FORMAT 1

Submit original with signatures + 1 copy + electronic copy to Faculty Senate (Box 7500). See <u>http://www.uaf.edu/uafgov/faculty-senate/curriculum/course-degree-procedures-/</u> for a complete description of the rules governing curriculum & course changes.

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	······	TRIAL COURSE OR I	NEW COURSE PROPOS	AL			
UBMITTED BY: Department	D BY: ment Biology and Wildlife		College/School	CNSM			
Prepared by	Donald A. Walker		Phone				
Email Contact	dawalker@a	laska.edu	Faculty Contact	Donald A. Walker			
1. ACTION DESI	RED		e	New Course X			
	(CHECK ON	/E):	L /	4xx / 6xx			
2. COURSE IDEN	TIFICATION:	Dept Bl	OL Course #	464X/ 664X No. of Credits 2			
status & nun	nber of credits:	Ecology: LECTUR literature study of A structure, paleo-his Arctic vegetation m wildlife managemen provide an in depth introduction of arc requires a solid fou Introduction to Pla 271). <u>Justification for gra</u> expected to produc an in-depth knowle also deliver as an o lead the group disc	E course will include Arctic plant commun story, major environ nethods to current Ar nt, and changing land a look at winter veget tic vascular plants, m ndation in basic biolo nt Biology (BIOL 23) aduate 600 stacking: e a 10-page written r dge of the literature ral presentation. Gra ussions of the lecture	detailed background and ities including their composition, nental controls, applications of retic issues such as climate change, d-use in the Arctic. It will also reation ecology and hands-on rosses, and lichen. The course ogy (Biol 115 & 116) and either 9) or Principles of Ecology (BIOL Graduate students will be esearch paper that demonstrates related to the topic that they will aduate students will also help to s and the reading assignments.			
REC	EIVED	Justification for 2 c part package consis 2-hr FIELD (practi	redit hours: This LE sting of a spring seme icum) taught in early	CTURE component is part of a 2- ester 2-hr LECTURE course, and a summer. Students can enroll in			
OCT -	5 2011	either or both parts. The course consists of the following parts: Lectures on Arctic ecosystems (see course syllabus): 13 hours (780 minutes lecture)					
U6201'S UTIC6 Winter ecology: 4 hours of lecture and a field trip to Eagle Summer of Natural Science & Mathematics minutes of lecture, 480 minutes practicum).							
		Overview of key va minutes) lecture, 7 <u>TOTAL about 1441</u> and 420 minutes of	scular plants, mosses hours (420 minutes) <u>0 minutes of lecture, -</u> lab.	and lichens: 7 hours (420 lab. <u>480 minutes of field practicum,</u>			
3. PROPOSED	COURSE TITLE:	Arc	tic Plants and Vegeta	ation Ecology: Lecture			
4. To be CROSS (Requires app	LISTED? YES/ proval of both departs	NO No If y ments and deans involved.	ves, Dept: Add lines at end of form fo	Course #			
5. To be STACKE	D? YES/N	10 Yes If y	es, Dept. BIOL	Course # 6			
6. FREQUENCY (OF OFFERING:	Spring Fall, Spring, Summe	er (Every, or Even-number Demand W	ed Years, or Odd-numbered Years) – or As /arrants			
7. SEMESTER & approved by 3/1 ne package of	YEAR OF FIRST OF 1/2012; otherwise / two 2-hr course	FERING (AY2011-12 if AY2012-13) s is offered instead o bt be able to participa	f a single 4-hr cours	se because some students taking			

commitments (e.g. those enrolled in the Wildlife Department with summer internships or jobs). Also we will list both courses as University of the Arctic offerings and want to give the students the option of taking either the LECTURE or the FIELD component or (preferably) both.

