
University of Alaska Fairbanks
New Degree Program Request: Format 3

VETERINARY SCIENCE PROJECT

Certificate
37-38 Credits minimum

Submitted by
Interior-Aleutians Campus
College of Rural and Community Development
October 2005, Revised April 2006, Oct 2006, May 2007

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I. COVER MEMORANDUM

A. NAMES OF PERSONS PREPARING REQUEST

This request prepared by Clara Johnson, Director, Interior-Aleutians Campus; in collaboration with Sarah Love, DVM, Program Development Specialist, Interior-Aleutians Campus; Lou Brown, USDA Drum Beats Program Manager, Interior-Aleutians Campus; and Eric Jayne, DVM, Interior-Aleutians Campus, Rural and Community Development, University of Alaska Fairbanks.

Advisors and discipline experts who helped create the proposal and who reviewed the many drafts include: Julie K. Maier, PhD, Assistant professor, Interior-Aleutians Campus; Ronald Illingworth, EdD, Professor, Interior-Aleutians Campus; Ken Hill, DVM, Cordova Alaska; Joe Evans, DVM, MRCVS, Nederland Colorado; Teresa Heaston, licensed veterinary technician, Barrow, AK; Kimberly Savage, veterinary technician, Nederland, CO; Louisa Castrodale, DVM, State of Alaska DEC, Anchorage, AK; Dave Pauli, Director Humane Society, Billings Montana; Tanja Korta, lay veterinary technician, Galena, AK; Barbara Cole, Medical Educator, Anchorage, AK; Judy Steyer, MD, Medical practitioner, TCC, Fairbanks, AK; American Veterinary Medical Association, Veterinary technician certification staff; Betsy Rogers, DVM, Animal Emergency Clinic, Fairbanks, AK; Gerald Riley, Alaskan Native mentor, Nenana, AK; Steven Bergman, Alaskan Native mentor, Allakaket, AK; Richard Carroll, Alaskan native mentor, Fort Yukon, AK; George Beran, DVM professor emeritus, Iowa State University, Ames (ISU), IA; William Reece DVM, professor emeritus, ISU, Ames, IA; National Bison Association, various personnel; Jack Reakoff, Alaska Fish and Game board, Wiseman, AK; and numerous residents of the Alaskan villages of Kaktovik, Arctic Village, Venetie, Fort Yukon, Circle, Eagle, Central, Northway, Haines, Skagway, Dot Lake, Nenana, Healy, Beaver, Stevens Village, Tanana, Ruby, Galena, Nulato, Koyukuk, Kaltag, Huslia, Hughes, Allakaket, Bettles, Kobuk, Shungnak, Ambler, Kiana, Selawik, Noorvik, Kotzebue, Diomedes Island, Unalakleet, Nome, Elim, McGrath, Talkeetna, and Wiseman/Coldfoot.

B. BRIEF STATEMENT OF PROPOSED PROGRAM

Overview: In response to a strong interest in veterinary training among rural Alaskans and a shortage of trained veterinary paraprofessionals in Alaska, the Interior-Aleutians Campus and the Chukchi Campus supported by the College of Rural and Community Development is proposing the Veterinary Sciences certificate (VTS) consisting of a 37-38 credit certificate program. This certificate is designed to articulate into a proposed AS degree and a proposed track for individuals to complete requirements to be eligible for the National Veterinary Technician Examination.

In the absence of trained veterinary care in rural Alaska, primary and crisis care for animals has come from a variety of sources, including local dog mushers or other animal enthusiasts and village based health care workers. These rural residents already have life-skills in animal and or human care and would like to formalize these skills. When even these informal options are unavailable injured and sick animals are most often disposed of by local law enforcement, if available, or by the owner themselves. Formal training in veterinary science would allow rural communities to practically and humanely deal with animal health issues.

In addition, veterinary science is a program that can positively affect student engagement and perseverance in all age groups. Statistics on higher education attainment for Alaskans are troubling. Only 28% of 9th graders in the state of Alaska enroll in college 4 years later. Only 18% are still enrolled in their sophomore

year and only 6% graduate from college within 6 years (Source: NCES: Common Core Data, IPEDS Residency and Migration, Fall Enrollment, and graduation rate surveys, 2004). The educational needs in rural Alaska are particularly acute. Improving these statistics will involve effort on many fronts and one is developing programs that can engage students' interest before they get to college, encouraging them to stay in school, enroll in college, obtain useful and marketable skills, and perhaps continue towards a 4 year degree.

The Veterinary Science program (VTS) will offer a core certificate from which the student can articulate to a proposed A.S. degree in Veterinary Science and expand into different learning tracks. These tracks include a veterinary technician track and a veterinary medical illustration track. The veterinary technician track has been designed to fulfill the needs for AVMA accreditation. The core certificate program is designed to fulfill the need for additional training for rural Alaskans interested in this area, many who are already providing animal care, and create opportunities for them to expand their education and training through the additional learning tracks.

The Veterinary Science Certificate is not expected to lead to substantial wage employment, although the potential for such employment does exist and is discussed in this proposal. The Certificate will lead to improvement in animal care in rural Alaska as well as address the need for relevant science-based education in rural Alaska. The forthcoming A.S. degree in with a concentration in Veterinary Science and the Veterinary Technician track are expected to lead to wage employment.

Alaska is one of only 7 states that currently have no Veterinary Science (VTS) program. Currently, there are 108 licensed veterinary technicians (VT) for the 264 licensed veterinarians in the state. Of the licensed veterinarians, fewer than 10 practice in rural areas resulting in a critical shortage in veterinary care throughout rural Alaska. This shortage of rural veterinary care holds true nationwide.

The State of Alaska has a great need for individuals trained in veterinary sciences in both rural and urban areas. To become a licensed VT a person must work for a licensed veterinarian for two years in the capacity as a technician or pass an American Veterinary Medical Association (AVMA) certified training program. Both require passing a national examination before the license is issued. In Alaska, the option for experience in lieu of education will be phased out in the year 2010, leaving more formalized veterinary education as the only option for becoming a certified veterinary technician.

Alaskan students who want to receive a paraprofessional veterinary education face serious barriers, the most critical of which is the lack of training available in the state. To become trained in veterinary sciences currently, a student must be admitted to and attend an out-of-state program, as well as pay out-of-state tuition costs. A multi-year absence from Alaska could also result in a student not returning to the state for employment.

Rural Alaska employment opportunities do not mirror urban Alaska. There are clearly opportunities for more trained Veterinary Technicians in urban Alaska, but formal employment opportunities in this area for rural Alaska are minimal at this time. This situation is misleading, however, in terms of the potential for rural employment opportunities. In the alternative food production arena, the shortage of adequate rural veterinary care has affected the ability of interested people to have successful large animal or poultry farming operations. Such production operations may involve cattle, swine, sheep, goat, reindeer, bison, musk oxen, and poultry. These producers ideally would have access to individuals with the skill to help appropriately manage disease, nutrition and husbandry issues.

Additional roles of students trained in the veterinary field are identification and management of public health issues. These may include zoonotic diseases including rabies education and prevention, animal disease recognition and education, water and food quality testing, and meat and seafood inspection.

Other employment and educational fields can be entered from this program. The program will provide a strong educational starting point for students interested in entering an undergraduate program, veterinary college or becoming a veterinary medical illustrator. An added application of this program is in tribal resource management. Here the individual trained in the veterinary sciences could provide assistance to Alaskan Native corporations, in regards to public and animal health.

This program will be a rural oriented program that may be adapted for urban delivery. The rural orientation will be reflected in the distance delivery methods of courses and the types of information included. For example, information about animal adaptations to cold climates and remote areas as well as the unique history of animal/human relations in rural Alaska would be included. Regarding urban orientation of the program, information about small animals such as those seen in typical urban and suburban small animal general practices would be included. The core of the program in any area will be basic veterinary knowledge and skills. Students from this program should be able to transfer their knowledge to different environments.

Realizing that students entering this program are at many different levels, it is predicted that the course work to completion for the Veterinary Science certificate will take approximately 2 to 5 years. It is expected that highly motivated students will complete this within the 2 year time frame. Time to completion is obviously dependent on many factors a student may have, such as number of classes taken per term, job, work and family commitments. Classes will be delivered primarily by distance education, as well as face to face and intensive 2-4 day laboratories and practicums at central locations.

