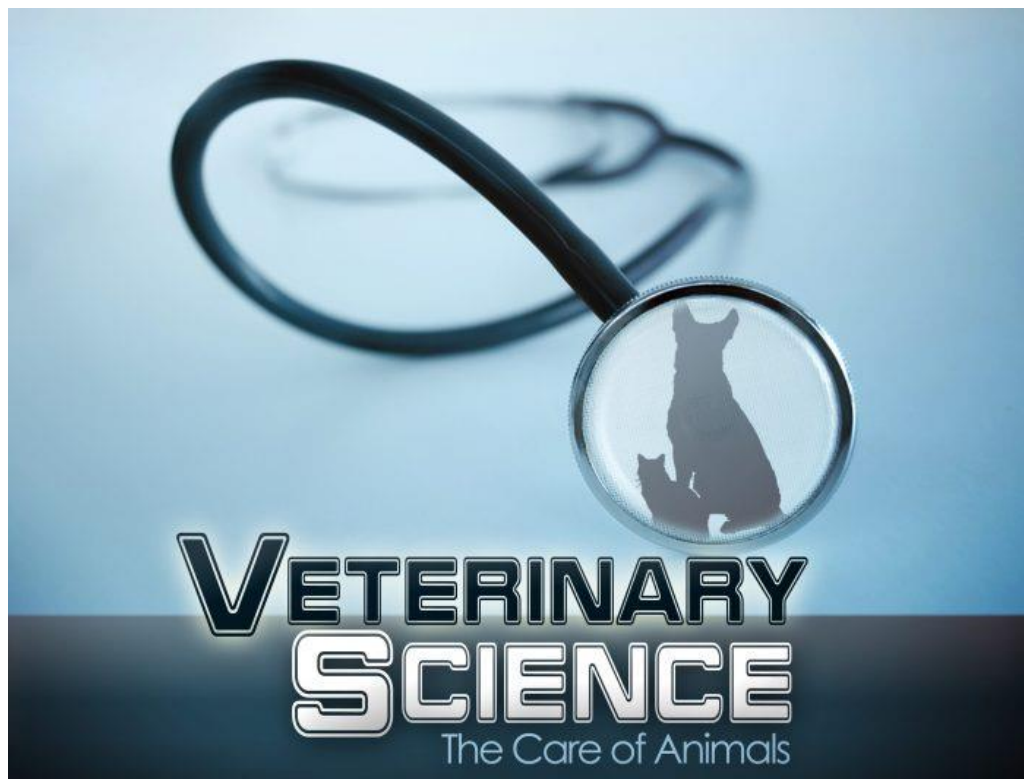


# SBC VETERINARY SCIENCE FEASIBILITY STUDY



2020

Exploring the potential for a vet program

This feasibility study examines the interest in and need for a veterinary science program at Sitting Bull College.

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# Veterinary Science Feasibility Study-Draft

## EXPLORING THE POTENTIAL FOR A VET PROGRAM

### ABSTRACT

This feasibility study examines the interest in and need for a veterinary science program at Sitting Bull College. A survey to determine the interest received 300 responses within three weeks



SBC MISSION – GUIDED BY OCHETHI SAKOWIN CULTURE, VALUES, AND LANGUAGE SITTING BULL COLLEGE IS COMMITTED TO BUILDING INTELLECTUAL CAPITAL THROUGH ACADEMIC, CAREER, AND TECHNICAL EDUCATION, AND PROMOTING ECONOMIC AND SOCIAL DEVELOPMENT.

which was very positive. Accreditation requirements and cost estimates are also included.

