Revised 9/29/11 CF

38-UNC   FORMAT 1

TRIAL COURSE OR NEW COURSE PROPOSAL

SUBMITTED BY:

Department	Indigenous, Community, & Tribal Programs	**College/School**	**CRCD**
Prepared by	**Steve Becker, CEP**	**Phone**	**907-474-5096**
Email Contact	**srbecker@alaska.edu**	**Faculty Contact**	**Steve Becker, CEP**

1. ACTION DESIRED
(CHECK ONE):   Trial Course [ ]   New Course [X]

2. COURSE IDENTIFICATION: Dept [**TM**]   Course # [**142**]   No. of Credits [**2**]

Justify upper/lower division status & number of credits: Course builds on skills and concepts introduced in TM 141, and introduces concepts of project design and implementation.

3. PROPOSED COURSE TITLE: **Practical GIS Project Design**

4. To be CROSS LISTED?
YES/NO   [**N**]   If yes, Dept: [ ]   Course # [ ]
(Requires approval of both departments and deans involved. Add lines at end of form for such signatures.)

5. To be STACKED?
YES/NO   [**N**]   If yes, Dept. [ ]   Course # [ ]

6. FREQUENCY OF OFFERING: As Demand Warrants
Fall, Spring, Summer (Every, or Even-numbered Years, or Odd-numbered Years) — or As Demand Warrants

7. SEMESTER & YEAR OF FIRST OFFERING (if approved)   **Spring 2012**

8. COURSE FORMAT:
NOTE: Course hours may not be compressed into fewer than three days per credit. Any course compressed into fewer than six weeks must be approved by the college or school's curriculum council. Furthermore, any core course compressed to less than six weeks must be approved by the core review committee.

COURSE FORMAT: (check all that apply)   [ ]1   [X]2   [ ]3   [ ]4   [ ]5   [ ]6 *weeks to full semester*

OTHER FORMAT (specify)   Six contact days consisting of five days of on-site intensive with a final audioconference

Mode of delivery (specify lecture, field trips, labs, etc)   Lecture, including instructor-supervised computer exercises

9. CONTACT HOURS PER WEEK: [**32**] LECTURE hours/weeks   [ ] LAB hours/week   [ ] PRACTICUM hours/week

Note: # of credits are based on contact hours. 800 minutes of lecture=1 credit. 2400 minutes of lab in a science course=1 credit. 1600 minutes in non-science lab=1 credit. 2400-4800 minutes of practicum=1 credit. 2400-8000 minutes of internship=1 credit. This must match with the syllabus. See http://www.uaf.edu/uafgov/faculty/cd/credits.html for more information on number of credits.

OTHER HOURS (specify type)   [ ]

10. COMPLETE CATALOG DESCRIPTION including dept., number, title and credits (50 words or less, if possible):

TM F142 Practical GIS Project Design (2+0) How to design and implement basic Geographic Information Systems (GIS) projects. Class exercises emphasize GIS project planning, data collection, and practical map development to meet common needs for communities in rural Alaska. Prerequisites: TM 141 or permission of instructor.

11. COURSE CLASSIFICATIONS: (undergraduate courses only. Use approved criteria found on Page 10 & 17 of the manual. If justification is needed, attach on separate sheet.)

H = Humanities [   ]   S = Social Sciences [   ]

Will this course be used to fulfill a requirement for the baccalaureate core?	YES [ ]	NO [ ] X

IF YES, check which core requirements it could be used to fulfill:

O = Oral Intensive, Format 6 [   ]   W = Writing Intensive, Format 7 [   ]   Natural Science, Format 8 [   ]

12. COURSE REPEATABILITY:

Is this course repeatable for credit?   YES [   ]   NO [X]

Justification: Indicate why the course can be repeated (for example, the course follows a different theme each time). [   ]

How many times may the course be repeated for credit? [   ] TIMES

If the course can be repeated with variable credit, what is the maximum number of credit hours that may be earned for this course? [   ] CREDITS

13. GRADING SYSTEM: *Specify only one.*

LETTER: [X]   PASS/FAIL: [   ]

RESTRICTIONS ON ENROLLMENT (if any)

14. PREREQUISITES | TM 141 or permission of instructor. |

These will be *required* before the student is allowed to enroll in the course.