Objectives of the VTS certificate program:

1. To prepare a group of educated Alaskans that meet current life-skill and workforce needs in veterinary sciences, focusing on the rural worker.
2. To contribute to our vocational educated Alaskan workforce by providing a program that links work-based skills and hands-on learning to postsecondary education, particularly in rural Alaska in keeping with the university mission.
3. To provide a career ladder beyond entry-level to an underemployed rural workforce.
4. To provide an education ladder beyond the certificate by providing a pathway leading to additional degrees and educational tracks.

APPROVALS

_____ Director, Interior-Aleutians Campus	_____ Date
_____ Chair, CRCDC Science Division	_____ Date
_____ Curriculum Council Chair, College of Rural and Community Development	_____ Date
_____ Dean, College of Rural and Community Development	_____ Date
_____ President, UAF Faculty Senate	_____ Date
_____ Chancellor, UAF	_____ Date
_____ President, University of Alaska	_____ Date
_____ Board of Regents	_____ Date

II. IDENTIFICATION OF THE PROGRAM

A. DESCRIPTION OF THE PROGRAM

1. **Program Title:** Veterinary Science (VTS) Program
2. **Credential level of the program:** Certificate
3. **Admission Requirements and Prerequisites:**

Admission is open to all individuals, especially those with a background and interest in animal husbandry and health, wildlife diseases, tribal resource management and public health.

Students should have a strong motivation and a background of participation in veterinary science or animal care.

Students should be familiar with computer use and animal handling prior to enrollment in Veterinary Science courses.

Students must develop an Individual Educational Plan with a strong partnership and mentorship component to include three participants: the student, an academic advisor, and a veterinary mentor. The academic advisor could be from the teaching staff or other advisory staff of the University of Alaska Fairbanks. The mentor could be a local practicing veterinarian or veterinary technician, a distance accessible veterinarian/veterinary technician or a veterinarian/veterinary technician employed in other fields such as fish and wildlife.

The Individual Educational Plan must:

- Build upon a comprehensive picture of current strengths and weaknesses and areas of knowledge and skill.
- Provide a clear path of skill development to cover the gap between existing strengths and the current or prospective job requirements.
- Incorporate the following VTS program goals:
 - Well-developed logic and reasoning skills, including critical thinking and problem-solving abilities
 - Computer literacy, communication skills, research experience and animal handling skills.
 - Independent goal-setting and observation skills
 - Job-related work experiences, especially veterinary clinic practical experience.
 - Strong interpersonal skills in professional ethics.
 - Broad academic exposure encompassing issues of animal health and care, public health and wildlife.

The Individual Educational Plan will be used as the basis for a student portfolio developed by each student as part of an outcomes assessment process. The portfolio will clearly show the student's occupational related academic accomplishments. A portfolio will demonstrate that each student has met the entry-level competency skill standards for Veterinary Science/Technician jobs.

To remain in good standing students must:

- a) Maintain a 2.0 grade point average
- b) Follow a sequential plan of study to meet job skill requirements

4. Program Outline and Course Descriptions

Veterinary Science Certificate

Related Instruction Requirements	<u>9-10 cr</u>
Communications	
Engl 111X Intro to Academic Writing	3 cr
Human Relations	
ANTH/SOC 100X Individual, Society, and Culture (3) OR	
ABUS 154 Human Relations (3)	3 cr
Computation	
DEVM 105 Intermediate Algebra (3) OR	
Math 107X Functions for Calculus** (4) OR	
Any course at the 100-level or above in mathematical sciences (3)	3 or 4 cr
<hr/>	
Major Specialty courses*	<u>28 cr</u>
Chem 103X Basic General Chemistry OR	4 cr
Chem 105x General Chemistry**	
Biol 103X Biology and Society OR	4 cr
Biology 106X Fundamentals of Biology II**	
VTS 101 Introduction to Veterinary Science	2 cr
VTS 110 Veterinary Medical Terminology	3 cr
VTS 130 Animal Anatomy and Physiology for Veterinary Sciences	4 cr
VTS 140 Basic Animal Husbandry for Veterinary Sciences	3 cr
VTS 150 Basic Animal Nutrition and Feeding for Veterinary Sciences	3 cr
VTS 160 Animal Diseases for Veterinary Sciences	3 cr
VTS 199 Veterinary Science Practicum I	2 cr
Total	37-38 cr

*Students must earn a 2.0 grade or better in each course.

**Students should take the higher level courses if additional degrees are sought.

Course Descriptions

Rural courses will be offered through a blended delivery method which combines audio-conferencing, Blackboard, Eluminate-Live or another web-based instructional platform, and face-to-face instruction at campus facilities or in the village when appropriate.

VTS 101 - Introduction to Veterinary Science. Topics: Definition of Veterinary Science, concepts of lifelong learning, research skills, techniques of observation, occupational and zoonotic safety, veterinary ethics, value of professional organizations, basic animal care, veterinary science wet lab (physical examination, basic suturing). (prereq. - none).

VTS 110 - Veterinary Medical Terminology. Topics: Introduction to veterinary medical terminology, including analysis and origin of word roots, prefixes and suffixes. Students will gain an understanding of word components, students will be able to build, spell and define veterinary medical words. (prereq. – none)

VTS 130 - Animal Anatomy and Physiology for Veterinary Sciences. Topics: Anatomy of dog, cat, avian, cattle, hog, sheep, goat, horse, reindeer, musk ox, bison. Integrated anatomy (body systems/ physiology). (prereq. - VTS 101 prior to or concurrent with, high school biology or equivalent, or by instructor approval).

VTS 140 - Basic Animal Husbandry for Veterinary Sciences. Topics: Animal restraint, behavior, handling, species and breed ID, humane animal care, housing, management of farm animals, sled dog management, reproduction. Species covered: canine, feline, goat/sheep, pig, horse, cattle, bison, reindeer, musk ox, exotic, lab animal. (prereq. - VTS 101 prior to or concurrent with, or instructor approval).

VTS 150 – Basic Animal Nutrition and Feeding for Veterinary Sciences. Topics: Nutritional analysis of feed, soil sampling, nutritional requirements of domestic animals (cattle, swine, sheep, goat, horse, reindeer, cat and dog) , feeding techniques, storage of feeds, feed contamination analysis. (prereq.- VTS 101, high school biology or equivalent, DEVM 105 or equivalent, or instructor approval).

VTS 160 - Animal Diseases for Veterinary Sciences. Topics: Introduction and discussion of infectious and noninfectious diseases of companion animals, domestic production animals, (including reindeer, musk ox and bison), exotic and lab animals. (prereq.- VTS 101, VTS 110, VTS 130, or instructor approval).

VTS 199 - Veterinary Science Practicum I. Topics: On site participation at an approved large or small animal veterinary clinic, veterinary research laboratory or fish and wildlife disease research project. (prereq.- VTS 101, VTS 130, VTS 140, VTS 150 prior to or concurrently, 160 prior to or concurrently, or instructor approval).

Course Cycle:

Course	Fall 2007	Spring 2008	Fall 2009	Spring 2009
Math 107X* or DEVM 105	X	X	X	X
ABUS 154	X	X	X	X
Engl 111x	X	X	X	X
Chem 103X or Chem 105X**	X		X	
Biol 103X or Biol 106X		X		X
VTS 101	X		X	
VTS 110	X		X	
VTS 130		X		X
VTS 140		X		X
VTS 150			X	
VTS 160			X	
VTS 199			X	X

*Prerequisite for Chem 105X

**Prerequisite for Biol 106X

Requirements for the Certificate:

To receive a Veterinarian Science Certificate, students must attain 37-38 credits of lower division (100-200 level) courses. The requirements include 9-10 credits of general university requirements (computations,

communications, and human relations), a four credit entry level Biology course, a four credit entry level Chemistry course, and 20 credits of required Veterinary Science courses.

