills and understand the commitment and process that is necessary to be successful within the curriculum. VTEC 2600, VTEC 3010, and VTEC 3700 each showed improvement compared to the previous assessment cycle with VTEC 2600 showing significant progress with 100% of students meeting the measure. This is due to these students having a better anatomy and physiology background that improves comprehension of the nutritional and disease aspects of the course.

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Assessment Year	Course	# Students Enrolled	# Students Scoring 70% avg. or higher on exams	Percent Students Meeting Measure
2021-2022	VTEC 2060	41	32	78%
2021-2022	VTEC 2600	29	19	66%
2021-2022	VTEC 3010	24	20	83%
2021-2022	VTEC 3200	15	15	100%
2021-2022	VTEC 3700	17	15	88%
2021-2022	TOTAL	126	101	80%

Assessment Year	Course	# Students Enrolled	# Students Scoring 70% avg. or higher on exams	Percent Students Meeting Measure
2022-2023	VTEC 2060	38	30	79%
2022-2023	VTEC 2600	12	12	100%
2022-2023	VTEC 3010	15	14	93%
2022-2023	VTEC 3200	19	19	100%
2022-2023	VTEC 3700	21	21	100%
2022-2023	TOTAL	105	96	91%

**Decision.** In AC 2022-2023, the target was met. Based on the analysis of the AC 2022-2023 results, in AC 2023-2024, the faculty will implement the following changes to drive the cycle of improvement. For VTEC 2060 (Veterinary Pharmacological Calculations), there will be review of the homework/practice problems during the lectures after students have had time to complete them. In VTEC 3010 (Diseases of Animals), dental diseases will be added to the course to increase the volume of dental information presented in the curriculum since it is a domain that NSU students are trailing the national average on the VTNE. In VTEC 3200 (Veterinary Hospital Technology II), PowerPoints will be updated and reorganized to better correspond with an updated textbook that will be available for the course. The anesthetic table that was introduced last year will be expanded to include more data such as reversal agents and pain management/analgesia columns. In VTEC

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3700 (Veterinary Radiology), faculty will introduce case studies into the lectures that tie clinical scenarios into the topics being discussed. The target for Measure 2.1 will also be increased to eighty five percent (85%) to drive improvement.

**Measure: 2.2. (Direct – Skill / Ability):** One hundred percent (100%) of students completing VTEC 3201 will demonstrate mastery of 63 animal medical and surgical nursing and anesthetist skills through participation in live animal surgical procedures laboratories and average 70% or higher scores on the course quizzes and examinations. One hundred percent (100%) of students completing VTEC 3701 will demonstrate ability to complete 11 technical skills pertaining to diagnostic imaging and average scores of 70% or higher on the course quizzes and examinations. Each skill attainment will be documented in a student specific booklet for student demonstration/completion. Booklets will be evaluated for entire completion prior to student enrollment in internship practicum courses.

**Finding.** Target was met.

**Analysis.** In AC 2021-2022, the target was met. Based on the analysis of the AC 2021-2022 results, in AC 2022-2023, Measure 2.2 was changed to increase the target to have 100% of students complete the associated technical skills and have average scores of 70% or higher on the course quizzes and examinations. In VTEC 3201, check-off lists with detailed job descriptions were provided to students, and videos of PowerPoints were added to assist students in preparing for the various tasks and surgeries performed. In VTEC 3701, more time will be devoted to ultrasound advanced imaging during the laboratory.

As a result of these changes, in AC 2022-2023 the target was met. One hundred percent (33 of 33) of students performed all required skills and completed the courses with a passing grade. Students enrolled in these laboratories are upper-level students in the final stages of their degree. They generally understand the work ethic, process, and skills that are needed to be successful in these courses.

