

Revised

Treat as Format 2 - Major Change **FORMAT 2A**

Submit original with signatures to Registrar's Office

Send electronic copy to the Governance Office

CHANGE COURSE (MINOR)

MINOR COURSE CHANGES INCLUDE ONLY THE FOLLOWING:

1. Frequency of offering.
2. Minor editorial changes in title and/or course description.
3. Jointly approved proposals for cross-listing current courses. (Requires approval of both departments and deans involved. Add lines at end of form for additional signatures.)
(Stacking of 400/600 level courses is NOT considered a minor change.)
4. Change in course number that does not involve a change in **lower/upper** division status.
5. Internal departmental changes in **NON-CORE** course prerequisites. Changes **MUST NOT** affect courses (or degree programs) offered by other departments.

If changes cannot be considered "Minor" (as defined above), use the **FORMAT 2 - CHANGE COURSE (MAJOR)** and **DROP COURSE** form.

Remember to submit a Program Change form (Format 5 or 5A) if appropriate.

Catalog deadlines apply. Send Minor Change requests directly to the Registrar's Office after Dean's approval. (Please send informational e-copy to the UAF Governance Office.)

SUBMITTED BY:

Department	Geosciences	College/School	CNSM
Prepared by	Cary de Wit	Phone	x7141
Email Contact	cwdewit@alaska.edu	Faculty Contact	Cary de Wit

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

1. COURSE IDENTIFICATION:

Dept	GEOG	Course #	F339	No. of Credits	4
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COURSE TITLE Maps and Landscape Analysis

2. ACTION DESIRED: Indicate what is changing with an "X" or checkmark:

NUMBER		TITLE		DESCRIPTION	X
PREREQUISITES		FREQUENCY OF OFFERING			
CROSS-LISTED		Dept.		(Requires approval of both departments and deans involved. Add lines at end of form for such signatures.)	

3. CURRENT CATALOG DESCRIPTION AS IT APPEARS IN THE CATALOG: including dept., number, title and credits.

(Use online Catalog to cut and paste.)

GEOG F339 Maps and Landscape Analysis (n)
 3 or 4 Credits Offered Spring
 Topographic map interpretation for landscape analysis and geographic data acquisition, including topographic features, vegetation patterns, and political and cultural features. Emphasis on topographic maps for remote data acquisition and environmental impact analysis. Special fees apply.
 Prerequisites: GEOG F111X; GEOS F304 or or permission of instructor.
 (3+0 or 3)

RECEIVED

OCT 17 2014

Dean's Office

College of Natural Science & Mathematics

REGISTRAR

10/20/14 TWP

4. MARK-UP OF COMPLETE CATALOG DESCRIPTION ILLUSTRATING CHANGES: (Underline new wording ~~strike through old wording~~ and use complete catalog format including dept., number, title, credits and cross-listed and stacked.)

GEOG F339 Maps and Landscape Analysis (n)
~~3 or 4 Credits~~ 4 Credits Offered Spring
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 Prerequisites: GEOG F111X; GEOS F304 or ~~or~~ permission of instructor.
~~(3+0 or 3)~~ (3+3)

5. IS THIS COURSE CURRENTLY CROSS-LISTED?

YES/NO	No	If Yes, DEPT		NUMBER	
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(Requires written notification of each department and dean involved. Attach a copy of written notification.)

6. ESTIMATED IMPACT

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

None.

7. 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)

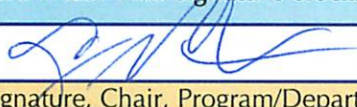
None.

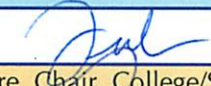
JUSTIFICATION FOR ACTION REQUESTED

The purpose of the department and campus-wide curriculum committees is to scrutinize course change 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. If you drop a prerequisite, is it because the material is covered elsewhere? Use as much space as needed to fully justify the proposed change and explain what has been done to ensure that the quality of the course is not compromised as a result.

Minor corrections of errors in description. This is not a change in number of credits; this course has been taught only as a 4-credit course for many years. We have submitted changes to eliminate the 3-credit option from the catalog before.