Proposed Catalog Description

Veterinary Science Certificate

College of Rural and Community Development
 Interior-Aleutians Campus (907) 474-5439
 Chukchi Campus (907) 442-3400

Veterinary Science Certificate:

Training in veterinary science and medicine provides a strong base for careers in farming, dog mushing, wildlife management, public health, tribal resource management, environmental health, veterinary technology and as a veterinarian.

Incorporated into these courses are information and training for work with domestic small animals, domestic farm animals, reindeer, bison and musk ox. Certificate graduates are prepared to continue on in learning tracks for veterinary technology, public health, wildlife management, veterinary medical illustration, veterinary medicine and other science related fields.

Complete the general university requirements (page ____)

Complete the following certificate requirements:

Communications

English 111X

3 cr

Human Relations

ANTH/SOC 100X Indiv, Society, and Culture

3 cr or

ABUS 154 Human Relations

3 cr

Computation

Math 107x Functions for Calculus**

4 cr or

DEVM 105 Intermediate Algebra

3 cr

Complete the following program requirements:*

2. Chem 103x Basic General Chemistry or

4 cr

Chem 105x General Chemistry**

Biol 103x Biology and Society or

4 cr

Biol 106x Fundamentals of Biology II**

VTS 101 Introduction to Veterinary Science

2 cr

VTS 110 Veterinary Medical Terminology

3 cr

VTS 130 Animal Anatomy and Physiology for Veterinary Sciences

4 cr

VTS 140 Basic Animal Husbandry for Veterinary Sciences

3 cr

VTS 150 Basic Animal Nutrition and Feeding for Veterinary Sciences

3 cr

VTS 160 Animal Diseases for Veterinary Sciences

3 cr

VTS 199 Veterinary Science Practicum I

2 cr

Total 37-38 cr

*Student must earn a 2.0 grade or better in each course.

**Students should take the higher level courses if additional degrees are sought.

B. PROGRAM GOALS

1. Objectives and Outcomes-Based Evaluation:

The formal Student Learning Outcomes Assessment Plan is included as Attachment C in this document.

a) Objectives

1. To prepare a group of educated Alaskans that meet current life-skill and workforce needs in veterinary sciences, focusing on the rural worker.
2. To contribute to our vocational educated Alaskan workforce by providing a program that links work-based skills and hands-on learning to postsecondary education, particularly in rural Alaska in keeping with the university mission.
3. To provide a career ladder beyond entry-level to an underemployed rural workforce.
4. To provide an education ladder beyond the certificate by providing a pathway leading to additional degrees and educational tracks.

b) Student Learning Outcomes Assessment

The following attributes will be part of a checklist to track student progress and individual change in learning levels. According to research and discussions with tribal employers on student outcomes assessments, these attributes are what employers are seeking in their employees.

- Well-developed logic and reasoning skills, including critical thinking and problem-solving abilities.
- Independent goal-setting and decision-making skills.
- Animal handling and husbandry skills.
- Interpersonal skills in professional ethics and behavior and teamwork with other veterinary science/medicine workers.
- Student progress will also be tracked utilizing a determined learning strategy involving two main instruments: an Individual Educational Plan and a Student Career Portfolio. Each student with the help of an academic advisor will be required to organize a personal support team to include a veterinarian, veterinary technician or fish and wildlife mentor.

The *Individual Educational Plan (IEP)* is a guide to student progress and process of education in a rural-based learning environment.

The IEP for each student enrolled in the Veterinary Science Program (VTS) must include each of the following:

- A list of job related skills to attain by end of the learning experience. The list may be a specific description of a current or potential job in rural Alaska.
- A timeline for completing the program and earning a Veterinary Science Certificate. The timeline should use semesters as specific periods of definite skill development.
- A schedule of coursework matching a specific semester-based timeline and an identifiable list of job related skills.
- A financial plan for tuition, books, and supplies. The plan should include personal, family, and community support as well as tribal, state, federal, and other means of proposed financial aid.

The *Student Career Portfolio* is a statement which documents specific goal related skills and competencies as well as the individual accomplishments of a student enrolled in the Veterinary Science Program. The Student Career Portfolio should be developed to meet Veterinary Science certificate standards.

The *Student Support Team* would ideally include one person willing to work with a specific student throughout a predetermined learning cycle. The Team will be the support and source of encouragement and guidance for the student and will consist of a veterinarian, veterinary technician or fish and wildlife employee.

The *Student Support Team* will:

- Provide mentorship opportunity where applicable to skill and career development.
- Impart academic advising to ensure an understanding of the postsecondary educational system.
- Encourage completion of each step toward a certificate in Veterinary Science.
- Have access to the student's Individual Educational Plan and Student Career Portfolio on a regular and frequent basis (preferably on a semester basis). Students may communicate with team members via phone, email, Elluminate live software, or in person.

2. Relationship to UAF mission

The University of Alaska Fairbanks, as the nation's northernmost Land, Sea, and Space Grant university and international research center, advances and disseminates knowledge through creative teaching, research, and public service with an emphasis on Alaska, the North and their diverse peoples.

The Veterinary Science Program was created by the Interior-Aleutians and Chukchi campuses, in cooperation with rural and area veterinarians, veterinary technicians, and community representatives to address a critical need in rural Alaska. An advisory board is being developed from rural Alaskan areas served by these campuses as well from urban areas of Alaska. As such, the VTS program is a collaborative program between the University of Alaska Fairbanks, tribal and local government organizations statewide and the veterinary community.

Veterinary Science represents an area of vocational/technical expertise that is increasingly desired and needed by rural Alaskans to address current personal and community needs as well as expanding employment possibilities and industry demands. The VTS program will provide educational opportunities for students throughout the state without requiring them to change or leave their culture or heritage. The Interior-Aleutians and Chukchi Campuses are committed to educating Alaska Native and rural residents, assisting them to affect social changes in their communities, thereby enriching the quality of their lives and cultures. The VTS program applies directly to UAF's emphasis on knowledge related to "Alaska, the North, and their diverse peoples."

With respect to the University's mission and speeches made by the current University administration, the University of Alaska Fairbanks is committed to assisting people in adapting to the new and evolving state and federal legislation. According to the State Department of Labor statistics, employment opportunities have increased throughout rural Alaska. The demand for relevant education within rural Alaska continues to grow as more money is being funneled through the local governments to address local concerns and needs.

3. Occupational Competencies to be achieved:

In accordance with an Individual Educational Plan, student must attain proficiency in specific skills and competencies. The skills and competencies are part of the overall education required to work effectively

in the field of Veterinary science. The educational goals of the veterinary technician track will lead to the ability for the student to sit for the national board exam for veterinary technicians.

4. Relationship of Courses to Program Objectives:

Courses directly serve program objectives by:

- a) Providing opportunity to practice skills required to work in veterinary science fields.
- b) Providing culturally sensitive learning techniques and ethics.
- c) Using a delivery format designed to accommodate rural locations.
- d) Making extensive use of statewide and regional Alaskan Native resources.

III. PERSONNEL DIRECTLY INVOLVED WITH PROGRAM

A. FACULTY INVOLVED

Susan Andrews, Professor, ENGL/JB, Chukchi
Judy Atkinson, Assistant Professor, MATH, Rural College
Jodi Bailey, Instructor, ITS, Interior-Aleutians Campus
Jennifer Carroll, USDA Drum Beat Program Manager, Interior-Aleutians Campus
Jerah Chadwick, Professor, ENGL, Interior-Aleutians Campus
John Creed, Professor, ENGL/JB, Chukchi
Carol Lee Gho, Assistant Professor, MATH, Interior-Aleutians Campus
George Guthridge, Professor, ENGL, Bristol Bay Campus
Michael Hannigan, Associate Professor, SWK, Northwest Campus
Patricia Harding, Assistant Professor, SWK, Chukchi Campus
Ronald Illingworth, Professor, ENGL, Interior-Aleutians Campus
Sarah Love, Assistant Professor, VTS, Interior-Aleutians Campus
Martin Leonard, Assistant Professor, ITS, Kuskokwim Campus
Julie Maier, Assistant Professor, SCI, Interior-Aleutians Campus
G. Joe Mason, Associate Professor, ENGL, Northwest Council
Zeina Nehme, Assistant Professor, MATH, Northwest Campus
Roger Nelson Rothschild, Assistant Prof, CHEM, Kuskokwim Campus
Brian Rasley, Assistant Professor, CHEM, Bristol Bay Campus
Sidney Stephens, Assistant Professor, SCI, Interior-Aleutians Campus
Victor Zinger, Assistant Professor, MATH, Bristol Bay Campus

B. ADMINISTRATIVE AND COORDINATING PERSONNEL

1. Clara Johnson, Director, Interior-Aleutians Campus, College of Rural and Community Development.
2. Sarah Love, DVM, Program Development Coordinator, Interior-Aleutians Campus, College of Rural and Community Development.
3. Lou Brown, USDA Drum Beats Program Manager, Interior-Aleutians Campus, College of Rural and Community Development.