### FEASIBILITY STUDY RATIONALE

Sitting Bull College was chartered by the Standing Rock Sioux Tribe to provide postsecondary education. One of the Tribe's major resources is a 2.3-million-acre land base of which 609,000 acres is range/pasture land that has the forage capacity for 228,000 animal units per month (AUM).<sup>1</sup> In addition, there are 509 ranch/farm businesses located within the boundaries of the reservation and more in adjoining counties.<sup>2</sup> Livestock production makes up a significant portion of the economy throughout the reservation with the number of cattle and calves reported at 157,912 in 2017 and horses and ponies at 1,881.<sup>3</sup> In addition, a 2018 Pet Ownership Study conducted by the American Veterinary Medical Association (AVMA) reported that nearly 57 percent of all households in the United States own pets with dogs and cats the most popular pet choices. The rate of dog ownership was reported to be the highest since the AVMA began collecting data in 1982, with approximately 38 percent of households nationwide having one or more dogs. Cats were the next most popular pet and were found in 25 percent of U.S. households. This report also found that pet ownership was higher in rural states.<sup>4</sup>

A significant increase in livestock production and pet ownership requires expertise for large and small animal care. Unfortunately, give the large land base, there are no animal care facilities located on the Standing Rock Indian Reservation. The closest animal care services in a 50-mile radius of the reservation are located in Mandan, ND, Bismarck, ND, and Mobridge, SD. Antidotal information indicates that these service providers are extremely busy which was supported by Dr. Jim Clement, a retired veterinarian and past owner of the Mandan Veterinary Clinic (personal communication February 12, 2020)

The U.S. Bureau of Labor's Occupational Outlook Handbook reports the job demand for Veterinary Technologists (2-year degree) and Technicians (4-year degree) to grow 19 percent from 2018 to 2028 which is higher than average<sup>5</sup>. Veterinarians are also projected a higher than average growth rate at 18 percent over this same time period. The North Dakota Vet Technicians organization<sup>7</sup> reported a significantly higher growth rate for this profession in North Dakota at 33.9 percent between 2021-2022.<sup>6</sup> The CareerOneStop, which is a partner with the US Department of Labor, presented a more reserved projection on the future of vet technicians in South Dakota. In 2018, it found that openings for veterinary technicians and technologists expected to increase at a slightly lower rate (15 percent) than what is anticipated nationally, but it is also the eleventh fastest growing career in the state for people with associate degrees.<sup>7</sup>

There are currently no Vet Technician programs in South Dakota or North Dakota. North Dakota State University, in Fargo, has a bachelor of science degree in Veterinary Technology. Several of the colleges in both states indicate a pre-professional curriculum to prepare students for a veterinary science degree program but do not offer an associate degree in the field.

## SUMMARY OF VET SCIENCE SURVEY

There were 300 respondents over a three-week period of which 57 percent were area high school students. The survey was administered through an online link which was posted on the Sitting Bull College's website and on the Standing Rock Sioux Tribal website. The latter was for approximately 1.5 weeks. The tribal administrator also sent the link out to all tribal employees and SBC announced the survey over its weekly radio program. There were 110 online responses within the first week of the survey going online which was a very positive indicator of the level of interest in the veterinary science program.

The survey indicated that 52 percent of the respondents were definitely interested in a veterinary science degree program with 20 percent indicating that they may be interested in the program for a

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total possible 72 percent interest which is outstanding. Only 28 percent said a definite no with regard to their interest.

Seventy-six percent (76%) of the respondents were American Indian with 18 percent Euro-American and six percent choosing not to respond. Fifty-seven percent (57%) of the respondents were females with 37 percent males and six percent preferring not to answer this question. Respondents represented communities throughout and near the Standing Rock Indian Reservation.

Nearly one-third of the respondents (30%) indicated an interest in the 2-Year, applied, degree program which was followed by a 23 percent interested in a bachelor of science degree program as well as 17 percent expressing interest in a 2-Year degree program that would transfer to a bachelor's degree program. There was also a very strong interest in a regular, day time, class schedule, i.e., 9 a.m. to 5 p.m. Respondents had a very strong preference for working with both large and small animals (79% of those interested in this program).