APPROVALS: Add signature blocks as necessary (e.g., cross listing approvals)

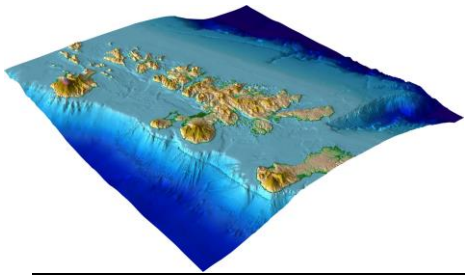
	Cary de Wit	Date	10-16-2014
Signature, Chair, Program/Department of:		Geography	

		Date	10-17-14
Signature, Chair, College/School Curriculum Council for:		CNSM	

		Date	10/17/14
Signature, Dean, College/School of:		CNSM	

ALL SIGNATURES MUST BE OBTAINED PRIOR TO SUBMISSION TO THE REGISTRAR'S OFFICE

	Date	
Received Registrar's Office		



GEOG 339x – Mapping and Landscape Analysis (4 credits)

SYLLABUS ***Spring 2015***

INSTRUCTOR

Chris Maio
907-474-5651
cvmaio@alaska.edu

OFFICE

Reichardt Building, Room 368

OFFICE HOURS

Monday 3:00 – 4:00
Thursday 10:00 – 11:00
And by appointment

LECTURES

Murie Building, Room 103
Monday – Wednesday – Friday
Class Time: 9:15 -10:15

LABORATORY

Reichardt Building, Room 235
Thursdays 2:00 – 5:00

BOOK

Readings will be provided by the instructor and posted on Blackboard.

COURSE DESCRIPTION

This course will build student knowledge and practical experience regarding the visualization and mapping of landform evolution in response to Earth surface processes, especially in relation to climate change. The first half of the course will introduce students to a variety of research methods used in landscape analysis and mapping as well as some basic fundamentals of geomorphology. During the second half of the semester examples of landscape formation and evolution specific to Alaska's dynamic environment will be discussed. A semester long research project will allow students to gain experience in the collection and use of a variety of datasets used in landscape analysis. Students will document and present their research through a report and scientific poster.

COURSE GOALS

The course will provide students with an understanding of Earth surface processes, the resulting landforms, and how these landforms evolve through time. Students will gain practical experience using the tools and technologies necessary for landscape analysis including topographic geospatial analysis, unmanned aerial vehicles, shoreline change analysis, and ground penetrating radar. Student will carry out a research project and present their results in a public forum.

TEACHING METHODS

This course will combine traditional lectures with hands-on learning activities. Lecture topics will focus on methods used in landscape analysis as well as the fundamental principles of geomorphology. This course is designed to provide students with practical experience learning and applying field and lab methods to visualize and quantify landscape change through time. Two Saturday field trips will serve as a capstone to integrate course concepts and research methods to explore first-hand the dramatic landscapes of interior Alaska.

LEARNING OUTCOMES

- Students will gain a familiarity with different types of landforms particular to Alaska.
- Students will gain practical experience quantifying and visualizing landscape change using shoreline change analysis tools, unmanned aerial vehicles, ground penetrating radar, LIDAR, and GIS.
- Students will gain practice in the scientific method via the development and implementation of a semester long research project.
- Students will learn how to design publishable map figures using ArcGIS and Adobe Illustrator.
- Students will improve the quality of their writing, visual, and oral communication skills through the development of a research report and the design and presentation of a scientific poster.
- Students will gain experience reading scientific papers and leading a group discussion

COURSE POLICIES

Expectations

Students are expected to come to class and lab prepared and on time. This includes reading the assigned material, having completed all assignments that are due, and prepared to discuss the course material. There is also an expectation that students within the lab and classroom will act with professionalism and be respectful to other students, the instructor, and guests. A failure to meet these expectations will result in a lowering of the final course grade and dismissal from the class in which the expectations were not met.

Attendance and Participation

Attendance and participation within lectures and labs will be worth a total of 10% of the final grade. Attendance for labs and Saturday field trips is mandatory. If there is an emergency or other important obligation which prevents a student from attending lectures they are expected to email the instructor prior to the absence. If students do not email prior to the absence, points will be deducted from the participation grade and other related course work. Students are responsible for ascertaining what materials and/or assignments were missed even if their absence from class was excused.

Media Devices

Cell phones are to be switched off or placed in silent mode. Calls, Texts, and web browsing is not allowed during class periods, unless the instructor (prior to class) has granted permission. Violation of this policy will lead to a loss of grades. Laptops may be used for in-class note taking but use of email, social media or viewing of websites not relevant to the current class is not allowed, and will lead to a loss of grades.