C. CLASSIFIED PERSONNEL

1. 50% part-time administrative assistant is available to this program and is funded by USDA Higher Education Grant, Drum Beats place appropriate careers for Alaska Native Students until 2010.
2. Staff support from the Interior-Aleutians Campus is available to the program as needed.

3. Adjunct faculty will be recruited for teaching and future course development purposes.

IV. ENROLLMENT INFORMATION

A. PROJECTED ENROLLMENT

	Full-time		Part-time	
	Grant funded	Other	Grant funded	Other
Year 1	3	0	17	6
Year 2	6	1	34	12
Full Implementation	6	1	34	12

This program will be able to serve 30 full-time equivalent students per year. However, most students are expected to enroll part-time and enrollment projections reflect this. There is currently funding for 20 students per year with USDA grant funds (guaranteed through 2008, expected to continue through at least 2010). The additional students will be self-supporting or supported by other financial aid opportunities. Enrollment numbers to date (see below) indicate that students will be willing to contribute their own resources or find additional funding to join the program.

Of the 126 students who have enrolled in VTS trial courses since Spring 2006 (these courses were offered earlier under the SCIA designator, but these students have not been included) the average age is 32 years and the percentage of male students is 40%. The percentage of Alaska Native students is 58%. Thirty-three percent (42 students) of the students have taken more than one course. Of the total number of students, 33 % were funded by the USDA grant. The majority of students were self-funded.

Both cultural and economic relevance are important for any educational program to succeed and these are particularly important issues to rural students. Programs that address the unique cultural and lifestyle issues of rural Alaska as well as address the unique economic conditions of rural Alaska are shown to be successful in attracting rural students. The VTS program is such a program. Information gathered through a survey conducted in spring 2005 shows a high interest in a Veterinary Science program in the I-AC and Chukchi regions.

The rural campuses of UAF have a very different student demographic profile than the main campus (all statistics are based on Fall 2005 data taken from the UA Review unless otherwise noted). While most students at the main UAF campus go directly into baccalaureate programs, rural students start with a certificate, then an Associate's degree and then a Bachelor's degree. The average age of rural campus students is 35.6 years compared to 25 years at the UAF main campus. Fifty-seven percent of the rural campus students are Alaska Native (Chukchi campus has the highest percentage at 74% Alaska Native) compared to 10% at the UAF main campus. Only 29% of rural campus students are male, compared to 46% at the UAF main campus. Enrollment management based on this information means providing degrees that serve and attract rural students and address these imbalances.

The VTS Certificate will attract a broad spectrum of rural students including students looking for employment in veterinary sciences and students interested in expanding their life-skills to meet personal and village needs with or without formal employment. The high relevance of the program to rural lifestyles will make the VTS program a conduit through which rural students can enter the education pipeline leading to higher level degrees. The VTS program has also been shown to be highly attractive to younger students,

addressing the age disparity currently seen between rural and urban students. The 2005 survey identified 110 interested college age students (of these, 52 are Alaskan Native students) and 146 junior and high school age students (of these, 112 are Alaskan Native students). Finally, the VTS program is attractive to male students, addressing the gender gap that is most prevalent in rural Alaskan higher education.

B. MINIMUM ENROLLMENTS NEEDED

The minimum enrollment to maintain the program is 20 students per year.

C. MAXIMUM ENROLLMENTS

The maximum enrollment in the program is 30 full-time equivalent students per year. As more faculty resources become available more students will be admitted. It is our experience that within 2 to 3 years additional adjuncts will be identified and will contribute to the teaching capacity of the program. This has been the case within the Tribal Management, Construction Trades Technology, Rural Human Services and Educator Paraprofessional Programs at I-AC. Additionally, an enrollment cap is required for eventual AVMA certification of a future proposed veterinary technician program.

If the program is expanded to other units within the University, formal agreements between I-AC and Chukchi Campuses and the new offering campus will address issues such as enrollment limits.

D. SPECIAL RESTRICTIONS

None

V. NEED FOR THE PROGRAM

A. VTS SURVEY (see attachment A)

An onsite survey was conducted in 39 rural villages in the spring of 2005 by Dr. Eric Jayne. These are 39 of the 54 villages served by the Interior-Aleutians and Chukchi campuses and span an area from Northway to Kotzebue, Alaska. The survey queried local people about 1) support for this program, 2) the names of potential students, 3) the number of veterinary visits per year, 4) presence of a trained, licensed veterinarian or veterinary technician, 5) potential for employment of a VTS graduate locally, 6) status of current rabies education and lay vaccination, 7) wildlife disease issues, 8) level of interest in dog mushing in the community, 9) interest in domestic farming, and 10) interest in reindeer, bison or musk ox husbandry. The survey demonstrated a substantial need, interest and support for the VTS program. Over 1000 people were queried (1100 actual). Of these only one person was opposed to the program.

Of the towns and villages surveyed only one has a resident veterinarian (Cantwell). Ten villages had a veterinarian visit 4-6 times per year and the remainder had a veterinary visit of 1-2 times per year, at the time the survey was completed. To our knowledge, currently no veterinary services are available to many of these villages. A person trained in veterinary sciences could enhance the preventative and emergency care available in these areas.

The survey also shows that the majority of villages have public health and wildlife disease concerns. The public health concerns include rabies education and vaccination (30 villages) and zoonotic diseases (35 villages).

The potential and desire for domestic, bison, reindeer and musk ox farming exists in 18 surveyed villages. At the root of success for programs such as this is the ability to deal with animal nutrition, diseases and

husbandry issues. A trained veterinary science individual could contribute to this need. Furthermore, dog mushing is becoming more popular in a majority of the villages (28 villages). Dogs are used increasingly for travel, trap lines, hauling, recreation and racing and have a strong cultural element. Several people noted they would be interested in taking the courses in order to better care for their own dogs.

B. ARTICULATION WITH OTHER DEGREES

The VTS certificate articulates directly with the proposed Associate of Science degree and may eventually lead to a Bachelor of Science, Masters or Doctorate degree if the upper level math and science courses are taken. It can also be an educational stepping stone towards a degree in veterinary medicine (Doctorate of Veterinary Medicine). The VTS certificate requirements will fulfill 18 of the proposed general Associate of Science degree requirements.

C. EMPLOYMENT MARKET NEEDS

Currently, there are 108 licensed veterinary technicians (VT) for the 264 licensed veterinarians in the state. Of the licensed veterinarians, fewer than 10 practice in rural areas resulting in a critical shortage in veterinary care throughout rural Alaska. This shortage of rural veterinary care holds true nationwide.

The survey identified a local employment potential of several jobs in the 39 villages surveyed. These jobs include veterinary services, tribal resource management, wildlife disease inspection, fish and game personnel and public health needs. In addition, outside employment (non-village) may be available for trained veterinary services, medical illustrator, or public health worker. The skills obtained in the VTS program will be highly portable and provide rural residents who participate in the program with skills that can easily be utilized in urban areas. In addition, there is potential for farm animal, equine, bison, reindeer, and musk ox husbandry careers. Several villages (Stevens Village, Fort Yukon and Beaver) have already investigated and are developing the potential of private bison herds, suggesting that this is an area of interest and growth in rural Alaska.

Rural Alaskan villages have a very different economic profile than urban Alaska. While employment in the larger "hub" villages expands, smaller villages continue to have limited wage employment opportunities. Thus, while employment and industry needs are important to the continued success of the VTS program, wage employment cannot be the only criteria used to justify the program. Veterinary sciences fits with the rural Alaskan and Alaska Native lifestyle and is already a part of many rural people's life-skills. The desire to expand and formalize these skills for personal and community betterment also contributes to the demand for this program.