## **VETERINARY SCIENCE ASSOCIATE DEGREE PROGRAM**

An associate degree in veterinary science would entail the preparation of technicians who would work under the supervision of a Veterinary Technologist and a Veterinarian. Vet Technicians have been compared in the literature to that of a practical nurse to animals rather than humans. The role of the technician is to assist the veterinarian with surgery and emergency care as well as the assistance with dental and laboratory procedures. According to the Occupational Outlook Handbook, the following duties are typical:

- Observe the behavior and condition of animals
- Provide nursing care or emergency first aid to recovering or injured animals
- Bathe animals, clip nails or claws, and brush or cut animals' hair
- Restrain animals during exams or procedures
- Administer anesthesia to animals and monitor their responses
- Take x-rays and collect and perform laboratory tests, such as urinalyses and blood count
- Prepare animals and instruments for surgery
- Administer medications, vaccines, and treatments prescribed by a veterinarian
- Collect and record animals' case histories.

In addition, technicians may be required to assist with a variety of clinical care, laboratory tasks, and management of the veterinary practice. If the veterinarian is doing research, s/he may also provide research assistance.

# BENEFITS AND LIMITATIONS OF IMPLEMENTING A VET TECHNICIAN PROGRAM

## Benefits

One of the most compelling benefits of offering a Vet Technician Associate of Science degree program is to be able to address the interest in this program by residents of the Standing Rock Indian Reservation. A short survey (attachment A) was placed on the SBC website the first week in February 2020 and announced on the weekly SBC radio program. Within one week, there were 120 online responses. This survey remained open for three weeks with hard copies taken to the area high schools by an SBC staff member. The responses to this survey totaled 300. The survey indicated that 52% responded with a clear affirmation of interest in a veterinary science program with another 20% indicating s/he *may* be interested. Of those responding to this survey, 30 percent indicated an interest in a 2-year program of applied knowledge and 23 percent indicated interest in a bachelor's degree program. While 21 percent indicated a career goal of becoming a veterinarian, 19 percent indicated a career goal of becoming a veterinarian assistant. Sixteen percent (16%) of the respondents indicated an interest in begin able to work with their own animals, whereas 40 percent were unsure of their career goals. The survey results are included in Attachment B.

A secondary benefit of a Vet Technician program would be to address the lack of this academic program in North Dakota and South Dakota. Sitting Bull College would be the only academic institution to offer this associate degree program and it could lay the foundation for bachelor's degree program in the future.

The third benefit of this program is the necessity of professional accreditation by the AVMA-CVTEA which allows graduates of their accredited program to become credentialed by taking and passing the Veterinary Technician National Examination (VTNE). This professional recognition then is recognized by states within this field.

## Limitations

The most significant challenge to the implementation of a Vet Technician Program would be the American Veterinary Medical Association's Committee on Veterinary Technician Education and Activities (CVTEA) accreditation requirements<sup>8</sup> – specifically in two areas, staffing and internships.

The accreditation requirements state that the program director must be a licensed veterinarian or a credentialed veterinary technician *who must be a graduate of an AVMA or CVMA-accredited program* (Attachment C – page 6). It also requires that the program have “a minimum equivalent of one full-time

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licensed veterinarian. These would be challenges in that there is such a high demand for vet services that it becomes difficult to find a veterinarian with the time to teach. The other challenge is the requirement for the vet technician to be a graduate of an AVMA or CVMA accredited program since there are no programs within these two states although there are professionals in this area who hold bachelor of science degrees in animal science but not from an AVMA/CVMA accredited program.

The second challenges cited is the internship. The CVMA requires 240 cumulative contact hours of practical field experience which needs to be monitored by the program director or the director's designee who must be a faculty member or staff member who is also a licensed vet or vet technician who is a graduate of an AVMA or CVMA accredited program. (Attachment C – page 9). There was an enthusiastic and supportive response from the Missouri Valley Veterinary Clinic (one of the largest in the area) to the employer interview for this degree proposal. This clinic is willing to provide internship experience for the students.

A third challenge is the need to establish a veterinary clinic for training purposes. The cost to equip the clinic is significant as the accreditation guidelines list the necessary equipment to be used. Refer to Attachment E – Equipment List and Estimated Costs.

## **ROLE OF A VETERINARY SCIENCE PROGRAM WITHIN SITTING BULL COLLEGE**

### **Proposed Vet Technician Program Mission Statement**

Guided by Ojibwe culture, values and language, Veterinary Technician degree program' mission is to provide students with the academic and applied professional knowledge and skills to perform effectively as veterinary health care team members.