8. COURSE FORMAT: NOTE: Course hours may not be comp must be approved by the college or so be approved by the core review comp	pressed into fi chool's curric	ewer the ulum co	an th ouncl	iree days per cre il. Furthermore,	dit. Any any core	course compres	ssed in essed to	ito few o less tl	er than six weeks han six weeks must
COURSE FORMAT: (check all that apply)	1		2	3		4	5	X	6 weeks to full semester
OTHER FORMAT (specify)		•	-						
Mode of delivery (specify lecture, field trips, labs, etc)	2-credit-	hour le	ectu	ire course, wi	ith lecti	ures and 1 f	field t	trip	· · · · · · · · · · · · · · · · · · ·
9. CONTACT HOURS PER WEEK:	· • • • • • • • • • • • • • • • • • • •	2 hr	Li	ECTURE ours/weeks	7	LAB hours total		8	PRACTICUM hours total
Note: # of credits are based on conta minutes in non-science lab=1 credit match with the syllabus. See <u>http://</u> <u>computing-/</u> for more information	act hours. 800 t. 2400-4800 r /www.uaf.edu on number o) minut ninutes <u>1/uafgo</u> f credits	es of of pi <u>v/fa</u> s.	lecture=1 credit racticum=1 credi <u>culty-senate/cur</u>	. 2400 m it. 2400-f <u>riculum</u>	inutes of lab in 3000 minutes of <u>/course-degree</u>	i a scie f interi -proce	nce cou nship=1 <u>:dures-</u>	ırse=1 credit. 1600 I credit. This must /guidelines-for-
OTHER HOURS (specify type)	The co Lectur minute Winter minute Overvi minute <u>TOTA</u> and 42	urse co es on z s lectu · ecolo s of le ew of es) lect <u>L abou</u> <u>0 mini</u>	onsi Arci ire) gy: ctur key ture <u>ut 1</u> <u>utes</u>	sts of the foll tic ecosystem 4 hours of lea re, 480 minut vascular pla , 7 hours (420 440 minutes of lab.	owing s (see c cture a es prac nts, mc) minut of lectu	parts: ourse syllab nd a field tri :ticum). osses and licl tes) lab. ure, 480 minu	ip to hens: <u>utes (</u>	13 hou Eagle 7 hou <u>of fiel</u>	urs (780 2 Summit (240 1rs (420 d practicum,

10. COMPLETE CATALOG DESCRIPTION including dept., number, title, credits, credit distribution, cross-listings and/or stacking (50 words or less if possible):

	BIOL F4 Arctic Plants and Vegetation Ecology: Lecture
ŝ,	2 Credits Offered Spring
	Arctic plant identification and study of Arctic plant communities including their composition, structure,
	paleo-history, biogeography, winter ecology, applications of Arctic vegetation methods to current Arctic
	issues including climate change, wildlife management, and changing land-use in the Arctic. Lectures and
	1 winter field trip. Prerequisites: BIOL 115 and 116 or equivalent; BIOL 239 or BIOL 271; or approval
	of instructor. Special fees apply. Stacked with BIOL F661 (2)

11. COURSE CLASSIFICATIONS: Undergraduate courses only. Consult with CLA Curriculum Council to apply S or H classification appropriately; otherwise leave fields blank.

H = Humanities	S = Social Sc	iences			
Will this course be used to fulfill for the baccalaureate core? If YI	a requirement S, attach form.		YES:	NO:	X
IF YES, check which core requirer	nents it could be used to fulfill:				
On Oral Intensive Format 6	W = Writing Intensive, Format 7		Natural Scien	ce Format	я [[—]

2. COURSE REPE	ATABILITY:							
Is this cour	se repeatable	for credit?		YES				
Justification example, 1	on: Indicate t the course fol	why the cours lows a differe	e can be repeat int theme each t	ed (for time).		·		
How man	y times may t	he course be :	repeated for cre	dit?		······		TIMES
If the cour be earned	rse can be rep for this cour	eated for crease?	dit, what is the I	maximum n	umber of cre	dit hours that m	ay	CREDITS
If the court that may l	rse can be rep be earned for	eated with <u>va</u> this course?	<u>iriable</u> credit, w	hat is the m	aximum nun	ber of credit ho	urs	CREDITS
3. GRADING SYSI Change. LETTER:	EM: Specify	only one. Not PASS/F.	te: Later changi	ng the gradi	ng system for	a course consti	tutes a Maj	or Course
ECTRICTIONS ON		m (:6)					н. 1917	
4. PREREQUISIT	ES Thes	BIOL 115 instructor	and 116 or e	quivalent; tudent is all	BIOL 239 o	or BIOL 271; o	or approva	al of
15 CDECIAL DEC	TRICTIONS C	ONDITIONS					·	
15. SPECIAL RES								
Fee is to pay fo snow) environn 7. PREVIOUS HIS Has the cour Yes/No	r i-button te nents, and r TORY se been offered	mperature l ental of vans l as special topi	oggers, require s for travel to I cs or trial course	ed for exam Eagle Sumn previously?	sining winte nit.	r subnivian (b	elow NO	
If yes, give se	emester, year, (course #, etc.:						
8. ESTIMATED IN WHAT IMPA	APACT CT, IF ANY, W	ILL THIS HAVE	ON BUDGET, FA	CILITIES/SPA	ACE, FACULTY	ETC.		
The main The plant arrange a would pre transport I would lil portion of collections	identification bout 30-50 l fer to have herbarium ke to have a the course s and return	on portion o terbarium c this compon collections t few hours (because it is them at the	f the lab will n ollections at a ent conducted o and from Ir approximatel time-consum e end of the co	require lab time with l in the Mu ving. y 15 hours) ing to gath ourse.	space with dissecting s iseum Herb) of undergi er the speci	abundant tab copes to exam arium to minin raduate assista mens from the	le or benc ine the co mize the n int help w e herbariu	h space to llections. I leed to ith this m
19. LIBRARY COLI Have you cont library/media	LECTIONS tacted the libro	ry collection de	evelopment office ervices available	r (kljensen@c for the propo	alaska.edu, 474 sed course? If	-6695) with regards so, give date of co	d to the adeq ontact and re	puacy of esolution. If no
explain why n	ot. X Yes	TI	e course will	not require	e extensive	library use exc	cept for stu	udent term
			pers. An requ	ineu reauli	ng witt ne h			3116