Although it is expected that, through the development of the Associate's of Science and the Veterinary Technician track employment opportunities will be available, particularly in urban areas, the Certificate program can sustain itself without significant employment opportunities. Thirty of the 39 villages surveyed in the Chukchi and Interior-Aleutians Campus regions reported dog mushing as an important activity and we expect this interest to continue along with the need for expanded skills in veterinary care. In addition, 50% of the 126 students who have taken Veterinary Science classes to date are age 25 or under, indicating a strong interest by younger students.

Rural Alaskans and Alaska Natives have a long and storied history in dog mushing, both for economics and entertainment. This interest is on the rise. Thirty-one of the 39 villages surveyed have active dog mushers. The continuation of this history is very important for Alaska Native culture because it services as a bridge

between the past and the future. Alaska Native dog mushers are role models to younger generations, encouraging them to strive for excellence in whatever they do. Dog mushing also plays an important part in the subsistence economy of rural Alaska. The use of dog teams for trap lines, wood, water and travel is increasing and should be expected to rise as the price of fuel goes up. Below is a narrative by Annette Freiburger, a Native Alaskan raised with dogs as a significant aspect in her life.

My mother was Effie Kokrine, my father was Andrew Kokrine. They were both champion dog mushers back in the 1940's and 1950's. They moved to Fairbanks from Tanana in 1949. They always had a team of dogs in the yard. Their dog team was their only means of transportation in the winter when they lived on the river. They depended heavily on their dogs, and took as good care of the dogs as they could.

My father ran the mail run from Tanana to Wiseman when he was a young man. He said that they had to feed the dogs really heavy, with fish and tallow, when they were on the trail because the dogs worked so hard.

Mushers fed their dogs fish, meat scraps, and oatmeal, if they had some. If they were at home, and not out on the trail, they would cook for their dogs, using water. That was the only water the dogs normally got in the winter. People did water their dogs in the summer when it was warmer.

It wasn't until Doc Lombard started racing dogs in Alaska that mushers started learning how to take better care of their dogs. Doc Lombard was a veterinarian who started competing in the North American Championship in the 1950's. He won many races and had a good strong team. He started teaching other mushers how to take care of their dogs, vaccinating them regularly, the importance of watering the dogs regularly, and about balanced diets. A lot of what Doc Lombard taught the mushers was new information to them. People did not used to have regular veterinary care for their teams. Mom had to stitch dogs up when they suffered a cut or got torn up in a dog fight. If they were too badly hurt they had no alternative but to put the dog down.

My mother and father loved their dogs, they loved running their dog teams. Every time there was a full moon, my mother would long for the days that she used to run dogs on the river at night under a full moon. She kept two dogs in her yard in Graehl, here in Fairbanks, and used to hook them up to a sled and take a ride down the slough onto the Chena River until she was in her late 70's. She had to stop when the City built a new road and blocked access to the river. She still ran dogs in fun races at the Jeff Studdard Race Track until she passed away at age 82.

Annette Freiburger, Coordinator, Nenana Center

While this program is currently in development involving the only Interior-Aleutians and Chukchi campuses, it is our intention to respond to the needs of other areas of Alaska who may be interested in strengthening veterinary science education. As additional resources become available, the VTS program could expand to other parts of the state. A good example of a similar program expansion is the Rural Human Services program which was designed to meet rural workforce needs. This program has been in existence for 15 years and is now successfully being offered at all the CRCDC campuses and in Anchorage.

VI. RESOURCE IMPACT

A. BUDGET (see Attachment B)

Program development and initial VT faculty salary is supported by the United States Department of Agriculture Alaska Native/ Native Hawaiian (AN/NH) Serving Institutions Education grants program. This project addresses the USDA goal of increasing the number of AN/NHs engaged in USDA careers. These careers include, among others, Veterinary Medicine/Science and increasing the number of students entering Associates of Sciences programs that articulate into Bachelor and Masters of Science.

Because USDA's interest is, ultimately, in bringing more AN/NHs into USDA careers at the bachelors and masters level, the above mentioned grant will fund the current effort until at least 2011. We expect funding to continue beyond that point, but also have a plan to utilize existing resources, partnerships, and expanded tuition dollars from the program to make it self-sustaining. Funding for AN/NH serving institutions is unique in that it is more similar to long term tribal college funding and other minority serving institution funding, and distinct from short term competitive grants. USDA support currently stands at one full-time Veterinary Science faculty member to teach and develop the program plus funding for a total of 20 Alaska Native students to complete the VTS certificate program within approximately three years. I-AC English faculty will dedicate 10% time to development of the Associates contributing a total of \$11,255 in Fund 1 dollars. Another \$36,332 in salaries and benefits will come from the same program for support staff (program assistant, web technician and media technician in addition to 5% of time dedicated by Clara Johnson, Director of the Interior-Aleutians Campus in the role of co-PI on the project.

The VTS program will be available to University campuses throughout the state. I-AC and Chukchi Campuses will enter into agreements (MAUs, MOAs, or Academic Service Agreements) with these units. This will greatly expand the tuition base as it is expected that this program will be highly desirable in urban areas as well as rural areas of the state. In addition, a new Alaska statute which requires that all veterinary technicians seeking a license in the state will need to complete an approved veterinary technician program will create a financially viable program as increased tuition and fees subsidize costs of course delivery.

Sources of tuition would be the USDA grant, village or Native Corporations and tribal organizations, UAF Financial Aid or the students directly. I-AC and Chukchi Campuses have numerous partnerships with village entities to support students through their rural based programs. Village entities provide support through direct student aid and funding for course delivery as well as in-kind services such as space to hold classes. These partnerships have sustained many rural programs (Rural Human Services, Tribal Management, and Construction Trades, for example) and will do the same for the VTS program. I-AC and Chukchi Campuses are committed to continuing and expanding these partnerships.

In addition, I-AC and Chukchi Campuses are currently self-funding important science based courses, including faculty and labs, because of the great need for science based education in rural Alaska. The VTS program is a part of this effort and I-AC and Chukchi Campus will continue to commit existing and new resources to expanding quality, place-appropriate science education to rural students.

As regards tuition income from the Veterinary Science program, if 30 students complete the 38 credit program, a total of 1140 credit hours will be generated (over the 2-5 years expected to complete the program). At an estimated \$120 per credit hour, the program will generate \$136,800 in tuition income.

Students wishing to obtain the additional state certification as a Veterinary Technician mentioned above will be required to complete additional courses. Assuming that out of the original 30 students 25% decide to complete the additional training, tuition for 8 students would contribute another \$22,080 based on a required 23 additional credits.

FACILITIES/SPACE NEEDS

Office and classroom space will be provided by existing University rural campuses and regional nonprofit training centers throughout Alaska. Some of the rural communities with available facilities include Galena, Fort Yukon, and Kotzebue. In villages without a University facility, training space can be found in the private sector and reasonably supported by tuition fees and veterinary grants (e.g. DJ & T Foundation). The goal will be to provide a working veterinary clinic space in Kotzebue, Galena, Fort Yukon, McGrath and Fairbanks. The Kotzebue, Galena and Fort Yukon facilities will be on UAF property or in Vocational centers. The McGrath site will be a donated private clinic location. In the Fairbanks area local veterinarians have offered their clinics for internships and training. Science facilities are available at UAF Fairbanks and will be available soon in Fort Yukon. Local high schools in Kotzebue, Galena and McGrath have offered science room space for pertinent science labs.

B. CREDIT HOUR PRODUCTION

The program will provide an increase in credit hours for the University and will draw new students from an untapped pool by providing culturally relevant and skills-based education. Based on a maximum enrollment projection of 30 students per year at the I-AC and Chukchi Campuses, the VTS and related tracks could generate possibly up to 450 credit hours per year, obviously dependent on the number of courses each student is enrolled. Each additional campus that chooses to offer the program would increase these numbers.