Assessment Year	Course	# Students Enrolled	# Students Performing All Documented Skills	Percent Students Meeting Measure
2021-2022	VTEC 3201	15	15	100%
2021-2022	VTEC 3701	18	18	100%
2021-2022	TOTAL	33	33	100%*

\*Measure altered in AC 2021-2022

Assessment Year	Course	# Students Enrolled	# Students Performing All Documented Skills	Percent Students Meeting Measure
2022-2023	VTEC 3201	19	19	100%
2022-2023	VTEC 3701	20	20	100%
2022-2023	TOTAL	39	39	100%*

\*Measure altered in AC 2022-2023

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**Decision.** In AC 2022-2023, the target was met. Based on the analysis of the AC 2022-2023 results, in AC 2023-2024, the faculty will implement the following changes to drive the cycle of improvement. In VTEC 3201, a wider variety of surgical procedures will be covered in lectures/labs to replace surgical reports that were previously written. New anesthetic monitoring equipment will be used by students to enhance their training and skills associated with anesthesia. In VTEC 3701, students will radiograph patients with known medical issues when they are available to enhance their education on the disease conditions.

**SLO 3. Following completion of other required courses entitled Veterinary Technology (VTEC), each student must enroll in a 12-credit hour internship practicum with 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 their practicum. 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 95% on each item.**

Course Map: Tied to course syllabus objectives/outline.

VTEC 2900: Veterinary Internship Practicum

**Measure 3.1. (Direct – Skill / Ability):** For student's enrolled in VTEC 2900, their 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 ratings of good-to-excellent will be earned for 95% or more of the student's skills.

**Finding.** Target was met.

**Analysis.** In AC 2021-2022, the target was met. Based on the analysis of the AC 2021-2022 results, in AC 2022-2023, students were provided with patients and cases that enabled repetition of essential skills in Measures 1.2 and 2.2 as required by the AVMA-CVTEA. Supervisors at internship sites then report back to the program on evaluation of these skills and others that are used in a clinical environment.

As a result of these changes in AC 2022-2023, the target was met. Students' skills were rated as either good or excellent 99.2% of the time which surpasses the goal for the measure. However, there were fewer skills (61%) that were rated as excellent compared to last year (79.3%).



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Assessment Year	VTEC 2900	Excellent	Good	Poor
2021-2022	# ratings of skills performance	2185	532	38
2021-2022	% ratings of skills performance	79.3%	19.3%	1.4%

Assessment Year	VTEC 2900	Excellent	Good	Poor
2022-2023	# ratings of skills performance	1422	890	18
2022-2023	% ratings of skills performance	61%	38.2%	0.8%

**Decision.** In AC 2022-2023, the target was met. Based on the analysis of the AC 2022-2023 results, in AC 2023-2024, the faculty will implement the following changes to drive the cycle of improvement. The program instructors will invest in hands-on instruction of skills and improve upon the competency of those skills by incorporating repetition of those skills valued by employers into upper-level labs. Instructors will also adjust the grading rubric for VTEC 3201 to place more weight on grading of skills during the actual anesthesia, dentistry, and surgical procedures that are performed during the second half of the semester.

**Measure 3.2. (Indirect – Attitude / Reliability):** Each student enrolled in VTEC 2900 is evaluated by the supervisor in the veterinary setting on several 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/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 5% or less negative ratings (Below Average) for each student.

**Findings:** Target was met.

**Analysis.** In AC 2021-2022, the target was met. Based on the analysis of the AC 2021-2022 results, in AC 2022-2023, faculty communicated the need and expectation for a high-quality work ethic to students. A larger grading emphasis was placed on work ethic in VTEC 3201 dentistry and surgical labs to show this importance and minimize poor student performance at internship sites.

As a result of these changes in AC 2022-2022, the target was met. The subjective characteristics of students were rated as either average or above average for 98.5% of the criteria.

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Assessment Year	VTEC 2900	Above Average	Average	Below Average
2021-2022	# ratings of subjective characteristics	114	34	5
2021-2022	% ratings of subjective characteristics	75%	22%	3%

Assessment Year	VTEC 2900	Above Average	Average	Below Average
2022-2023	# ratings of subjective characteristics	102	31	2
202-2023	% ratings of subjective characteristics	75.5%	23%	1.5%

**Decision.** In AC 2022-2023, the target was met. Based on the analysis of the AC 2022-2023 results, in AC 2023-2024, the faculty will implement the following changes to drive the cycle of improvement. The faculty will incorporate requirements encouraging student ownership for their individual outcomes, assess students based on reliability in the care of animals, and require laboratory attendance to complete required skills in the veterinary technology curriculum. The faculty will adjust the grading rubric in VTEC 3201 to place a larger emphasis on teamwork, work ethic, and communication skills/client education. Typically, excellence in the upper-level laboratories correlates well with their workplace performance during internships and after graduation.