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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)
 Only the BIOL Dept and the Museum should be impacted. Steffi Ickert-Bond and the Museum director, Carol Diebel have been contacted (email: September 1, 2011).

21. POSITIVE AND NEGATIVE IMPACTS

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

This lecture course is part of 3-course curriculum for arctic vegetation science (see cover letter). These courses are much needed. Previously only one 2-hour course was offered in Vegetation Description and Analysis (BIOL 475). A much needed aspect of training students in vegetation science is extensive field experience. Getting students out and observing the plants and vegetation patterns in Nature cannot be done in the classroom, but excursions are often difficult to do in Alaska during the regular academic year. The new Arctic Plants and Vegetation Ecology courses I am offering includes a spring LECTURE component and an EXCURSION component, which is offered in early summer. This is particularly needed for students in Alaska, many of which will be hired by government and non-government agencies to describe and manage the natural resources of the state. It is also increasingly needed for multi-disciplinary academic approaches to study, understand, manage, and preserve complex and changing Earth systems. The courses are organized around my primary expertise and over 40-years experience working in Arctic ecosystems.

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.

This course is Lecture part of the 2-course Arctic Plants and Vegetation Ecology package proposed for spring semester 2014.

The course will provide a much-needed focus on Arctic Ecosystems and global Arctic tundra vegetation. The lectures provide broad interdisciplinary approach to understanding the environmental controls of Arctic vegetation. This is important background for students who seek jobs in managing Alaska natural resources and also those interested in impacts of land-use changes and climate change on Arctic systems.

During the plant identification component, students will become familiar with a wide variety of vascular plant species, mosses and lichens and plant family characteristics in the herbarium. If they chose to the take the Excursion course, the plant identification will provide a solid background for vegetation sampling, where students otherwise often come with poor knowledge of the local flora.

The course is the lecture component of a 2-course package. A 2-credit excursion course is offered separately. (See accompanying New Course Proposal for Arctic Plants and Vegetation Ecology: Excursion.) The Lecture component will be offered in 2013, and 2014, and in even-numbered years thereafter. Students can take either the LECTURE or EXCURSION or both courses (preferred option).

APPROVALS: Add additional signature lines as needed.

CMS	Date Oct 3, 704
Signature, Chair, Program/Department of:	
	$Date \left[0 \right] \left[4 \right] \left[20 \right] $
Signature, Chair, College/School Curriculum Council for:	
Famely 2014	Date Oct 5,200
Signature of Provest (if applicable)	Date

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

	GUVERINA _	
	Date	
Signature, Chair Faculty Senate Review Committee:Curriculum ReviewGAAC		
Core ReviewSADAC		

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

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

Preliminary Syllabus for NEW COURSE, BIOL 46⁴ / 66⁴, Arctic Plants and Vegetation Ecology: Lecture Spring 2013

1. Course information

Title: Special Topic: Arctic Vegetation Ecology: Lecture Number: BIOL 461 / 661 Credits: 2 Prerequisites: BIOL 115 & 116, Introduction to Plant Biology (BIOL 239) or Principles of Ecology (BIOL 271) or instructor approval Location: TBA Meeting time: TBA

2. Instructor and contact information

Prof. D.A. (Skip) Walker, Alaska Geobotany Center, University of Alaska Fairbanks, <u>Office hours:</u> Arctic Health Building, Room 254, X 2460, dawalker@alaska.edu. Generally available, call before coming.