Blackboard

All course materials and important announcements will be posted on Blackboard. This includes the most current version of the syllabus, lectures, handouts, and assigned readings. Students are required to visit Blackboard regularly to stay up to date with course materials and announcements.

STUDENT CONDUCT

UAF students are subject to the Student Code of Conduct. UAF will maintain an academic environment in which freedom to teach, conduct research, and administer the university is protected. Students will benefit from this environment by accepting responsibility for their role in the academic community. The principles of the student code are designed to encourage communication, foster academic integrity and defend freedoms of inquiry, discussion and expression across the university community. For a complete description of the University's Code of Conduct please go to http://www.uaf.edu/catalog/catalog_14-15/pdf/04_Academics.pdf and see Academics and Regulations.

ACADEMIC HONESTY WILL BE STRICTLY ENFORCED WITHIN THIS COURSE. CHEATING AND PLAGIARISM WILL NOT BE TOLERATED. ANY STUDENT CAUGHT PLAGIARIZING OR CHEATING WILL RECEIVE AN AUTOMATIC ZERO ON THE ASSIGNMENT IN QUESTION AND MAY BE REPORTED TO THE UNIVERSITY AUTHORITIES TO FACE FAILURE IN THE COURSE OR EXPULSION.

STUDENT SUPPORT SERVICES

Students with Disabilities

UAF is committed to equal opportunity for students with disabilities. Students with disabilities are encouraged to contact the coordinator of Disability Services (Mary Matthews) at the Center for Health & Counseling (907-474-7043 or uaf-disabilityservices@alaska.edu), to enlist the appropriate support. I will collaborate to provide accommodations and support or services to assist students in meeting the goals of the course.

Veteran Support

It is an honor to have veterans attending UAF and every accommodation will be made to support their success in this course. Please let me know if there is anything that can be done to facilitate your transition or continuation of an academic career and contact Walter Cray below.

Walter Cray is the Veterans Service Officer at the Veterans Resource Center, 111 Eielson Building. 907-474-2475.

Email: wecray@alaska.edu

Fairbanks Vet Center 907-456-4238. VA Community Based Outpatient Clinic at Ft. Wainwright is 907-361-6370.

STUDENT EVALUATION

Assignment	Points	Total Percent Course
<i>RESEARCH PROJECT</i>		25%
Project Proposal and Bibliography	30	
Data Collection and Analysis	50	
Map Figure 1	30	
Report Draft 1	40	
Report Final Draft	60	
Lab Presentation	40	
 <i>SCIENTIFIC POSTER</i>		 10%
Poster Draft 1	30	
Printed Poster	40	
UAF Research Day Presentation	30	
 <i>EXAMS</i>		 20%
Midterm Exam	100	
Final Exam	100	
 <i>LAB EXERCISES</i>		 15%
Lab 1	30	
Lab 2	30	
Lab 3	30	
Lab 4	30	
Lab 5	30	
 <i>READING DISCUSSIONS</i>		 10%
Discussion Lead 1	25	
Discussion Lead 2	25	
Discussion Participant	50	
 <i>FIELD TRIP COMPONENT</i>		 10%
Field Trip 1	40	
Field Trip 2	60	
 <i>ATTENDANCE & PARTICIPATION</i>		 10%
Attendance	50	
Participation (notecard discussions)	50	

Grading Scale

Grade	%	Grade	%
A+	97-100	C+	77-79
A	93-96	C	74-76
A-	90-92	C-	70-73
B+	87-89	D+	67-69
B	83-86	D	63-66
B-	80-82	D-	60-62
		F	<60

ADDITIONAL ASSIGNMENT INFORMATION

- 1) **Lab Exercises:** Labs will consist of a series of exercise that will be carried out during the 3 hours period with additional outside work required. Many labs will take-place outside in freezing temperatures. Students should dress for the elements.
- 2) **Research Project:** The research project will focus on using geospatial and geophysical datasets to visualize and quantify landscape change through time. The topic will be based on student interests, ongoing research, or assigned by the instructor upon request. Projects that document research methods will also be acceptable.
- 3) **Exams:** The exams will include multiple choice, matching, T/F, short answer, and essay questions. The final exam will be primarily drawn from material covered during the second half of the course but will also require students to integrate earlier concepts. A review session will be held prior to each exam.
- 4) **Research Poster:** Students will produce a scientific poster based on their research project. The poster will be presented at the UAF Research Day held on Tuesday, April 28.
- 5) **Field Trips:** Field trips will serve as a capstone experience to integrate course knowledge and research techniques. They will occur Saturdays meeting on campus at 8 am and returning in the evening. Students should bring a snacks, lunch, and warm outdoor clothing. There will be pre-trip readings and post-trip written assignments.
- 6) **Reading Discussions:** A series of articles and user manuals provided by the instructor will serve as the reading material for this course. One to two students will present the material and guide a group discussion. Students not leading the discussions will demonstrate they have read the materials through their participation.