15. SPECIAL RESTRICTIONS, CONDITIONS | None |

16. PROPOSED COURSE FEES | $135 |

Has a memo been submitted through your dean to the Provost & VCAS for fee approval?
Yes/No | In Process |

17. PREVIOUS HISTORY

Has the course been offered as special topics or trial course previously?
Yes/No | Y |

If yes, give semester, year, course #, etc.: | Fall 2010, TM 293. Offered in Unalaska and Galena. |

18. ESTIMATED IMPACT

WHAT IMPACT, IF ANY, WILL THIS HAVE ON BUDGET, FACILITIES/SPACE, FACULTY, ETC.

Course would be taught by current TM faculty or approved adjunct instructors. Costs associated with offering the course (instructor travel & shipping of mobile GIS lab) would be recovered through tuition and the proposed course fee.

19. LIBRARY COLLECTIONS

Have you contacted the library collection development officer (kljensen@alaska.edu, 474-6695) with regard to the adequacy of library/media collections, equipment, and services available for the proposed course? If so, give date of contact and resolution. If not, explain why not.

No [X]   Yes [   ] | **In previous consultation, CDO indicated further consultation was not required for courses that do not utilize library resources.** |

20. IMPACTS ON PROGRAMS/DEPTS

What programs/departments will be affected by this proposed action?
Include information on the Programs/Departments contacted (e.g., email, memo)

CRCD Department of Indigenous, Community, and Tribal Programs, Tribal Management Program. Also may be offered to Early College students at the Effie Kokrine Charter School. Course and course content have been coordinated with Dr. Dave Verbyla in the UAF SNRAS Department of Geography, who teaches upper division GIS and remote sensing courses.

21. POSITIVE AND NEGATIVE IMPACTS

Please specify positive and negative impacts on other courses, programs and departments resulting from the proposed action.

Course is likely to increase student enrollment in other Tribal Management courses. By offering this

training in rural Alaska, this and associated courses may encourage additional students to continue GIS training provided by the SNRAS Department of Geography.

JUSTIFICATION FOR ACTION REQUESTED

The purpose of the department and campus-wide curriculum committees is to scrutinize course change and new course applications to make sure that the quality of UAF education is not lowered as a result of the proposed change. Please address this in your response. This section needs to be self-explanatory. Use as much space as needed to fully justify the proposed course.

Introductory training in Geographic Information Systems (GIS) has been repeatedly requested by Tribal and municipal governments in rural Alaska. Tribal governments get ESRI ArcGIS software free of charge through a distribution agreement between ESRI and the Bureau of Indian Affairs (BIA). Many Tribal governments in rural Alaska have received the software through this agreement, but few have staff capable of operating the software. Although free training is offered to Tribes through the BIA, this training occurs in the Lower 48 (at high travel costs) and is not tailored to topics and conditions in rural Alaska. Training opportunities in GIS through the private sector is limited and expensive, and most Tribes cannot afford the time or expense to send staff to UAF to take semester-based courses in GIS.

This course is intended to be the third in a series of on-site GIS courses targeting projects and applications in rural Alaska. These courses are not intended as a substitute for the GIS courses offered through the UAF SNRAS Department of Geography, but rather to complement them by providing lower division, skills-based technical training for students in rural Alaska. TM students who desire professional-level training would be advised to continue study within UAF SNRAS.