C. FACULTY

The faculty required are a licensed veterinarian and a licensed veterinary technician. These are required by the AVMA for accreditation. Currently there is a full time licensed veterinarian on staff, Sarah Love, DVM. A full time veterinary technician will not be necessary until the program reaches maturity in 2008. In addition various additional adjunct professors will be hired for VTS courses as they are delivered.

D. LIBRARY IMPACT

Most of the information for this program has been created and developed by participating UAF programs and regional nonprofit organizations. The impact on library resources will be limited to Internet based resources with information transmission and book mailing done by library staff.

As the University continues to upgrade its capacity to address the growing need for adequate education in rural Alaska, specifically with regard to the distance delivery process and audio equipment, the Veterinary Science Program will be made readily available to more students.

VII. RELATION OF PROGRAM TO OTHER UNIVERSITY PROGRAMS

A. EFFECTS OF ENROLLMENT ELSEWHERE IN THE SYSTEM

This program has the potential of positively impacting student enrollment in other programs within the University of Alaska system. A majority of the currently targeted I-AC and Chukchi students are non-traditional students who are not otherwise enrolled in University programs or courses or recent graduates from rural high schools. The VTS Certificate will provide a pathway for rural students to enter other science based programs that they would otherwise not attempt.

This Certificate program does provide entry access to the proposed AS degree, which for some students will lead to further academic education in a bachelors and masters programs such as those offered by the University of Alaska Fairbanks Rural Development Department. It is anticipated the VTS program will draw students into the pre-veterinary program and a career in veterinary medicine.

In working with vertebrate animals, approval is necessary from the Institutional Animal Care and Use Committee, which is within the UAF Office of Research Integrity. A request for animal use for any course is submitted prior to each course and is completed on a course by course basis, based on the UAF Animal Care and Use Research/Academic Policy Number 04-003. The director of the Office of Research Integrity, Dr. John Blake, has assured his office's ability to work with any course instructor or principle investigator to ensure that animal use is conducted in a humane, ethical manner.

B. DUPLICATION/APPROXIMATION OF OTHER UNIVERSITY PROGRAMS

There is no duplication or approximation of other programs at UAF. At present, there is no certificate or Associate program designed specifically to serve the Veterinary Science needs of rural or urban Alaska.

C. RELATION TO RESEARCH AND SERVICE ACTIVITIES

1. Research

Research is not a primary focus of this program. However, it is a unique model that may allow for research opportunities in the future. This program will produce information on student outcomes assessments, new academic programs, high-tech distance teaching methods and additional information relating to workforce and skill development in rural Alaska.

2. Service

The Veterinary Science program is part of a comprehensive plan to spread academic education throughout the state and in several rural communities. The program will provide a much needed and sought-after service to rural Alaska's tribal and local government, fish and game, public health and private veterinary workforce.

VIII. IMPLEMENTATION/TERMINATION

A. DATE

The program is expected to be in the University of Alaska Fairbanks catalog and available in the fall semester of 2007. Several of the courses were piloted between Fall 2005 and Spring 2007.

B. PLANS FOR RECRUITING STUDENTS

The promotion for this new program throughout the state will be done in cooperation with local and tribal governments, regional for-profit and nonprofit Native corporations, rural University campuses and centers, tribal colleges, licensed veterinarians and rural high schools. Upon approval, the Interior-Aleutians Campus is prepared to market the program with brochures, a website, and other conventional methods of student recruitment.

Preliminary marketing and research of the idea for the program shows a good deal of interest in this program. Therefore it should be noted that the market is already preparing to take advantage of the coursework and the process for accreditation for tribal management skill development.

C. TERMINATION DATE

This is an ongoing program with no termination date.

D. PLANS FOR PHASING OUT PROGRAM IF UNSUCCESSFUL

As this program does not involve new equipment or other major program investment, the phasing out process should only involve the assurance of program completion by existing students.

If it becomes necessary to close the program, Veterinary Science program students will be provided the opportunity to complete the University requirements for the Certificate.

E. ASSESSMENT OF THE PROGRAM

The program will be assessed through ongoing student and faculty evaluation. The Career Portfolios created by the VTS students will also be used to analyze and evaluate the program content and course offerings. The Council of Advisors, Interior-Aleutians Campus, AVMA as well as other rural campus staff will review the program courses annually.

F. PROGRAM MANAGEMENT

This program will be incorporated within the normal academic structure of CRCD and will be assigned to the Math & Sciences Division. Academic program oversight and program coordination will be housed at the Interior-Aleutians Campus (I-AC) which has identified one faculty as Program Manager. They will provide the necessary staff support as well.

The Program Manager will be responsible for:

- oversight and coordination of the CRCD-wide program including cross-campus communication,
- student advising, support, and recruiting,
- program advertising and marketing both internally and externally,
- course scheduling and content consistency,
- instructor review and approval,
- credit for prior learning evaluation (CPL),
- petition and waiver review and approval

- continual review of both human and fiscal resource sufficiency to ensure that necessary faculty and student support is available to meet program growth
- coordination of on-going internal management, evaluation, and revision

Additionally, each CRCD campus will:

- provide advising and other support as needed from their in-house student support functions and from existing faculty
- hire adjunct instructors using the existing CRCD and university approved policy

IX. REGENTS GUIDELINES

The Interior-Aleutians Campus, College of Rural and Community Development, University of Alaska Fairbanks, requests approval of a Veterinary Science Certificate Program to be implemented in Fall Semester, 2007.

Through courses delivered locally in the home communities of our students, the Veterinary Science Program will build the capacity of local governments in rural Alaskan villages to take control of assets and resources for economic enhancement.

In line with the mission of Interior-Aleutians Campus, the VTS program will provide educational opportunities for students throughout the state without requiring them to change or leave their culture or heritage. The Interior-Aleutians Campus is committed to educating Alaska Natives and rural residents, assisting them to affect social changes in their communities, thereby enriching the quality of their lives and cultures. Particular consideration is given to the needs of permanent residents and students in non-traditional settings who seek skills and degrees suited to the rural economy and to the well being of rural communities.

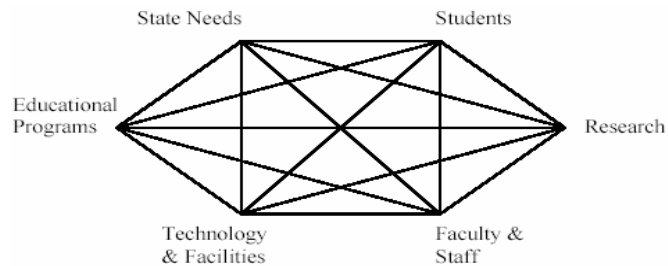
University of Alaska Board of Regents

Program Approval Summary Form

MAU: UAF

Title: Veterinary Science Program

Target admission date: Fall 2007



How does the program relate to the **Education** mission of the University of Alaska and the MAU?

This program arose from the surveyed interests of villages served by the I-AC and Chukchi Campus. This survey demonstrated a high need and interest for veterinary science training to deal with issues related to animal care, public health, wildlife diseases, bison, reindeer and musk ox husbandry. Its implementation has been promoted by several veterinarians who serve rural Alaska and are familiar with its immediate needs.

This program was developed with consultation of the American Veterinary Medical Association(AVMA), area veterinarians, tribal governments, rural dog mushers, rural bison producers, and pet owners.

This program will encourage rural students to enter science higher education. Veterinary science is an area of high interest and one that has immediate applicability. This will provide a learning path for rural, primarily Native students who are interested in science. The program will also encourage students who wish to pursue pre-veterinary undergraduate work

What **State Needs** are met by this program.

This program will meet state needs in both rural and urban Alaska, although current delivery is focused on rural Alaska.

Rural employment is not the focus of the Certificate program, although the program will be applicable to some rural job opportunities. Rural Alaska has an almost nonexistent level of veterinary care. This program would provide trained individuals who could deal with animal health issues in rural Alaska.

Alaska is one of only eight states that does not have a veterinary science/ technology program. There also is a shortage of state licensed vet techs (108 total), especially in rural areas (4% of total).

Veterinary science also has applications in public health (rabies and other zoonotic diseases, wildlife diseases and large animal husbandry). All of these areas are in dire need of educated staff people working for local and tribal governments to deal with related issues.