TENTATIVE LECTURE & LAB EVALUATION SCHEDULE

Due Date	Assignment	Points
1/16-5/4	Attendance and Participation (Lab & Lecture)	100
1/16-5/4	Course Readings, Discussion Leader/Participant	100
2/5	Lab 1: Shoreline Change Analysis	30
2/18	Research Project: Proposal and Bibliography	30
2/19	Lab 2: GINA Overview and Data Collection	30
3/5	Lab 3: GPR Research Project: Data collection and analysis	30 60
3/9	Midterm Exam	100
3/11	Research Project: Map Figure 1	30
3/23	Research Project: Report Draft 1	40
3/26	Lab 4: UAV Data Collection	30
3/28	Lab 5: Structure From Motion	30
4/13	Research Project: Final Report	60
4/16	Field Trip 1 Assignment	40
4/17	Research Poster: Draft 1	20
4/23	Research Project: Lab Presentation Research Poster: Final Draft	40 30
4/28	UAF Research Day Poster Presentation	40
5/2	Field Trip 2 Assignment	60
5/5 – 5/8	Final Exam	100
	TOTAL POINTS	1000

TENTATIVE LECTURE SCHEDULE

Week	Date	Lectures	Reading	Assignments Due
1	16 Jan F	<i>Lecture 1: Course Introduction</i>	Syllabus Review	
2	19 Jan M	NO CLASS Alaska Civil Rights Day		
	21 Jan W	<i>Lecture 2: Research Project and the History of Map Making</i>	Syllabus Review	
	23 Jan F	<i>Lecture 3: Introduction to Geomorphology: Processes, Landforms, and Time</i>		
3	26 Jan M	<i>Lecture 4: Coastal Geomorphology</i>		
	28 Jan W	<i>Lecture 5: Shoreline Change Analysis: Case Study – Rainsford Island, Boston</i>	Reading 1	
	30 Jan F	<i>Lecture 6: Modern Methods used in Landscape Analysis</i>		
4	02 Feb M	<i>Lecture 7: Modern and Historical Aerial Photography in Landscape Analysis</i>		
	04 Feb W	<i>Lecture 8: TBA</i>		
	06 Feb F	<i>Lecture 9: The use of Light Detection and Ranging Data (LIDAR)</i>	Reading 2	
5	09 Feb M	Study Session, Research Project: Development of proposal and bibliography		
	11 Feb W	<i>Lecture 10: Digital Elevation Models</i>		
	13 Feb F	<i>Lecture 11: Research Librarian Steven Hunt teaches how to utilize library resources and cite materials</i>	Rasmussen Library 301	
6	16 Feb M	<i>Lecture 11: Mapping the Subsurface using Marine and Terrestrial Geophysics</i>	Reading 3	
	18 Feb W	<i>Lecture 12: Ground Penetrating Radar</i>	Reading 4	Proposal and bibliography
	20 Feb F	<i>Lecture 13: Thematic Maps and Historical GIS</i>	Reading 5	
7	23 Feb M	<i>Lecture 14: Unmanned Aerial Vehicles (UAV's)</i>	Reading 6	
	25 Feb W	<i>Lecture 15: Designing Map Figures using Adobe Illustrator and ArcGIS</i>	In Computer Lab	
	27 Feb F	<i>Lecture 16: Designing Map Figures using Adobe Illustrator and ArcGIS</i>	In Computer Lab	
8	02 Mar M	<i>Lecture 17: Paleo-Proxy Records Based on Sediment Cores: Case Study</i>		
	04 Mar W	EXAM REVIEW	Reading 7	
	06 Mar F	Study Session		
9	09 Mar M	MIDTERM EXAM		