APPROVALS:

NOTE: See attached copy of Jennifer Carroll's signature (next page)

	Date	
Signature, Chair, Program/Department of:		

	Date	10/2/11
Signature, Chair, College/School Curriculum Council for:	CRCD	

	Date	10/3/11
Signature, Dean, College/School of:	CRCD	

	Date	
Signature of Provost (if applicable)		

Offerings above the level of approved programs must be approved in advance by the Provost.

ALL SIGNATURES MUST BE OBTAINED PRIOR TO SUBMISSION TO THE GOVERNANCE OFFICE

	Date	
Signature, Chair, UAF Faculty Senate Curriculum Review Committee		

Please specify positive and negative impacts on other courses, programs and departments resulting from the proposed action.

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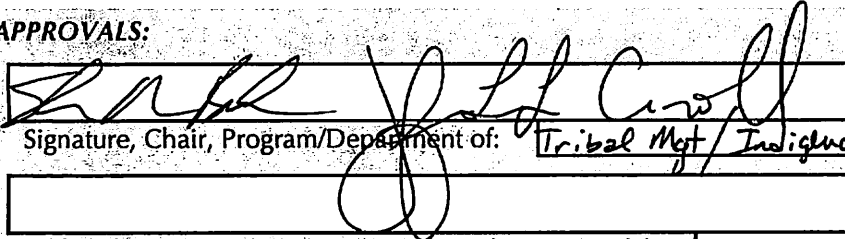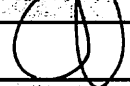
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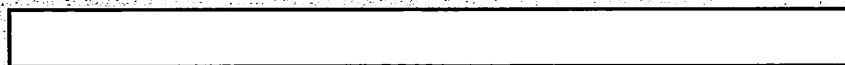
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APPROVALS:

Signature, Chair, Program/Department of: Tribal Mgt / Indigenous, Community + Tribal Programs	Date 9/21/2011

Signature, Chair, College/School Curriculum Council for:	Date

Signature, Dean, College/School of:	Date

Signature of Provost (if applicable)	Date

Offerings above the level of approved programs must be approved in advance by the Provost.

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Signature, Chair, UAF Faculty Senate Curriculum Review Committee	Date

University of Alaska Fairbanks
College of Rural and Community Development
Department of Indigenous, Community & Tribal Programs
Tribal Management Program

Interior – Aleutians Campus
Harper Building, P.O. Box 756720 Fairbanks, Alaska 99775-6720

Tribal Management – TM 142
Practical GIS Project Design
2 cr.
SEMESTER 20XX Course Syllabus

Course Meeting Times and Location:

DATES, 20XX
Monday through Friday, 9:00 AM – 4:30 PM + audioconference
VENUE, VILLAGE, Alaska

Prerequisites: TM 141 or permission of instructor.

Instructor: Steven R. Becker, CEP
Assistant Professor of Tribal Management (Natural Resources & GIS)
122 Harper Building, Fairbanks, AK 99775-6720
907.474.5096 (office) * 888.846.2422 (toll free) * 907.474.5208 (fax)
Steve.Becker@alaska.edu

Office Hours: The instructor will be available for ½ hour before and after each session in order to answer questions and review work on an individual basis.

Text: Practical GIS Project Design course pack (latest edition provided by instructor)

ArcGIS Education/Evaluation License (provided by instructor)

Course Description: How to design and implement basic Geographic Information Systems (GIS) projects. Class exercises emphasize GIS project planning, data collection, and practical map development to support community programs (e.g., transportation programs, natural, subsistence and cultural resources, traditional land use) in rural Alaska.

Course Goals: The goal of the course is to provide students with a practical and place-based introduction to the steps required to design and implement a basic GIS project that requires use of existing GIS data as well as student-collected GIS and GPS data.

