UNIVERSITY of ALASKA

Crystal Frank <cafrank@alaska.edu>

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
8225K

FORMAT 1

Submit original with signatures + 1 copy + electronic copy to Faculty Senate (Box 7500).

See http://www.uaf.edu/uafgov/faculty-senate/curriculum/course-degree-procedures-/ for a complete description of the rules governing curriculum & course changes.

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 # **141** No. of Credits **2**

Justify upper/lower division status & number of credits: **Introductory level course. Basic personal computer experience and exposure to GIS and GPS technology required.**

3. PROPOSED COURSE TITLE: **Practical GIS for Rural Alaska**

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): **Course is six contact days, consisting of five days of on-site intensive with 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 F141 Practical GIS for Rural Alaska (2+0) A practical and place-based introduction to the development of maps using Geographic Information System (GIS) software. Covers the basic tools and skills necessary for creating community maps using existing geospatial data as well as data gathered using Global Positioning System (GPS) technology. Class exercises emphasize map development for applications pertinent to rural Alaska. Prerequisites: TM 140 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 140 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 2009 and Spring 2010, TM 193. Offered in Tok, Unalaska, Fort Yukon, Galena and Fairbanks.

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 (books, educational software license, 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.*

FORMAT TM 141

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 second 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 email from Jennie Carroll 10/3/11 CF

	Date		
Signature, Chair, Program/Department of:			
[signature]	Date	10/2/11	
Signature, Chair, College/School Curriculum Council for:	CRCD		
[signature]	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		

UNIVERSITY of ALASKA

Crystal Frank <cafrank@alaska.edu>

Signature status for Format 1 TM 140 & 141

Jennifer Carroll <jlcarroll@alaska.edu> **Mon, Oct 3, 2011 at 2:26 PM**
To: Crystal Frank <cafrank@alaska.edu>

Hi Crystal, yes, I approve both TM 140 and TM 141. If you need re-sign I can print them out here. Otherwise just go ahead and use the e-mail to document my approval. Thanks, Jennie

Jennifer Carroll
Department Chair, Indigenous, Community and Tribal Programs
Interior-Aleutians Campus
[Quoted text hidden]

ADDITIONAL SIGNATURES: (As needed for cross-listing and/or stacking)

	Date		
Signature, Chair, Program/Department of:			
	Date		
Signature, Chair, College/School Curriculum Council for:			
	Date		
Signature, Dean, College/School of:			

Revised 9/29/11 CF

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 141
Practical GIS for Rural Alaska

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 140 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 for Rural Alaska course pack (latest edition, provided by instructor)

ArcGIS Education/Evaluation Software License (provided by instructor)

Course Description: A practical and place-based introduction to the development of maps using Geographic Information System (GIS) software. Covers the basic tools and skills necessary for creating community maps using existing geospatial data as well as data gathered using Global Positioning System (GPS) technology. Class exercises emphasize map development for applications pertinent to rural Alaska.

Course Goals: This course is meant to introduce some of the tools and functions of GIS software, and to develop a foundation of skills needed to create maps, spatial databases and reports for use in community, transportation, environmental management or other projects common in rural Alaska.

Student Learning Outcomes:

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

Students will be able to:	Evaluated by:
2. Demonstrate the basic steps to collect and import GPS data into GIS, using GPS units and digital cameras	Day 1 Exercises, Day 5 Exercises
3. Navigate basic viewing tools and functions of GIS software	Day 2 - 4 Exercises
4. Use GIS to load and view vector and raster data	Day 2 - 4 Exercises
5. Download field photos and GPS waypoints and create a map that includes links to those photos	Day 5 Exercises
6. Identify major public sources of geospatial data for Alaska and describe how to request desired GIS data	Participation, Day 5 Exercises
7. Understand how GIS can be used to inform local decision-making processes	Course Journal, Participation in Final Audioconference

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.

Course Journal (10%): Students will be required to keep a course journal. The course notebook should include notes on the presentations and exercises as well as reflections on how the information presented could affect the students' job or village. The journal will be presented to the instructor at the end of the course for grading, and then returned to the student.