**SLO 4. Students will demonstrate proficiency in Veterinary Technology by earning passing scores the first time taking the Veterinary Technician National Examination (VTNE) 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.

**Finding.** Target was met.

**AC 2021-2022:** Improvement. NSU graduates 66.7% pass rate over the last 3 years; national average pass rate is 71.6%.

**AC 2022-2023:** Improvement and target met. NSU graduates 76% pass rate over the last 3 years; national average pass rate is 69%.

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**Analysis.** In AC 2021-2022, the target was not met. Based on the analysis of the AC 2021-2022 results, in AC 2022-2023, instructors incorporated sample VTNE test questions into the appropriate courses that were taken by all students throughout the curriculum to ensure that students could relate the material being presented in these courses to their national board exam. Courses were updated with new information as needed since veterinary medicine is an ever-changing field.

As a result of these changes in AC 2022-2023, the target was met. This is the first time that graduates of the program have exceeded the national average in at least the last five years. In fact, NSU students achieved a 100% (10/10) pass rate in calendar year 2022. When the general trend is analyzed, one sees that the **3-year national pass rate has actually decreased from 74% to 69%** over each of the last three cycles while **NSU graduates' pass rates have increased from 64.7% to 76%**. This shows substantial improvement in the NSU program while students nationally have regressed. There has been steady improvement since new faculty were employed by the university since fall 2020.

<b>VTNE July 2018—June 2021</b>	<b>Pass</b>	<b>Fail</b>
NSU graduates' performance (#)	22	12
NSU graduates' performance (%)	64.7%	35.3%
National average (%)	74.1%	25.9%

<b>VTNE July 2019—June 2022</b>	<b>Pass</b>	<b>Fail</b>
NSU graduates' performance (#)	20	10
NSU graduates' performance (%)	66.7%	33.3%
National average (%)	71.6%	28.4%

<b>VTNE July 2020— Dec 2022</b>	<b>Pass</b>	<b>Fail</b>
NSU graduates' performance (#)	19	6
NSU graduates' performance (%)	76%	24%
National average (%)	69.0%	31.0%

**\*Spring 2023 data not available at time of report deadline due to extension of spring testing window until June 15, 2023 as a result of testing system outage.**

**Decision.** In AC 2022-2023, the target was met. Based on the analysis of the AC 2022-2023 results and to drive the cycle of improvement in AC 2023-2024, all students will be encouraged to enroll in VTEC 4200 Comprehensive Review in preparation for the VTNE. Instructors will incorporate sample VTNE questions into course material and exams as it relates to information covered in the course. Computer based exams will be used in some courses to allow students to become more accustomed with this exam modality since it is how the VTNE is administered. Faculty will encourage students to prepare and take the VTNE while they are completing internships. Ultimately, it is up to the student to commit to the time and effort in preparation for a very comprehensive exam that covers material from the entire curriculum on a wide range of species.

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**Measure 4.2. (Direct – Knowledge):** 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 scores for each domain subject.

**Finding.** Target was not met.

**Analysis.** In AC 2021-2022, the target was not met. Based on the analysis of the AC 2021-2022 results, in AC 2022-2023, Dentistry, Diagnostic Imaging, and Emergency Medicine / Critical Care were added as focus topics since these domains had some of the largest discrepancies relative to the national average during last year’s testing cycle. Focus was placed in these areas during Animal Care and Health (VTEC 2600), Veterinary Hospital Technology II (VTEC 3200/3201), Veterinary Radiology (VTEC 3700/3701), and Veterinary Technology Comprehensive Review (VTEC 4200) courses to improve didactic knowledge and test scores. More information on advanced imaging and radiology technique charts was added into VTEC 3700, and case studies were incorporated to improve comprehension of the material and apply it to similar veterinary clinical practice cases. Specifically, more time was devoted to ultrasound modalities during VTEC 3701. An extra lab period devoted to dentistry was added to VTEC 3201 Veterinary Hospital Technology II Lab presenting more information on dental diseases, and new digital dental radiography equipment was incorporated into VTEC 3201 and VTEC 3701 laboratories. Sample VTNE test questions relating to these domains were incorporated into the course quizzes and exams to give students a better understanding of the testing format and material covered.

