ORIGINAL

The following was passed at the May 4, 2009 Faculty Senate Meeting #159:

MOTION:

The UAF Faculty Senate moves to approve a Certificate in Environmental Studies.

EFFECTIVE: Fall 2009 and/or
Upon Board of Regents approval.

RATIONALE: See the full program proposal #9-UNP from the Fall 2008 review cycle on file in the Governance Office, 314 Signers' Hall.

Marsha Sousa 5-4-09
President, UAF Faculty Senate Date

APPROVAL: _____ DATE: _____
Chancellor's Office

DISAPPROVED: _____ DATE: _____
Chancellor's Office

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Overview:

Bristol Bay Campus designs educational opportunities in partnership with regional entities and communities to empower residents and address economic development. The Environmental Studies (ENVI) certificate will not specifically train a student for one career path but will teach the students a universal skill set that will be used for a broad range of careers. These skills obtained by an ENVI certificate holder will then serve as a foundation for any realm of environmental technician work available in their communities. Training local students in these skills will not only give employers an opportunity to hire locally for technician work that is traditionally completed by non-local technicians, but will also support local economic development.

The following Bristol Bay region communities employ two Tribal Environmental Program employees each. There is a correlation between environmental training and employability in those positions within these communities: Aleknagik, Clark's Point, Ekwok, Manokotak, New Stuyahok, Togiak, Levelock, Pilot Point, and Dillingham.

A partnership has developed between the Bristol Bay Native Association Tribal Environment Program and the Bristol Bay Campus' offering of pilot ENVI courses. Twenty-eight villages in the Bristol Bay region have 45 positions available as Environmental Coordinators or Environmental Assistants. Tribal Environment Program employees are encouraged to participate in pilot ENVI courses to broaden their technician skill set and to improve their knowledge of environmental systems and natural resource dynamics.

In Alaska, landscape level changes are taking place due to both climate change and human activities such as mining, oil exploration, toxicology, tourism, and environmental remediation. The Bristol Bay Advisory Committee for this certificate met in 2006 and recommended the development of a program to address community-level environmental issues. Input from the Committee as to specific employment skills needed in technician-level careers in environmental sciences and natural resources were incorporated into all of the ENVI courses. In 2008, the Committee voted on continued support for the development of this educational program.

Employability needs precipitating the development of this program came from analysis of surveys from 2002 to 2005 conducted by CRCD and UAF BBC indicated that there is need in rural Alaska for more graduates in the environmental sciences. Another area of need recognized during this program development was the American Indian/Alaska Native unemployment rate is about three times as high as the unemployment rate for the non-Native population. The National Center for Educational Statistics (NCES) (2003) reports that American Indians/Alaska Natives students were more likely to have dropped out of school than non-Native students and scored lower, on average, than non-Native students on the SAT and the ACT in 2004. It has been the UAF BBC experience that rural Alaskan high school students are even less prepared than urban students for the academic rigor of science at the university level. Thus, responding to these employability and community needs, the UAF BBC's proposed ENVI certificate will work to provide the preparation needed for students to enter into a science-related associate or baccalaureate degree while gaining the basic academic preparation and sought after vocationally related skills necessary for entry-level careers in the environmental studies.

The mission of the ENVI certificate program is to provide students, including Alaska Native and rural students, with quality academic instruction and training responsive to community needs.

This program will help empower graduates and their communities to adapt to the overwhelming social, ecological, and economic changes presently occurring while protecting and enriching local culture.

The ENVI certificate is a 34-36 credit program and is offered through the UAF BBC of the CRCD and will be a stepping-stone for students pursuing a science-related associate or baccalaureate program.

Objectives:

a) Objectives

- To expose the students to a broad-based, environmental studies background.
- To prepare students to address specific community-based environmental issues.
- Learn the basic interdisciplinary skills needed for general laboratory and field-based work in the environmental sciences such as inventorying biota or monitoring a few key water quality indicators.
- To prepare students to advance into a science or policy related Associate or Baccalaureate program or other undergraduate course work in the sciences.
- To prepare students academically and vocationally for entry-level employment in the field of natural resources and environmental science.
- To develop basic academic skills and gain essential knowledge in environmental studies that is integrated with a community-based environmental perspective.
- To introduce students to the established UAF BBC student support system that will provide tutorial, mentorship, and academic support.
- To provide students with the tools necessary for successful employment.
- To introduce students to university science programs that encourages academic development into advanced degrees.
- To promote skill development that integrates wellness, self-sufficiency, and community development.