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 141 Course Schedule:

DAY 1 -- Introduction to GIS Concepts		
What is GIS?	Lecture: Overview of components of GIS Exercise: Viewing examples of a GIS specific to your region	Course Presentations and Exercises, Exercises 1-3
Spatial references	Lecture: How coordinate systems affect where GIS data is plotted Exercise: Examine how coordinate values vary based on the stored projection of a dataset	Course Presentations and Exercises, Exercise 4
GIS File Formats	Lecture: How GIS data is organized into folders and files. Exercise: Examine examples of the various GIS data formats (Coverage, shapefile, geodatabase, CAD, image) using local soils, hydrography, imagery, land cover datasets	Course Presentations and Exercises, Exercise 5
An Introduction to GPS	Lecture: What is GPS? How does GPS work within a GIS? How can it be found or used within GoogleEarth? Exercise: How to import and display tabular GPS information in ArcMap and GoogleEarth	Course Presentations and Exercises, Exercise 6
DAY 2 -- Tools and Functionality (part 1)		
Introduction to learning ArcGIS	Lecture: Overview of ESRI ArcGIS software Exercise: Install data from CD-ROM and basic navigation within ArcGIS	Tools and Functionality, Chapter 1, Exercise 1
GIS data & file types	Lecture: Review of the GIS data formats and GIS file types Exercise: Examine data using ArcGIS components	Tools and Functionality, Chapter 2, Exercises 2a&b
Working with Map Layers	Lecture: Using ArcMap to display and manipulate features in a data layer Exercise: Displaying and symbolizing data in ArcMap	Tools and Functionality, Chapter 3, Exercise 3
Understanding Symbology and Categorical Data Display	Lecture: ArcMap tools for advanced categorical display of data Exercise: Overview of the ArcMap style manager and categorical display of data	Tools and Functionality, Chapter 4, Exercises 4a&b
Display of Quantitative Data	Lecture: Present the concepts of quantitative display of data and data classification Exercise: Using population datasets to examine quantitative data display options	Tools and Functionality, Chapter 5, Exercise 5
DAY 3: Tools and Functionality (part 2)		

Working with Labels	Lecture: Understanding the differences between Labels and annotation in ArcMap Exercise: Labeling and annotation options in ArcMap, working with scale ranges and SQL queries.	Tools and Functionality, Chapter 6, Exercises 6a&b
Coordinate Systems & Map Projections	Lecture: Georeferencing and projections, projection distortions, projections and ArcMap Exercise: Using map scale, differences in projection types, project data	Tools and Functionality, Chapter 7, Exercises 7a&b
Presenting Data	Lecture: Cartographic concepts, printing and plotting maps Exercise: Creating a map in ArcMap	Tools and Functionality, Chapter 8, Exercises 8a&b
Working with tables	Lecture: Table structure, database types, formatting tables, graphs, reports Exercise: Relating and joining of tabular data, creating graphs and reports	Tools and Functionality, Chapter 9, Exercises 9a&b
DAY 4: Tools and Functionality (part 3)		
Editing Data	Lecture: How to create and edit data in ArcMap Exercise: Editing features using the editor toolbar	Tools and Functionality, Chapter 10, Exercise 10
Working with Geodatabases	Lecture: Overview of the geodatabase file format in ArcGIS Exercise: Create a geodatabase with new feature classes; edit a feature class, and importing/exporting data to/from a geodatabase	Tools and Functionality, Chapter 11, Exercise 11
Working with X/Y data	Lecture: Importing X/Y tabular data and the ArcGIS geocoding process Exercise: Geocoding address data in ArcMap	Tools and Functionality, Chapter 12, Exercises 12a&b
Spatial Analysis	Lecture: Selection tools and geoprocessing functions Exercise: Perform a habitat analysis project using advanced geoprocessing tools in ArcMap	Tools and Functionality, Chapter 13, Exercises 13a&b
Customizing ArcGIS	Lecture: Options for customizing the ArcGIS interface and creating custom buttons and toolbars Exercise: Create a new "selection toolbar" in ArcMap and make modifications to the "Normal.mxd" template.	Tools and Functionality, Chapter 14, Exercise 14

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)	Course Presentations and Exercises, 9-1
GIS Uses in Rural Alaska	Lecture: How GIS is Used in Rural Alaska Exercise: Using local GIS data to generate a local map based on course theme or student interest	Course Presentations and Exercises, Exercise 7a-e
DAY 6: Final Audioconference		
Course overview	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. Course workbooks will include DVDs with class exercises to allow students to continue practicing GIS skills as needed.	