As a result of these changes in AC 2022-2023, the target was not met. However, there were improvements with students exceeding the national average for AC 2022-2023 in the Raw Total overall score and domains of Surgical Nursing, Lab Procedures, Animal Care & Nursing, and Emergency Medicine/Critical Care. Animal Care & Nursing and Surgical Nursing are significant in that they were focus areas for improvement from last year that now exceed the national average. Anesthesia and Pain Management/Analgesia are within 1.5% of the national average. Dentistry, Diagnostic Imaging, & Pharmacy/Pharmacology had the largest deficits relative to the national average.

VTNE Domain July 15— August 15, 2021	NSU Grad. Avg. Percent Correct	National Avg. Percent Correct
Pharmacy & Pharmacology	68.52%	71.64%
Surgical Nursing	54.90%	65.21%
Dentistry	50.00%	65.35%
Laboratory Procedures	52.94%	62.92%
Animal Care & Nursing	54.44%	67.10%
Diagnostic Imaging	72.73%	70.37%

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Anesthesia	66.67%	68.31%
Emergency Med/Critical Care	75.00%	70.95%
Pain Management/Analgesia	60.61%	70.95%
RAW TOTAL	60.89%	67.30%

VTNE Domain November 15--December 15, 2021	NSU Grad. Avg. Percent Correct	National Avg. Percent Correct
Pharmacy & Pharmacology	70.37%	68.13%
Surgical Nursing	75.49%	70.04%
Dentistry	62.50%	66.24%
Laboratory Procedures	64.71%	60.74%
Animal Care & Nursing	65.56%	62.85%
Diagnostic Imaging	56.06%	59.49%
Anesthesia	71.21%	63.99%
Emergency Med/Critical Care	56.94%	58.10%
Pain Management/Analgesia	69.70%	70.58%
RAW TOTAL	66.67%	64.44%

VTNE Domain March 15—April 29, 2022	NSU Grad. Avg. Percent Correct	National Avg. Percent Correct
Pharmacy & Pharmacology	83.33%	62.09%
Surgical Nursing	88.24%	66.23%
Dentistry	75.00%	65.46%
Laboratory Procedures	70.59%	62.21%
Animal Care & Nursing	83.33%	66.71%
Diagnostic Imaging	63.64%	68.20%
Anesthesia	63.64%	63.72%
Emergency Med/Critical Care	58.33%	68.99%
Pain Management/Analgesia	81.82%	64.73%
RAW TOTAL	75.33%	65.20%

VTNE Domain AC 2021-2022	NSU Grad. Avg. Percent Correct	National Avg. Percent Correct
Pharmacy & Pharmacology	71.11%	69.17%
Surgical Nursing	70.59%	67.46%
Dentistry	60.00%	67.42%
Laboratory Procedures	61.76%	63.00%
Animal Care & Nursing	64.00%	65.64%
Diagnostic Imaging	61.82%	66.63%
Anesthesia	69.09%	65.94%
Emergency Med/Critical Care	62.50%	66.76%
Pain Management/Analgesia	68.18%	65.97%
RAW TOTAL	65.80%	66.16%

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VTNE Domain July 15— August 15, 2022	NSU Grad. Avg. Percent Correct	National Avg. Percent Correct
Pharmacy & Pharmacology	58.33%	62.26%
Surgical Nursing	79.41%	64.83%
Dentistry	62.50%	69.50%
Laboratory Procedures	52.94%	60.49%
Animal Care & Nursing	65.00%	67.10%
Diagnostic Imaging	50.00%	70.35%
Anesthesia	68.18%	66.73%
Emergency Med/Critical Care	66.67%	67.20%
Pain Management/Analgesia	50.00%	64.31%
RAW TOTAL	62.67%	65.69%