**Learning Outcomes** – Program graduates will be able to successfully (70% or better competency scores):

- Understand and articulate the relationship between human beings and our animal relatives
- Communicate in a professional manner in all formats – written, oral, non-verbal, and electronic
- Follow and uphold applicable laws and the veterinary technician profession's ethic codes to provide high quality care to patients
- Safely and effectively administer prescribed drugs to patients
- Demonstrate and perform patient assessment techniques in a variety of animal species
- Understand and demonstrate husbandry, nutrition, therapeutic and dentistry techniques appropriate to various animal species

- Safely and effectively manage and maintain patients in all phases of anesthesia
- Demonstrate knowledge of routine surgical procedures and related equipment.
- Demonstrate knowledge of proper handling, packaging, and storage of specimens for laboratory analysis to ensure safety of patients, clients, and staff
- Safely and effectively produce diagnostic radiographic and non-radiographic images
- Safely and effectively handle common laboratory animals used in animal research
- Understand the approach to providing safe and effective care for birds, reptiles, amphibians, guinea pigs, hamsters, gerbils, and ferrets

See Attachment D for the CVTEA Veterinary Technology Student Essential and Recommended Skills List.

## Proposed Courses

The following proposed courses incorporates the curriculum recommendations/requirements of the accrediting body, AVMA-CVTEA, Sitting Bull College curriculum requirements, and existing Sitting Bull College courses whenever possible.

### Year 1

#### Fall Semester

Course No.	Course Title	No. of Credits
<b>Psyc 100</b>	First Year Experience	3
<b>Math 100 or higher</b>	Applied Mathematics	4
<b>ENLG 100 or higher</b>	Composition	3
<b>BIOL 150</b>	General Biology & Lab	4
<b>Total</b>		14

#### Spring Semester

Course No.	Course Title	No. of Credits
<b>NAS 103</b>	Intro to Ojibwa Language, Culture & History	4
<b>CSCI 100</b>	Introduction to Computer Science	3
<b>Comm 100/110</b>	Applied Comm or Fundamentals of Public Speaking	3
<b>Vet 101</b>	Introduction to Vet Science	4
<b>H/PE</b>	Health/Activity	1
<b>Total</b>		15



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### Year 2

#### Fall Semester

Course No.	Course Title	No. of Credits
Vet 121	Veterinary Anatomy	4
Vet 122	Veterinary Physiology	4
Vet 123	Animal Nutrition	3
Vet 125	Veterinary Nursing I	4
H/PE	Health/Activity	1
<b>Total</b>		<b>16</b>

#### Spring Semester

Course No.	Course Title	No. of Credits
Vet 221	Veterinary Dentistry	4
Vet 223	Veterinary Pharmacology	2
Vet 225	Veterinary Medicine & Surgery	4
Vet 226	Veterinary Anesthesiology	3
Vet 230	Veterinary Diagnostic Imaging	3
<b>Total</b>		<b>16</b>

**Summer Session** Internship (240 cumulative hours of [120/15 hours =16 credits] of supervised, field experience).

Total Required Credits: 73 credits

- General Education (26) and Vet Science (47 which includes the internship)

#### **Electives:**

BIOB 258	Birds & Culture	4 credits
BIOB 450	Mammalogy	3 credits
BIOB 455	Herpetology	3 credits
BIOB 456	Ornithology	3 credits

#### **Supplemental Instruction**

- Pregnancy Testing
- Artificial Insemination

## Proposed Degrees and/or Certificates

It is proposed that an Associate of Applied Science Degree in Veterinary Technician be established. It is also *strongly recommended that the Vet Technician degree program secure accreditation by the AVMA-CVTEA.*

This degree program could also offer short-term trainings (Community Education Units or Certificates) within the field that would be of benefit to the community and the profession. AVMA-CVTEA requires on-going professional education to maintain credentials as a certified Vet Technician. Areas of interest that may offered in this format include: Pregnancy Testing, Hoof Trimming, Artificial Insemination (in collaboration with a vendor), Forage and Nutrition, and best practices in specific areas of husbandry.