This program may be expanded to urban Alaska through agreements with urban branches of the UA system. After 2010 the state will require that a vet tech graduate from an AVMA certified school. The VTS program will meet AVMA standards whether delivered in a rural or an urban setting.

What are the **Student** opportunities and outcomes? Enrollment projections?

Graduating students could find employment as a veterinary technician, tribal resource manager, wildlife disease technician or researcher, public health worker or in large animal husbandry (including bison, reindeer or musk ox). Some students will go on into further education in veterinary medicine or related areas.

There will be an initial enrollment cap of 30 full-time equivalent students per year. The high interest in this as shown by survey of 39 villages suggest there may be an excess of applying students vs. spots. Nationwide this excess also exists.

	Full-time		Part-time	
	Grant funded	Other	Grant funded	Other
Year 1	3	0	17	6
Year 2	6	1	34	12
Full Implementation	6	1	34	12

Describe **Research** opportunities:

Although research experience is not a required part of the program, Veterinary Science students may participate in research projects focused on wildlife diseases, zoonotic diseases, sled dog issues, bison, reindeer and musk ox projects and public health research.

Describe Fiscal Plan for development and implementation:

Initially, the program is funded by a USDA grant through 2008. It is expected that this funding will continue through at least 2010 based on previous experience with USDA. This grant provides staff costs for program development and piloting for 20 students from the I-AC and Chukchi College. The remaining 10 students would pay undergraduate UAF tuition. Tuition, facility and travel costs are also provided by this grant.

The Interior-Aleutians and Chukchi Campuses are committed to funding the program should grant funds cease unexpectedly. It is anticipated that full enrollment and course development will be completed within five years. Sufficient tuition income to support a full time licensed veterinarian and veterinary technician would be supplied by a combination of the USDA grant, I-AC and tuition. An administrative assistant will also be sufficiently funded. Adjuncts will be financially available as well. Facilities will be located in rural areas as necessary. These areas are already located and have been offered at no cost.

ATTACHMENTS

- Attachment A – Veterinarian Science Program Survey
- Attachment B – Resource Commitment to Proposed Degree Program
- Attachment C – Student Learning Outcomes Assessment Plan

Attachment A

Veterinary Science Program survey results

Spring 2005, Eric Jayne, DVM

Town	% support of Vet Science program.	Number of interested students. Gender percentages. (1)	Resident vet or vet technician.	Veterinary visits per year.	Untrained/ unlicensed veterinary technician. (2)	Need for rabies and zoonotic disease education.	Wildlife disease issues.(3)	Bison/ Reindeer/ Musk ox. (4)	Domestic farm animal and equine. (5)	Dog mushing	Potential Veterinary Science jobs. (6)
<i>Chukchi campus</i>											
Kotzebue	99%	30-35 68% female	None	4-6	Yes	Yes	Pinniped, Fish, Caribou	Reindeer/ musk ox potential	Some equine present	Yes	2-10
Kiana	100%	1 100% female	None	1-2	Yes	Yes	Fish, Caribou	Reindeer/ musk ox potential	None	No	1-2
Noorvik	100%	1 100% male	None	1-2	No	Yes	Fish, Caribou	Reindeer/ musk ox potential	None	Yes	1-2
Ambler	100%	6-8 86% female	None	1-2	Yes	Yes	Fish, Caribou	Reindeer/ musk ox potential	Potential	Yes	1-2
Kobuk	100%	3-6 66% female	None	1-2	Yes	Yes	Fish, Caribou	Reindeer/ musk ox potential	None	Yes	1-2
Buckland	100%	1-3 100% female	None	1-2	No	Yes	Pinniped, Fish, Caribou	Reindeer/ musk ox potential	None	Yes	1-2
Selawik	100%	1-5 50% male	None	1	No	Yes	Pinniped	No	None	Yes	1

COLLEGE OF RURAL AND COMMUNITY DEVELOPMENT
VETERINARY SCIENCE

INTERIOR-ALEUTIANS CAMPUS
CERTIFICATE PROPOSAL FY2006

Town	% support of Vet Science program.	Number of interested students. Gender percentages. (1)	Resident vet or vet technician.	Veterinary visits per year.	Untrained/ unlicensed veterinary technician. (2)	Need for rabies and zoonotic disease education.	Wildlife disease issues. (3)	Bison/ reindeer/ musk ox. (4)	Domestic farm animal and equine. (5)	Dog mushing	Potential Veterinary Science jobs. (6)
<i>Interior-Aleutians Campus</i>											
Anderson	100 %	10-15 48% male	None	4	None	No	None	Bison/ reindeer/ musk ox potential	Farm animal and equine present	Yes	2-4
Cantwell	100%	3-6 100% female	Yes	NA	Yes	No	None	No	Farm animal and equine present	Yes	1-2
Denali Park	100%	15-20 57% female	Yes (Cantwell)	6	Yes	No	None	No	Equine present	Yes	1-2
Town	% support of Vet Science program.	Number of interested students. Gender percentages. (1)	Resident vet or vet technician.	Veterinary visits per year.	Untrained/ unlicensed veterinary technician. (2)	Need for rabies and zoonotic disease education.	Wildlife disease issues. (3)	Bison/ reindeer/ musk ox. (4)	Domestic farm animal and equine. (5)	Dog mushing	Potential Veterinary Science jobs. (6)
Healy	100%	15-20 71% female	Yes (Cantwell)	6	Yes	No	None	No	Equine present	Yes	1-2
Livengood	100%	1-5 84% male	None	2	Yes	No	Moose, trapping	No	Farm animal and equine present	Yes	1
Manley	100%	1-5 50% male	None	2	Yes	No	Fish, moose, trapping	Bison present.	Farm animal and equine present	Yes	1
Minto	100%	1-5 66% male	None	1	Yes	Yes	Fish, moose	Bison potential	None	Yes	1

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VETERINARY SCIENCE

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Nenana	100%	10-15 60% female	None	6	Yes	Yes	Fish, moose	Reindeer present. Bison present. Musk ox potential	Farm animal and equine present	Yes	2
Rampart	100%	0	None	1	No	Yes	Fish	No	None	No	0
Tanana	100 %	0	None	1	Yes	No	Fish, moose, trapping	Bison, musk ox potential.	None	Yes	1-2
Alcan	100%	1 100% female	None	2	No	Yes	Wildlife import diseases	No	None	No	1
Chicken	100%	2 100% female	None	1	Yes	No	None	No	Farm animal and equine present	No	0
Dot Lake	100%	1 100% female	None	1	Yes	Yes	None	Bison, musk ox potential.	Farm animal and equine present	No	0
Eagle	100%	6-8 50% male	None	4	Yes	No	Fish, moose, trapping	No	Farm animal and equine present	Yes	1-2

COLLEGE OF RURAL AND COMMUNITY DEVELOPMENT
VETERINARY SCIENCE

INTERIOR-ALEUTIANS CAMPUS
CERTIFICATE PROPOSAL FY2006

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Northway	100%	5-9 79% female	None	2	Yes	Yes	Fish, moose, caribou	None	Equine present.	Yes	1
Tok	100%	15-23 58% female	None	6	Yes	No	None	Bison, musk ox potential	Farm animal and equine present	Yes	2
McGrath	100%	8-12 50% male	None	2	Yes	No	None	No	Farm animals present	Yes	1-2
Allakaket	100%	1-5 100% male	None	1	No	Yes	Moose, caribou	No	None	Yes	1
Bettles/ Cold foot	100%	5-7 50% male	None	1	Yes	No	Moose, caribou, trapping, dall sheep	No	Seasonal equine present	Yes	1
Galena	100%	10-12 50% male	None	4	Yes	No	None	No	None	Yes	1-2
Huslia	100%	1-5 60% male	None	2	Yes	Yes	None	No	None	Yes	1
Koyukuk	100%	1 100% male	None	1	No	Yes	Fish	No	None	Yes	0
Ruby	100%	1-5 50% male	None	1	No	Yes	Moose, fish	Bison, musk ox potential	None	Yes	1
Nulato	100%	1-5 50% male	None	1	Yes	No	Moose, fish, trapping	No	None	Yes	1