VTNE Domain November 15--December 15, 2022	NSU Grad. Avg. Percent Correct	National Avg. Percent Correct
Pharmacy & Pharmacology	58.73%	59.12%
Surgical Nursing	69.75%	61.80%
Dentistry	54.76%	63.88%
Laboratory Procedures	67.23%	59.45%
Animal Care & Nursing	71.43%	68.02%
Diagnostic Imaging	70.13%	66.14%
Anesthesia	63.64%	65.30%
Emergency Med/Critical Care	69.05%	66.11%
Pain Management/Analgesia	68.83%	65.51%
RAW TOTAL	66.29%	64.07%

VTNE Domain March 15—June 15, 2023 • Unavailable since date extended due to test system outage	NSU Grad. Avg. Percent Correct	National Avg. Percent Correct
Pharmacy & Pharmacology	N/A	N/A
Surgical Nursing	N/A	N/A
Dentistry	N/A	N/A
Laboratory Procedures	N/A	N/A
Animal Care & Nursing	N/A	N/A
Diagnostic Imaging	N/A	N/A
Anesthesia	N/A	N/A
Emergency Med/Critical Care	N/A	N/A
Pain Management/Analgesia	N/A	N/A
RAW TOTAL	N/A	N/A

\*N/A is not available

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VTNE Domain AC 2022-2023	NSU Grad. Avg. Percent Correct	National Avg. Percent Correct
Pharmacy & Pharmacology	58.64%	61.71%
Surgical Nursing	71.9%	64.11%
Dentistry	56.48%	68.22%
Laboratory Procedures	64.05%	60.74%
Animal Care & Nursing	70%	67.38%
Diagnostic Imaging	65.66%	68.51%
Anesthesia	64.65%	66.16%
Emergency Med/Critical Care	68.52%	66.76%
Pain Management/Analgesia	64.65%	64.83%
RAW TOTAL	65.48%	65.18%

**\*\* AC 2022-2023 Table calculated with July 15 – December 15 testing data due to ongoing spring 2023 testing at report deadline. Testing was extended until June 15 due to national test system outage.**

**Decision.** In AC 2022-2023, the target was not met. Based on the analysis of the AC 2022-2023 results and to drive the cycle of improvement in AC 2023-2024, faculty will add focused lessons in the domains of Dentistry, Diagnostic Imaging, and Pharmacy/Pharmacology since these domains have the largest discrepancies relative to the national average during this year’s testing cycle. Focus will be placed in these areas during Pharmacological Calculations (VTEC 2060), Veterinary Clinical Pharmacology (VTEC 4090), Veterinary Hospital Technology II (VTEC 3200/3201), Veterinary Radiology (VTEC 3700/3701), and Veterinary Technology Comprehensive Review (VTEC 4200) courses to improve didactic knowledge and test scores. As previously mentioned, dental disease lectures will be added into Diseases of Animals (VTEC 3010). Case studies will be added to Veterinary Radiology (VTEC 3700) to show students how the lecture material pertains to sample clinical cases. Every effort will be made to allow students to radiograph patients with abnormalities as they are available in Veterinary Radiology Lab (VTEC 3701). Sample VTNE test questions relating to these domains will be incorporated into the course quizzes and exams to give students a better understanding of the testing format and material covered.

**Comprehensive Summary of Key Evidence of Improvements Based on Analysis of Results:** The following reflects all the changes implemented to drive the continuous process of seeking improvement in AC 2022-2023. These changes are based on the knowledge gained through the analysis of AC 2021-2022 results.

- Quizzes were adjusted to promote class attendance and regular review of the material.
- Cases were added and discussed in VTEC 1030 to promote student interaction.
- There was further reordering of material within VTEC 1030 lecture to coincide with

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the material covered in the VTEC 1031 laboratory.