ENVIRONMENTAL STUDIES (ENVI) CERTIFICATE OUTLINE

1. **Complete the general university requirements**
2. **Complete the following general Certificate requirements** **9 cr**
   a. Communication…..(complete one of the following)..... 3 cr:
      1)... ENGL 111X – Introduction to Academic Writing 3 cr OR
      2) ABUS 170 – Business Writing 3 cr
   b. Computation…….(complete one of the following) ..... 3 cr:
      1) Any course at the 100-level or above in mathematical sciences (computer science, math, or statistics)..... 3 cr OR
      2) DEVM 105 – Intermediate Algebra..... 3 cr
   c. Human Relations……(complete one of the following) ..... 3 cr;
      1) ANTH 100X/SOC 100X – Individual, Society & Culture ..... 3 cr OR
      2) ABUS 154 – Human Relations ..... 3 cr OR
      3) Other program approved discipline-based human relations course or discipline-based with embedded human relation content to total 3 credits
3. **Complete the following ENVI requirements** **22-23 cr**
   a. Science Foundation Courses…(complete one from each of the following) 8 cr;
      1)..BIOL 103X – Biology and Society 4 cr or
      2)..BIOL 104X – Natural History of Alaska 4 cr or
      3)..BIOL 115X – Fundamentals of Biology I 4 cr **
      AND
      4)..CHEM 103X – Basic General Chemistry 4 cr OR
      5)..CHEM 105X – General Chemistry I 4 cr *

      *Course requires placement in ENG 111 and MATH 107X

      **Course requires CHEM 105X as a pre- or co-requisite, and placement in ENG 111 and MATH 107X
   b. Environmental Studies Core Courses…(complete all seven below)..... **14-15** cr;
      1) ENVI 101 – Introduction to Environmental Science ..... 3 cr
      2) ENVI 110 – Introduction to Water Quality I: Measurement ..... 1 cr
      3) ENVI 130 – Introduction to National Environmental Protection Act (NEPA) ..... 1 cr
      4) ENVI 160 – Internship in Environmental Studies..... 1-2 cr
      5) ENVI 260 – Field Techniques for Environmental Technicians ..... 2 cr
      6) ENVI 265 – Introduction to Methods in Environmental Studies Reporting ..... 2 cr
      7) GEOG 211X – Earth Systems: Elements of Physical Geography 4 cr
4. **Complete 3 or 4 credits from the following elective courses** **3-4 cr**
   a. BIOL 104X – Natural History of Alaska..... 4 cr
   b. BIOL 115X – Fundamentals of Biology I..... 4 cr
   c. CHEM 104X – Beginnings in Biochemistry..... 4 cr
   d. CHEM 105X – General Chemistry I..... 4 cr

e. DEVS 100 – Introduction to Science ..... 4 cr
f. FISH 101 – Introduction to Fisheries ..... 3 cr
g. HLRM 130 – Research Field Logistics ..... 2 cr
h. NRM 101 – Natural Resources Conservation and Policy ..... 3 cr
i. RD 250 – Grant Writing for Community Development ..... 1-3 cr
j. STAT 200X – Elementary Probability and Statistics*** ..... 3 cr
k. Advisor Approved Elective**** ..... 1-3 cr

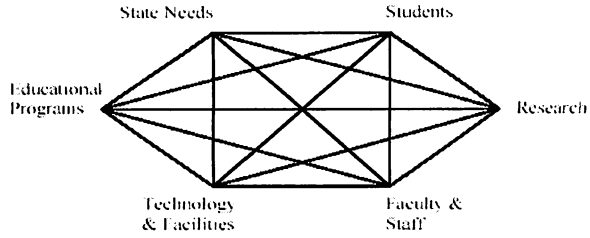
(*** if used for Computational Credit above, cannot be used for elective credit)

(**** of similar level and subject matter to the listed elective courses)

Total ..... minimum of 34 credits, maximum of 59 credits

APPENDIX B Resource Commitment to Proposed Degree Program

Resources	Existing	New		Total
	College/School	College	Others (USDA Grant 50%, Title III 50%)	
Regular Faculty (FTE's & dollars)	CRCD: In excess of 10 additional faculty members per semester will be involved in providing courses which will be used by students in this program. The amount of effort will vary per instructor based on the number of ENVI students in their classes.		Faculty 100% $70,055	$70,055
Adjunct Faculty (FTE's & dollars)				
Teaching Assistants (Headcount)				
Instructional Facilities (in sq. footage)	10 ft x 30 ft = 300 ft^2			
Office Space (Sq. footage)	12 ft x 8 ft = 96 ft^2			
Lab Space (Sq. Footage)	10 ft x 30 ft = 300 ft^2			
Computer & Networking (in dollars)				
Research/instructional/office Equipment (in dollars)	$50,000.00			$50,000
Support Staff (FTE's & dollars)	Environmental Technician @ 50% (1846.4 biweekly) $22710.50		Environmental Technician @ 50% (1846.4 biweekly) $22710.50	$45,421
Supplies (in dollars)			$5,000	$5,000
Travel (in dollars)			$5,000	$5,000
Totals				$175,476



University of Alaska Board of Regents
Program Approval Summary Form
MAU: UAF
Title: Environmental Studies (ENVI) Certificate
Target admission date: Summer 2009

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

The ENVI certificate was created by the UAF BBC, in cooperation with employers and educators, and will not specifically train a student for one career path but will teach the students a universal skill set that will be used for a broad range of careers. Training local students in these skills will not only give employers an opportunity to hire locally for technician work that is traditionally completed by non-local technicians, but will also support local economic development.