## Ochethi Sakowin Culture Significance

Vine Deloria, Jr., a member of the Standing Rock Lakota, wrote about the relationship Native people had with animals in the forward of Bruchac's book, *Native American Animal Stories*<sup>9</sup>. Deloria reminds us that we view ourselves as

“participants in a great natural order of life, related in some fundamental manner to every other living species. It was said that each species ha a particular knowledge of the universe and specific skills for living in it. Human beings had a little bit of knowledge and some basic skills, but we could not compare with any other animals as far as speed, strength, cunning, and intelligence. Therefore, it was incumbent on us to respect every other form of life, to learn from them as best we could the proper behavior in this world and the specific technical skills necessary to survive and prosper.” (p. ix)

This veterinary science degree program, in part, addresses that respect for other life forms, i.e., animals and the need to care for them.

## TARGET AUDIENCE

The primary targeted vet science student group would be those who are in the 24 years and younger group. Of the 300 survey respondents, 68 percent fell into this category. Those people who are interested in working with animals would also fall into the targeted audience which would include ranchers and potential ranchers and those interested in working with small animals.

## Employment

The job outlook for this profession is projected to grow faster than average at 15 percent to 19 percent over a ten-year period at both the national and state levels.

At the state level, South Dakota had 12 vet technicians job openings advertised in February 2020 ([www.ihireveterinary.com](http://www.ihireveterinary.com)). It was also reported that there were 290 working vet technicians working in this state with the majority in the urban areas, e.g., Rapid City (60), Sioux Falls (90)<sup>10</sup>.

The North Dakota Veterinary Medical Association has been advertising for a minimum of 20 vet tech positions (<https://www.ndvma.com/classifieds>) as has the North Dakota Veterinary Technicians Association (<https://www.ndvta.org/>).

Minnesota currently has a total of 137 job openings for vet technicians (<https://www.ihireveterinary.com>)

At the local level, i.e., on and near the Standing Rock Indian Reservation, ranching is a primary occupation as indicated in the rationale statement for this study. Horse racing and rodeos are major summer pastime activities which requires a working knowledge of animal husbandry.

The increase in family pet ownership and the cost of transporting large animals great distances for veterinary services testifies to the need for a local veterinary clinic. This reservation also lacks humane societies or animal shelters for lost, neglected, or unwanted animals which would need to be established and would provide employment.

There is a clear employment demand at the national and state level. There is a clear need for services and thus employment at the local level, i.e., Standing Rock Indian Reservation.

## Recruitment Plan

A targeted recruitment initiative would focus on high school students attending area high schools and those people who are interested in working with animals. The survey for this study was conducted in the regional high schools; thus, provided an indication of this opportunity. Given the high number of community responses to the survey within the first week of implementation, radio announcements and local newspaper articles and advertisements would likely be very effective.

Once accredited, recruitment can expand throughout the states of North Dakota and South Dakota.

## STAFF NEEDED FOR THE PROGRAM:

### Title/Position

- One Full-time Equivalent Veterinarian
- One Full-Time Director/Technologist (graduate of an AVMA or CVTEA program)
- Adjunct Instructors
- Advisory Committee

An advisory committee is required by AVMA-CVTEA accreditation which is to consist of veterinarians and vet technicians with diverse professional interests and should also include vet technician students, industry representatives, and public members. This committee is to meet at least annually. Attachment C – Page 3).

- The following individuals have indicated that they are willing to serve on this committee:
  - Dr. Jim Clement, Retired Veterinarian and Past Owner of the Mandan Vet Clinic
  - Ms. Leslie Koch, Practice Manager & Vet Technician, Missouri Valley Veterinary Clinic
  - Ms. Alisha A. Adams, Farm Program Technician, USDA Farm Service Agency

As indicated in the program challenges, the AMVA and CVMA require a full-time veterinarian as well as a vet technician who is a graduate of an accredited academic program. Dr. Jim Clements is a retired veterinarian from Mandan, ND and he was asked if he would be interested in teaching. He said he had taught in the past and was not interested in teaching but would serve as an advisor to the program. It was reported that Dr. Kurt Johnson, Interstate Veterinary Clinic is interested in retiring and there may be other retired veterinarians who might be interested in teaching on a full-time basis.