3. Course readings /materials

Numerous papers will be read and are in the assignments listed in the course calendar and will be posted on line at http://www.geobotany.uaf.edu. These three references provide a good overview of the Arctic Vegetation in North America and Russia and the current issues relevant to Arctic vegetation.

- 1. Bliss, L.C. 1997. Arctic Ecosystems of North America. Polar and Alpine Tundra. Elsevier. Amsterdam. pp. 551-683.
- Callaghan, T.V., Bjorn, L.O., Chapin III, F.S., et al. 2005. Chapter 7, Arctic tundra and polar desert ecosystems. Arctic Climate Impact Assessment - Scientific Report. Cambridge University Press. Cambridge. pp. 243-352.
- 3. Chernov, Y.I., Matveyeva, N.V. 1997. Arctic ecosystems in Russia. Polar and Alpine Tundra. Elvesier. Amsterdam.3 pp. 361-507.

4. Course description

Course catalog description:

BIOL F4___Arctic Plants and Vegetation Ecology: Lecture

2 Credits Offered Spring

Arctic plant identification and study of Arctic plant communities including their composition, structure, paleo-history, biogeography, winter ecology, applications of Arctic vegetation methods to current Arctic issues including climate change, wildlife management, and changing land-use in the Arctic. Special fees apply. Stacked with BIOL F6_(2) To be taught in spring 2013 and even numbered years thereafter.

More detailed description: This course consists of three major parts:

1. <u>Lecture component:</u> Thirteen lectures. This portion will examine the tundra plant communities and ecology of Arctic tundra. The emphasis will be on the factors controlling vegetation patterns, including climate, permafrost, geomorphology, soils, animals, zonation, paleogeography, plant communities, floristics, plant

adaptations, and succession patterns.

- 2. <u>Snow Ecology component</u>: Two lectures plus a Saturday excursion to Eagle Summit to examine the alpine system in winter conditions. The focus will be on subnivian environments, and the effects of topography and snow distribution patterns on plant habitat distribution.
- 3. <u>Arctic plant identification component</u>: Seven lectures and seven labs. 160 of the most common Arctic species in Alaska, including trees, shrubs, dwarf shrubs, grasses, sedges, rushes, bryophytes, and lichens. Students will be tested over their ability to identify these species.
- 4. This course is part of a 3-course offering in vegetation science that includes (1) BIOL 461 / 661, Arctic Plants and Vegetation Ecology: Lecture, (2) BIOL 461 / 661, Arctic Plants and Vegetation Ecology: Excursion, and (3) BIOL 462 / 662 Vegetation Description and Analysis. The courses are designed to give students a thorough practical background and training in vegetation sampling and analytical methods adapted to northern ecosystems.

5. Course goals and student learning outcomes:

The goals for the course are to: (1) Provide students with an in-depth knowledge of Arctic vegetation and application of vegetation science to current Arctic issues. (2) Provide a winter field trip to understand snow-vegetation interactions and snow-related phenomena. (3) Give students the ability to identify a foundation set of Arctic plant species that will allow them to undertake vegetation sampling during the summer excursion portion of the course and/or other activities requiring knowledge of Arctic plants.

6. Instructional method:

Lectures:

Background lectures will take all of the Tuesday and part of Thursday lessons. Students will be expected to read the assignments, and the last half of the Thursday lecture will be devoted to discussion of the readings. One student will be selected to present a 5-minute summary of each assigned paper and to lead a short discussion of the paper. Students will take turns leading the discussions of the various journal papers, Students will receive full credit for participation if it is clear that they read the papers.

Snow Ecology component:

All day Saturday field excursion to Eagle Summit. Students should bring a lunch and be prepared for possible severe weather and walking in deep snow. We will visit a variety of sites with different snow regimes, examine the vegetation beneath the snow and on exposed sites, record subnivian temperatures, and examine evidence of winter animal use in the various habitats. This should be a fun day and students will only be graded on attendance.

Plant identification component:

Plant identification will be conducted in the Museum classroom (Room ?). Students will work with herbarium specimens and literature sources to learn to identify about 160 common Arctic Alaska plants. Students are expected to read information on plant family characteristics. The final test will cover identification of about of 75 plants and key plant characteristics.