This program relates to and supports the Education Mission of the University of Alaska by:

- Serving as a program of higher education for traditional and non-traditional Alaska Native students by using the local resources and traditional knowledge of the region to teach skills and techniques desired by employers without requiring students to change or leave their culture or heritage (UA Strategic Plan 2010, Goal 1 and 2).
- Providing high quality undergraduate education in entry-level coursework, increasing the number of Alaska Native students, and increasing the number of degrees awarded to Alaska Native students with particular consideration given to the needs of permanent residents and students in non-traditional settings who seek skills and degrees suited to rural communities (UA Strategic Plan 2010, Goal 3).
- Collaborating with organizations, state and federal agencies, communities, and governments to meet rural Alaska needs in the field of natural resources (UA Strategic Plan 2010, Goal 4).

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

Upon review of this program, agencies in the Bristol Bay region, as well as statewide, (Dillingham City Council, Bristol Bay Borough, Bristol Bay Native Association, Bristol Bay Economic Development Corporation, Wood-Tikchik Land Trust, Alaska Department of Fish and Game, U.S. Fish and Wildlife Service, and National Park Service), have commented on the need for a skill-based, environmental studies education program for their entry-level positions. Finally, entry into and completion of a subsequent associate or baccalaureate science-related degree will qualify individuals for employment in fields varying from teaching to field research in both rural and urban settings.

State statistics

State statistics from the Department of Labor (http://almis.labor.state.ak.us) substantiate workforce and skill development needs in rural Alaska. The ENVI certificate will either prepare the student to directly enter this workforce or will prepare the student for an associate or baccalaureate degree which will provide entry to these high demand jobs.

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

The mission of the Environmental Studies (ENVI) certificate program is to provide students, including Alaska Native and rural students, with quality academic instruction and training

responsive to community needs. This program will help empower graduates and their communities to adapt to the overwhelming social, ecological, and economic changes presently occurring while protecting and enriching local culture.

Enrollment projections?
Information gathered by UAF BBC through a region-wide survey conducted in Summer 2003 shows a high interest in an ENVI certificate for the potential of skill development relating to job requirements. Piloted courses reached a total of 375 (duplicated headcount) students: 73% of the students enrolled in the pilot classes were Alaska Native and 2% were high school students. Using data gathered in the surveys and the piloted courses as well as observations taken from historical enrollment data (UA in Review and BBC Registration), an approximate enrollment expectation is 8-10 students in AY2010 from the Bristol Bay region and 32 students by 2013.

Describe **Research** opportunities:

Research is a component of this ENVI program. A key student outcome is a directed individual study (capstone project) where the students will design, collect and analyze data, and present results in a scientific format. Stronger collaboration between the scientific community and local entities is an expected result from this program such as the 2008 Western Alaska Interdisciplinary Science Conference in Dillingham.

Describe Fiscal Plan for development and implementation:

ENVI program development and implementation is directly supported by the United States Department of Agriculture (USDA), Cooperative State Research, Education, and Extension Service Alaska Native/Native Hawaiian (CSREES AN/NH) Serving Institutions Higher Education Grants program. This project addresses the USDA goal of increasing the number of AN/NH students engaged in USDA careers. These careers include environmental science, among others. USDA support currently stands at one full-time science faculty member who helped develop the program plus funding for a total of eight Alaska Native students to complete the ENVI certificate within approximately three years.

While the UAF BBC has developed this new program, other fund 1 faculty and staff from all campuses, both urban and rural, will potentially be involved with this program. The program will generate $33,440 per year with a minimum of eight full-time students. As student participation increases, tuition income will increase gradually replacing grant funding.

The primary teaching faculty are already employees of the University. Current faculty are housed within the CRCD as well as Fairbanks-based UAF faculty. Cooperative Extension Service faculty will also participate in development and instruction of some ENVI certificate courses.

CRCD campuses will provide classroom space for ENVI certificate courses. In communities without a local university facility, training space can be found in the private sector and reasonably supported by tuition fees through partnership arrangements. In addition, collaboration with school districts will provide space to teach some university courses. Therefore, through community and school district partnerships, the impact on existing UAF and CRCD technology resources and facilities are limited to existing resources and no new facilities or space will be required.