Week	Date	Lectures	Reading	Assignments Due
	11 Mar W	Study Session, Post-Exam Review, Research Project: Figures and Report	Reading 8	Research Project: Map Figure 1
	13 Mar F	<i>Lecture 18: Guest-Nicole Kinsman DGGS: Mapping Coastal Change in Alaska</i> Breakfast Provided!		
10	Mar 16-20	SPRING BREAK		
11	23 Mar M	<i>Lecture 19: Dynamic Coastlines of Alaska</i>	Reading 9	Research Project: Report Draft 1
	25 Mar W	<i>Lecture 20: Periglacial Processes and Landforms</i>	Reading 10	
	27 Mar F	<i>Lecture 21: Guest-Louise Farquharson: Mapping Periglacial Landscapes in Alaska</i>		
12	30 Mar M	Study Session, Field Trip Review, Research Project: map figures and report	Reading 11	
	01 Apr W	<i>Lecture 22: Guest Ben Gaglioti: Paleoenvironments of Alaska</i>		
	03 Apr F	<i>Lecture 23: Pleistocene Glaciation in Interior Alaska</i>		
13	06 Apr M	<i>Lecture 24: TBA</i>		
	08 Apr W	Study Session		
	10 Apr F	Research Project: Design and Presentation of Scientific Posters		
14	13 Apr M	<i>Lecture 25: The Great Alaskan Earthquake of 1964</i>		Research Project: Report Final
	15 Apr W	<i>Lecture 26: Tectonic Processes and Resulting Landforms in Southcentral Alaska</i>	Reading 12	
	17 Apr F	<i>Lecture 27: Human Modification of Natural Landforms</i>		Research Poster: Draft 1
15	20 Apr M	<i>Lecture 28: Mapping cumulative impacts of human activities on marine ecosystems</i>	Reading 13	
	22 Apr W	<i>Lecture 29: Mapping climate driven environmental change</i>		Research Presentation Poster: Final Draft
	24 Apr F	NO CLASS – SPRINGFEST		
16	27 Apr M	Poster Printing and Course Evaluations		
	28 Apr Tue	URSA Research Fair		URSA Research Presentation
	29 Apr W	NO CLASS		
	01 May F	EXAM REVIEW		
17	04 May M	LAST DAY CLASSES Study Session		
	May 5-08	FINAL EXAM	Location TBA	

LABORATORY AND FIELD TRIP COMPONENT

Attendance for labs and Saturday field trips is MANDATORY. Some labs will be graded solely on participation. Any late submissions will incur a penalty of 10% for that assignment per day it's late. If bad weather or other circumstances prevents a field trip the alternate date will be Saturday, May 2.

TENTATIVE LAB & FIELD TRIP SCHEDULE

Lab (L) Field Trip (FT)	Thursdays (unless noted)	Subject	Location	Assignment Due
L1	29-Jan	Lab 1: Shoreline Change Analysis using the USGS DSAS tool	Lab	
L2	5-Feb	Lab 2: Geographic Information Network of Alaska (GINA) Overview by Director Tom Heinrichs and data collection/management with Pete Hickman	GI Computer Lab	Lab 1
No Lab	12-Feb	Individual Study: Research Project	No Lab	
L3	19-Feb	Lab 3a: Mapping the subsurface using ground penetrating radar	Outside	Lab 2
L4	26-Feb	Lab 3b: Processing GPR Data	Reichardt Computer Lab	
L5	5-Mar	Research Project Design and Data Collection		Lab 3
L6	12-Mar	Lab 4: ACUASI - Unmanned aerial vehicles (UAV) in landscape analysis	Outside	
No Lab	19-Mar	SPRING BREAK		
L7	26-Mar	Lab 5: UAV data processing and structure from motion topographic models	Lab	Lab 4
L8	2-Apr	TBA	TBA	Lab 5
L9	9-Apr	Research Project: Design of Scientific Posters	Reichardt Computer Lab	
FT1	16-Apr	Field Trip: TBA	TBA	FT1
L10	23-Apr	Research Project presentations Food Provided!	Lab	
FT2	SATURDAY 25-Apr	Field Trip 2: Geomorphology of Interior Alaska	Outside	
L11	28-Apr TUESDAY	UAF RESEARCH DAY Poster Presentations	Campus Center	
FT-Alt.	SATURDAY 2-May	Field Trip: Bad Weather Alternate	Outside	FT 2