Student Learning Outcomes:

Students will be able to:	Evaluated by:
1. Describe and proficiently use basic GIS and GPS concepts and functions, including but not limited to metadata, vector and raster data, map projections, coordinate systems, datums, scale, and map elements	Participation, Day 1 Exercises

Students will be able to:	Evaluated by:
2. Navigate basic viewing tools and functions of GIS software and proficiently locate some of the more commonly used functions, including but not limited to pan, zoom, bookmarks, labeling, map layout design and data editing	Day 1 and Day 2 Exercises
3. Use GIS to load and view true-color and enhanced satellite images of Alaska as well as view shaded relief images and data (raster and vector data)	Day 3 Exercises
4. Identify data needs and data sources for a GIS project in rural Alaska	Day 3 Exercises
5. Collect, import and manage GPS data for use in a GIS project	Day 4 Exercises
6. Download and import Alaskan GIS data sets off the Internet	Day 5 Exercises
7. Describe the practical steps they would follow to design and implement their own GIS map project.	Day 5 Exercises, Project Outline

Instructional Methods: This course is an interactive, hands-on course that includes short, focused presentations followed by in-class exercises that provide hands-on skill development for students to gain knowledge and confidence in the use of GIS. Exercises are completed either individually or in small groups. Instruction methods include lectures, computer-based and field exercises, demonstrations, assignments and instructor-led discussions.

Course Policies: Students are expected to complete required reading and homework assignments prior to the next day's lecture. Students are expected to arrive in class prior to the start of each class and bring with them all student course materials. If the student arrives late, they are expected to do so quietly. Students are expected to arrive prepared to discuss homework at the beginning of each day's class.

Students are expected to actively participate in all class exercises and discussions. A large part of student success in this course depends on participating in computer-based exercises. Excused absences should be arranged ahead of time with the instructor and make-up readings or exercises may be required. Late assignments are not accepted without prior approval of instructor.

IAC students are diverse and multi-generational, each bringing their specific talents and interests to the class. Each student will be respected for their unique learning style and class contribution. If the student does not understand class lectures or exercises, they should ask questions either during the class or request one-on-one sessions with the instructor during the week that class is being offered.

Evaluation and Grading: This is a letter grade course. Grades will be assigned based on the percentage of the total points possible that a student earned for the course in accordance with the following:

% of Total	Grade
100 – 90	A
< 90 – 80	B
< 80 – 70	C
< 70 – 60	D
< 60	F

Total points possible for the course will be weighted based on the following:

Participation (10%): Group discussions, in-class exercises, and overall group dynamics are an essential part of the learning experience for this course. Students are expected to actively

participate in group discussions and exercises. Participation points for a missed class session cannot be made up.

In-Class Exercises (80%): Students will complete a total of twenty (20) in-class exercises based on common GIS tasks and designed to develop and demonstrate the student's understanding of the course material. Four additional exercises can be completed on the student's own time for extra credit.

Project Outline (10%): Students will develop an outline for a GIS project in their community. The outline should include a graphic of the geodatabase as well as a list all of the data features needed and where or how the data is to be acquired. The outline will be submitted to the instructor via fax or email prior to the final audioconference.

Support Services: The instructor is available upon appointment for additional assistance outside session hours and standard office hours.

Disability Services: The UAF Office of Disability Services implements the Americans with Disabilities Act (ADA), and insures that UAF students have equal access to the campus and course materials. Your instructor will work with the Office of Disability Services (203 WHIT, 907-474-7043) to provide reasonable accommodation to students with disabilities.

UAF Disability Services for Distance Students

a) UAF has a Disability Services office that operates in conjunction with the College of Rural Alaska (CRA) campuses and UAF Center for Distance Education (CDE). Disability Services, a part of UAF Center for Health and Counseling, provides academic accommodations to enrolled students who are identified as being eligible for these services.

b) If you believe you are eligible, please visit http://www.uaf.edu/chc/disability.html on the web or contact a student affairs staff person at your nearest local campus. You can also contact Disability Services on the Fairbanks Campus at (907) 474-7043, fydso@uaf.edu

TM 142 Course Schedule:

DAY 1 -- Review of GIS and GPS Concepts	
Review of GIS Concepts	Lecture: Review of basic GIS concepts, data formats, and software Exercise: A basic review of ArcMap & ArcCatalog using local data
Review of Projections	Lecture: A discussion of the most common projections and datums used in Alaska as well as a discussion of datum problems unique to Alaska Exercise: View datasets with different projections and note how the differences in projections and datums can affect how we use them in GIS.