- Students were given a comprehensive list of supplies and equipment that they are responsible for being able to identify on the exams in VTEC 1031 laboratory.
- Students had hands-on individualized instruction with a student to instructor ratio of <8:1 in live animal laboratories, documentation of each student's attainment of skills, and the requirement that each student must attain the required skills to receive a successful grade of course completion.
- Attendance of each laboratory session as scheduled or by make-up sessions was required to ensure that each student attains the required skills.
- Early intervention was established for students that score <65% on the initial exam in all courses.
- Students with a course average of <70% at midterm in all courses were contacted to recommend a meeting with the instructor during office hours to discuss problems and devise a plan to enhance student success.
- Increased practice problems for homework were assigned in VTEC 2060.
- A proposal to the Curriculum Review Committee was approved to add VTEC 2090 Anatomy & Physiology as a prerequisite for VTEC 2600 Animal Care & Health.
- The disease chart was expanded in VTEC 3010 Diseases of Animals
- Increased time was devoted to Pain Management and a chart was introduced to organize drugs, drug classes, and their purposes in VTEC 3200 Veterinary Hospital Technology II.
- New digital dental radiology equipment was utilized by students in VTEC 3201 and VTEC 3701 laboratories allowing students to receive immediate feedback on dental imaging without the need for dental film processing.
- Instruction on advanced imaging techniques and radiology technique charts was expanded in VTEC 3700 Veterinary Radiology.
- Videos of lectures were posted for student review, as necessary, in most classes.
- Measure 2.2 was changed to require 100% of students to average 70% or higher in the course and demonstrate the required technical skills.
- Increased time in VTEC 3701 Veterinary Radiology Lab was devoted to ultrasound imaging.
- Faculty added focused lessons in the domains of Dentistry, Diagnostic Imaging, and Animal Care/Nursing since these domains have the largest discrepancies relative to the national average during last year's testing cycle. Focus was placed in these areas during Animal Care and Health (VTEC 2600), Veterinary Hospital Technology II (VTEC 3200/3201), and Veterinary Radiology (VTEC 3700/3701) to improve knowledge and test scores.
- Instructors incorporated sample VTNE review questions into the appropriate courses that are taken by all students to ensure that they have as much



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understanding and exposure to examples of the VTNE as possible throughout the curriculum.

- Students were made aware of VTNE prep courses and resources outside the curriculum.

### Plan of Action Moving Forward:

- Exams will be reviewed in class after grades are posted and commonly missed questions will be discussed to clarify misunderstood material and enhance future study habits in VTEC 1030.
- More videos that relate to the laboratory procedures will be posted to the course management system prior to labs in VTEC 1031 to allow students to visualize techniques that will be covered in the labs before completing them in-person.
- Homework/practice problems will be discussed and reviewed during the lecture in VTEC 2060 after students have had time to complete them.
- A dental diseases section will be added to VTEC 3010 to increase the volume of dentistry information presented in the curriculum.
- Updated PowerPoints will be incorporated into VTEC 3200 to correspond with the textbook and the anesthetic table will be expanded to include data relative to pain management / analgesia and reversal agents.
- Case studies will be incorporated into VTEC 3700 lectures that tie clinical scenarios into the topics being discussed.
- Measure 2.1 will be changed to require eighty five percent (85%) of students to pass the courses with a 70% score or better to meet the measure.
- An increased number of surgical procedures will be covered in lectures/labs in VTEC 3201 to replace surgical reports that were previously written.
- New anesthetic monitoring equipment will be used by students in VTEC 3201 to enhance their training and clinical skills associated with anesthesia.
- The grading rubric for VTEC 3201 will be adjusted to place more emphasis on essential clinical skills, teamwork, work ethic, and communication skills for the final course grade.
- Students will radiograph patients with known medical issues as they are available in VTEC 3701 to enhance their education on the disease conditions.
- Program instructors will invest in hands-on instruction of skills and improve upon the competency of those skills by incorporating repetition of those skills that are valued by employers of graduates into upper-level labs.
- Faculty will incorporate requirements encouraging student ownership for their individual outcomes, assess students based on reliability in the care of animals, and require attending labs to complete required skills in the veterinary technology curriculum.

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- Faculty will add focused lessons in the domains of Dentistry, Diagnostic Imaging, and Pharmacy/Pharmacology since these domains have the largest discrepancies relative to the national average during last year's testing cycle. Focus will be placed in these areas in VTEC 2060, 3010, 3200, 3201, 3700, 3701, 4090 courses to improve didactic knowledge and test scores in these domains.
- All students will be encouraged to take Comprehensive Review (VTEC 4200) to help them succeed in passing the VTNE by reviewing didactic knowledge, domain structure/weighting, and using sample test questions from VTNE review books.
- Some computer-based exams will be utilized in VTEC 2090 and VTEC 3010 to allow students to become more accustomed with this exam modality to mimic the VTNE.