There are a number of professionals living in this area who have a bachelors of science degrees in animal science (e.g., Lance Froelich, Kelley Froelich, and Kurt Froelich) but these programs were not AMVA/CVMA accredited. They would be able to serve as adjunct instructors. Ms. Alisha Adams has a B.S. degree in Animal Science with an emphasis in Pre-Vet Medicine. She is interested in teaching and would be an excellent potential adjunct faculty especially as she currently serves as a farm program technician for the United States Department of Agriculture in this area. Her resume is attached in Attachment F.

**Projected changes in staffing (5 years)**

CVTEA accreditation policies limit the Program Personnel - Student ratio to 1:12 for laboratory courses without animals present and 1:8 for classes with animals present. As enrollment increases with each increment of 12 students, an additional full-time AVMA or CVTEA credentialed faculty will be required. Attachment C – page 6.

**PROGRAM BUDGET (NEXT 5 YEARS)**

The following table has the projected budget.

Category	Detail	Cost – Year 1	Cost – Year 2	Cost – Year 3	Cost – Year 4	Cost – Year 5
Personnel						
	Full-Time Vet - Doctorate	\$46,900	\$48,400	\$49,900	\$51,400	\$52,900
	Director/Tech – Bachelor’s	\$35,108	\$36,180	\$37,180	\$38,180	\$39,180
	Adjunct Faculty @\$ / credit – Bachelor’s @ \$600/cr.	\$1,200	\$1,200	\$1,200	\$1,200	\$1,200
<b>Subtotal</b>		<b>\$83,208</b>	<b>\$85,780</b>	<b>\$88,280</b>	<b>\$90,780</b>	<b>\$93,280</b>
Fringe – 25%		\$20,802	\$21,445	\$22,070	\$22,695	\$23,320
Supplies & Equipment*		\$186,140	\$3,500	\$1,000	\$1,000	\$1,000
Technology-Standard Classroom AV		?				
Memberships**		\$ 420	\$ 420	\$ 420	\$ 420	\$ 420
Travel***		\$3,000	\$3,000	\$3,000	\$3,000	\$3,000
Internships****			\$1,000	\$1,000	\$1,000	\$1,000
<b>Total</b>		<b>\$293,570</b>	<b>\$115,145</b>	<b>\$115,770</b>	<b>\$118,895</b>	<b>\$122,020</b>

\* Year 2 costs for unanticipated equipment needs. Year 3-5 estimated supplies. Please note that the equipment costs are very rough estimates based on new equipment.

\*\* Membership:

- American Veterinary Medical Association (\$360)
- North Dakota Vet Tech Organization (\$30/year each = \$60 for two faculty)
- Veterinary Information Network (Free for faculty and students)

\*\*\* Travel estimate based on two faculty attending regional professional education conference.

\*\*\*\* Internship costs primarily supervision oversight visits travel costs.

## NON-FINANCIAL RESOURCES NEEDED TO DEVELOP AND MAINTAIN THE PROGRAM

- **Space**
- **Equipment – See Attachment E.**
- **Technology – Also listed in part in Attachment E. There is the expectation of audio/visual equipment for the classrooms.**
- **Practice sites – Missouri Valley Veterinary Clinic was the most responsive.**
  - One of the major concerns reported by an administrator with Missouri Valley Veterinary Clinic was the possibility of injury and liability insurance for interns. She indicated that their workman’s compensation insurance was high because of the possibility of animal bites (small animals) or being kicked by a large animal.<sup>5</sup>

“Through precise observation and through ceremonies, we can once again connect with the lives and minds of the other entities of creation.” Vine Deloria, Jr. <sup>11</sup>

## References

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## **ATTACHMENTS:**

A – Survey

B – Survey Results Summary

C – AVMA CVTEA Accreditation Policies and Procedures – Standards

D- AVMA CVTEA Accreditation Policies and Procedures Appendix I – Veterinary Technology Student Essential and Recommended Skills List.

E-Equipment List

F- Resume

G- Other