DAY 2 -- Traditional Land Use Mapping	
Traditional Land Use Mapping: Project Design	Lecture: Basic overview of a Traditional Land Use Mapping Project Exercise: View existing data & prepare the project geodatabase
Traditional Land Use Mapping: Project Implementation	Lecture: What are the technical GIS steps involved in entering Traditional Land Use data into a GIS Exercise: Digitize traditional land use data from a scanned map into a geodatabase. Create a map layout from the digitized data.

DAY 3: -- Georeferencing Imagery & Watershed Management with GIS	
Georeferencing Imagery	Lecture: Imagery problems common to Alaska GIS users Exercise: Georeference a scanned map and/or image
Watershed GIS (topic may vary based on community needs)	Lecture: An overview of watershed management issues in Alaska and a discussion on common GIS data/analysis used in watershed management. Exercise: Create a map layout of land cover within a watershed boundary using existing Alaska GIS data

DAY 4: GPS Data Collection Project & Land Ownership Mapping	
GPS: Part 1	Lecture: A review of the GPS data gathering process Exercise: Collect GPS point and route data using recreational-grade GPS units
GPS: Part 2	Lecture: An overview of importing GPS data into GIS Exercise: Download and edit GPS data. Create a map layout showing GPS data collected.
Introduction to Land Ownership Mapping	Lecture: A presentation on how land ownership information is managed at the Alaska Department of Natural Resources Exercise: Create a map of land ownership using the State of Alaska & Bureau of Land Management's Land Status GIS dataset.

DAY 5: Practical GIS for Your Region	
Data sources	Lecture: Where to find GIS data for Your Area? Exercise: Examine the available GIS data sources for your region (local land uses, hydrography, land cover, imagery, soils, infrastructure, watershed boundaries)
GIS Uses in Rural Alaska	Lecture: How GIS is Used in Rural Alaska Exercise: Design a GIS project based on your own community and interest

DAY 6: Final Audioconference	
Course overview	Project Outline Due. Wrap-up discussion. Instructor and students will discuss the concepts and exercises covered in this course. Discussion will also include student reflection on how their skills and GIS technology could be used within their community. Coursepack will include DVDs with class exercises to allow students to continue practicing GIS skills as needed.

UNIVERSITY
of ALASKA

Curriculum Approved and Signature pages

Linda Curda <lrcurda@alaska.edu>   **Mon, Oct 3, 2011 at 10:37 AM**
To: Pete Pinney <pppinney@alaska.edu>, Crystal Frank <cafrank@alaska.edu>, Jennifer Carroll
<jlcarroll@alaska.edu>, "Steven R. Becker, CEP" <srbecker@alaska.edu>, Diane Erickson
<dmerickson@alaska.edu>, Cynthia Hardy <clhardy@alaska.edu>, Christa Bartlett <clbartlett@alaska.edu>,
Cathleen Winfree <cmwinfree@alaska.edu>

The following Curriculum materials are approved by the CRCD Academic Council.
CTT - AAS Format 5
CTT 250 - Format 1 and syllabus
DEVS 105 - Format 2 and syllabus
HLTH 207 - Format 2A
TM 140 - Format 1 and syllabus
TM 141 - Format 1 and syllabus
TM 142 - Format 1 and syllabus

Please see attached signature pages - some of these pages need Dept Chair/Program Head signatures before
going to the Dean.

If you have any questions, please contact me.

Thank you.

Linda Curda, CRCD Academic Council Chair

786-1630

📎 **Linda's Curric.scan.pdf**
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