Oral presentations:

At the end of the lecture series (Lesson 16-17), students will present 10-minute oral summaries of individual library research topics. A handout will be given specifying the grading criteria for the oral presentations.

7. Cour	7. Course Schedule and Assignments:						
Lesson	Dates (to be adjusted for 2013)	Торіс	Reading assignment (available online at the course web site http://www.geobotany.uaf.edu/):				
1	Jan 19	Introduction	Callaghan, T.V., Bjorn, L.O., Chapin III, F.S., et al. 2005. Chapter 7, Arctic tundra and polar desert ecosystems. Arctic Climate Impact Assessment - Scientific Report. Cambridge University Press. Cambridge. pp. 243-352. (To be read by Mar 1, Lesson 12)				
2-3	Jan 23, 26	Overview of Arctic Ecosys- tems: The role of climate and topo- graphy	 Bliss, L.C. 1997. Arctic Ecosystems of North America. Polar and Alpine Tundra. Elsevier. Amsterdam. pp. 551-683. Chernov, Y.I., Matveyeva, N.V. 1997. Arctic ecosystems in Russia. Polar and Alpine Tundra. Elvesier. Amsterdam.3 pp. 361-507. (Both to be read by the end of the semester) 				
4-5	Jan 31, Feb 2	The role of soils: pH, texture, moisture, loess ecosystems and the Mammoth Steppe	 Walker, D.A., Everett, K.R. 1991. Loess ecosystems of northern Alaska: regional gradient and toposequence at Prudhoe Bay. Ecological Monographs. 61:(4): 437-464. Walker, D.A., Auerbach, N.A., Bockheim, J.G., et al. 1998. Energy and trace-gas fluxes across a soil pH boundary in the Arctic. Nature. 394:469- 472. Walker, D.A., Bockheim, J.G., Chapin, F.S., III, et al. 2001. Calcium-rich tundra, wildlife, and "the Mammoth Steppe". Quaternary Science Reviews. 20:149- 163. 				
6-7	Feb 7, 9	The role of permafrost, biocomplexity of small patterned- ground features	 Walker, D.A., Epstein, H.E., Romanovsky, V.E., et al. 2008. Arctic patterned-ground ecosystems: A synthesis of field studies and models along a North American Arctic Transect. Journal of Geophysical Research - 				

			2.	Biogeosciences. 113:G03S01. Walker, D.A., Kuss, P., Epstein, H.E., Kade, A.N., Vonlanthen, C.M., Raynolds, M.K. Daniels, F.J.A. 2011 in press, Vegetation and patterned-ground relationships along the Arctic bioclimate gradient in North America. Applied Vegetation Science.
8-9	Feb 14, 16	Cumulative effects of oil development on Arctic ecosystems	1.	NRC, Orians, G., Albert, T., et al. 2003. Cumulative Environmental Effects of Oil and Gas Activities on Alaska's North Slope. National Academies Press. Washington, D.C.: pp: 288. Walker, D.A., Forbes, B.C., Leibman, M.O., et al. 2011. Cumulative effects of rapid land-cover and land-use changes on the Yamal Peninsula, Russia. Eurasian Arctic Land Cover and Land Use in a Changing Climate. Springer. New York.VI pp. 206-236.
10-11	Feb 21, 23	Arctic Vegetation Mapping	 1. 2. 3. 4. 5. 6. 	Jorgenson, M.T., Roth, J.E., Miller, P.F., et al. 2009. An ecological land survey and landcover map of the Arctic Network. National Park Service. Natural Resource Technical Report, NPS/ARCN/NRTR—2009/270 Raynolds, M.K., Walker, D.A., Maier, H.A. 2006. Alaska Arctic Tundra Vegetation Map. 1:4,000,000. U.S. Fish and Wildlife Service. Anchorage, AK. Walker, D.A. 1999. An integrated vegetation mapping approach for northern Alaska (1:4 M scale). International Journal of Remote Sensing. 20:(15-16):2895-2920. Walker, D.A., Maier, H.A. 2008. Vegetation in the Vicinity of the Toolik Lake Field Station, Alaska. Biological Papers of the University of Alaska, No. 28, Institute of Arctic Biology. Walker, D.A., Raynolds, M.K., Maier, H.A., et al. 2009. Circumpolar geobotanical mapping: a web-based plant-to-planet approach for vegetation- change analysis in the Arctic. Mapping and Monitoring of Nordic Vegetation and Landscapes, Hveragerði, Iceland, 16-18 September. Walker, D.A., Raynolds, M.K., Daniëls, F. I.A., et al. 2005. The Circumpolar