COLLEGE OF RURAL AND COMMUNITY DEVELOPMENT
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Arctic Village	100%	1 100% female	None	1	No	Yes	Caribou, dall sheep	No	None	No	1
Beaver	100%	0	None	1	No	Yes	Moose, fish	Bison	None	No	0
Central/ Circle	100%	2 100 % female	None	4-6	No	No	Moose, caribou, trapping	Bison, musk ox, reindeer potential.	Farm animal and equine present	Yes	1-2
Town	% support of Vet Science program.	Number of interested students. Gender percentages. (1)	Resident vet or vet technician.	Veterinary visits per year.	Untrained/ unlicensed veterinary technician. (2)	Need for rabies and zoonotic disease education.	Wildlife disease issues. (3)	Bison/ reindeer/ musk ox. (4)	Domestic farm animal and equine. (5)	Dog mushing	Potential Veterinary Science jobs. (6)
Chalkyitsik	100%	1 100% female	None	2	No	Yes	Moose, trapping	Bison	None	Yes	1
Fort Yukon	100%	8-12 90% female	None	4	Yes	No	Moose, fish	Bison potential	None	Yes	1-2
Stevens Village	100%	1 100% female	None	1	No	Yes	Moose, fish	Bison potential	None	Yes	1
Venetie	100%	1-5 66% female	None	1	No	Yes	Caribou, moose, fish	No	None	Yes	1

(1) Gender percentages reported as (Min. gender # + Max gender #)/ 2 divided by (Min. total # + Max total #)/2

(2) Untrained/ unlicensed veterinary technician is a lay person who has a minimum of veterinary science knowledge and is able to help local people with animal emergencies and animal health issues.

- (3) Wildlife disease issues determined by survey question. If > 5 persons in the pertaining village identified a species problem, this species was then included. Typical issues were unthrifty animals, low reproduction rates, parasites, toxin contamination.
- (4) Bison, reindeer, musk ox potential determined by survey question. If >1 person identified interest, the pertinent animal was included as a potential.
- (5) Domestic farm animal/ equine interest determined by survey question. If > 1 person identified interest, the area was included as a potential.
- (6) Potential Veterinary Science employment determined by considering pet animal numbers, tribal issues (such as public health and resource management), fish and wildlife issues. Numbers supported by survey question: "Do you think your village could support x number of veterinary science trained persons?"

Attachment B

**RESOURCE COMMITMENT TO THE
 PROPOSED DEGREE PROGRAM
 Using FY07 figures**

IAC: Interior-Aleutians Campus, CC: Chukchi Campus

Resources	Existing	New		Total
	College/School	College/School	Others (Specify)	
Regular Faculty (FTE's & dollars including staff benefits)	IAC: 10% English-\$11,255, 30% Biology-\$22,089, 20% Math-\$14,243		100% VTS - \$78,033 (USDA grant)	\$125,620
Adjunct Faculty (FTE's & dollars)	IAC: \$8,184 for 8 credits	IAC : \$3,069 for 3 credits	CC: \$14,448 for 15 credit classes (USDA Grant)	\$25,701
Teaching Assistants (Headcount)	N/A	N/A	N/A	
Instructional Facilities (in dollars and/or sq. footage)	IAC: Yukon Flats Ctr-420 SF, Tok Ctr-780 SF, Harper Bldg- 1,997 SF; CC: 2 class rooms-900 SF total		Intensive/labs to be offered in rural area community halls or schools for free or low-cost.	4,097 SF and an estimated in-kind value: \$10,000
Office Space (Sq. footage)	141 SF-English, 99 SF ea for BIO & VTS, and 103 SF for Math			540 SF
Lab Space (Sq. Footage)	IAC: Yukon Flats ctr-420 SF; CC: 960 SF; Main Campus-Bunnell Bldg labs- 2,000 SF			3,380 SF plus
Computer & Networking (in dollars)	IAC: Use of connectivity, hardware & software		\$5,000 (USDA grant)	Estimated in-kind value: \$7,500
Research/ Instructional/ office Equipment (in dollars)		IAC: to purchase Vet mobile lab & teaching supplies-\$20-25K		\$25,000

Support Staff (FTE's & dollars including staff benefits)	IAC: 10% Fiscal staff-\$7,065, 20% Financial Aid Coordinator- \$13,709 (Title III funds) CC: 30% Student Services Coordinator-\$26,250		50% Program Assistant-\$34,873, 20% Media Technician- \$14,541, 30% Program Manager- \$20,808 (all USDA grant)	\$117,246
Supplies (in dollars)	IAC: \$1,500		\$10,000/yr (USDA grant)	\$11,500
Travel (in dollars)	IAC: \$10,000 For Bio/Chem labs		\$40,000 (USDA grant)	\$50,000

Signature _____ Date _____
 Dean of College/School Proposing New Degree Program

UNIVERSITY OF ALASKA FAIRBANKS
Student Learning Outcomes Assessment
 Veterinary Science Certificate
 June 2007

Expanded Statement of Institutional Purpose	Intended Objectives/Outcomes	Assessment Criteria and Procedures	Implementation (what, when, who)
<p>MISSION STATEMENT: The Veterinary Science (VTS) program provides students with the quality instruction and experiences necessary to meet current life-skill and workforce needs in the veterinary sciences.</p> <p>GOAL STATEMENT:</p> <ol style="list-style-type: none"> 1.) To prepare students to meet basic needs in animal care. 2.) To prepare students for Associate of Science, Veterinary Technician licensure, Baccalaureate of Science or Doctorate of Veterinary Medicine. 3.) To prepare students for employment in Veterinary Science related fields. 	<ol style="list-style-type: none"> 1. Improve student skills and knowledge in animal care based on the following VTS program standards. <ul style="list-style-type: none"> • Well-developed logic and reasoning skills, including critical thinking and problem-solving abilities. • Independent goal-setting and decision-making skills. • Animal handling and husbandry skills. • Interpersonal skills in professional ethics and behavior and teamwork with other veterinary science/medicine workers. 2. Encourage Certificate graduates in Veterinary Science to utilize their certificate as a building block for future education. 3. Improve student employability by providing education related to job skills required in veterinary medicine, animal husbandry, natural resources, and other related fields. 	<ol style="list-style-type: none"> 1. Certificate graduates in Veterinary Science will possess skills and knowledge to perform effective basic animal care. <ul style="list-style-type: none"> • 80% of graduates will express overall satisfaction with skill and knowledge development as a result of the Veterinary Science course of study. 2. Certificate graduates in Veterinary Science will seek further education in veterinary science or related areas. <ul style="list-style-type: none"> • 15% of Certificate graduates will pursue further education through the Associates of Science, Veterinary Technician training, Baccalaureate of Science or Doctorate of 	<ol style="list-style-type: none"> 1. a. Direct assessment of student learning will be made through the review of the Student Career Portfolio by the program head and Student Support Team. <ol style="list-style-type: none"> 1. b. Graduating students will be required to fill out a survey designed to elicit their satisfaction with the Veterinary Science program. The VTS program head will be responsible for conducting and collecting the surveys. 2. Data will be collected to analyze student progress through the Veterinary Science program as well as related academic disciplines. <ul style="list-style-type: none"> • The VTS admin will be responsible for querying Banner for enrollment statistics on program completers. • A bi-annual survey of graduates, their subsequent education and degrees sought and their employment will be conducted. The VTS admin will be responsible

		<p>Veterinary Medicine.</p> <p>3. Certificate graduates in Veterinary Science and their employers will express overall satisfaction with the quality of student coursework and degree.</p> <ul style="list-style-type: none"> • 80% of graduates will express overall satisfaction with skill and knowledge development as a result of the Veterinary Science course of study. • 80% of employers will express overall satisfaction with skill and knowledge development as a result of the Veterinary Science course of study. 	<p>for analysis of results.</p> <p>3. a. Graduating students will be required to fill out a survey designed to elicit their satisfaction with the Veterinary Science program. The VTS program head will be responsible for conducting and collecting the surveys.</p> <p>3. b. Based on information obtained from the student bi-annual survey a survey of employers will also be conducted and analyzed.</p> <p>.</p>
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