			Arctic Vegetation Map. Journal of Vegetation Science. 16:(3):267-282.
12-13	Feb 28, Mar 1	Climate change and circumpolar Arctic vegetation	 Callaghan, et al. 2005. (See Lesson 1). Bhatt, U.S., Walker, D.A., Raynolds, M.K., et al. 2010. Circumpolar Arctic tundra vegetation change is linked to sea- ice decline. Earth Interactions. 14:(8):1-20.
14-15	Mar 6, 8	Class Presentation of Research topics	
	Mar 12-16	Spring Break	
16-17	Mar 20, 22	Arctic plant identification: UAF Museum Room ?: Overview of plant morphology and dichotomous keys.	Review required plant species names: Trees (6 species) and tall shrubs (4 species), and low shrubs (12 species). Read Web site links to family characteristics for Betulaceae, Salicaceae, Pinaceae
18-19	Mar 27, 29	Arctic plant identification: Dwarf shrubs	Review required plant species names: Dwarf shrubs (24 species). Read Web site links to family characteristics for Betulaceae, Salicaceae, Caprifoliaceae, Elaeagnaceae, Myricaeae, Rosaceae,
20-21	Apr 3, 5	Arctic plant identification: Grasses, sedges, rushes	Review required plant species names: Grasses (11 species), sedges (11 species), rushes (5 species) Read Web site links to family characteristics for Poaceae, Cyperaceae, Juncaceae
22-24	Apr 10, 12 PLUS Saturday Apr 14	Snow-vegetation interactions Plus Snow ecology field excursion to Eagle Summit	 Walker, D.A., J.G. Molenaar, and W.D. Billings. 2001. Snow-vegetation interactions in tundra environments. In: Jones, H.G., J. Pomeroy, D.A. Walker, and R. Hoham (eds.) Snow Ecology. Cambridge: Cambridge University Press, pp. 264-322.
25-26	Apr 17, 19	Arctic plant identification: Common forbs	Review required plant species names: Forbs (50 species) Read Web site links to family characteristics for Asteraceae (Compositae), Caryophyllaceae, Cruciferae, Fabaceae (Leguminosae), Liliaceae, Onagraceae, Polygonaceae, Ranunculaceae, Rosaceae, Saxifragaceae, Umbelliferae
27-28	Apr 24, 26	Arctic plant identification: Bryophytes	Review photos and descriptions of required Bryophyte species (14 mosses and 2 liverworts)
29-30	May 1, 3	Arctic plant identification: Lichens	Review photos and descriptions of required lichen species (22 species)

May 7-10	Plant identification	Graduate student papers due May 10
	exam	

8. Course policies:

Academic integrity:

Plagiarism and cheating will not be tolerated. Plagiarism is presenting another's work as new or original without citing your source. For additional detail, see

http://www.uaf.edu/library/instruction/handouts/Plagiarism.html

Please speak with me if you have any questions about how to properly use other people's work.

Attendance policy:

Students are expected to attend every class and lab and be seated at the beginning of the class. If necessary, and with due warning, I will institute a policy of deducting five points for missing class without a prior excuse, and three points for tardiness.

9. Evaluation:

Grading points:

Undergraduate student grading (BIOL 461 students):

Attendance and participation in literature discussions:	200 pts
Oral presentation of research topic	200
Plant identification exam	200
Snow Ecology exercise:	<u>100</u>
TOTAL	700 pts

Graduate student grading (BIOL 661 students):

Graduate students will be graded according to the same criteria as the graduate students except that the graduate students are required to turn in 10-15 page research paper on an Arctic Vegetation topic of their choice on the final day of the course. This paper will be worth 30% of the total grade. Late papers will be deducted

15 points of the 300 total for every day late. Students should arrange for an incomplete grade if they cannot meet this deadline.

Attendance and participation in literature discussions:	200 pts
Oral presentation of research topic	200
Plant identification exam	200
Snow Ecology exercise:	100
Final Paper	<u>300</u>
TOTAL	1000 pts

These criteria may be modified somewhat as the course progresses.

Final grades will be as follows: greater than or equal to 90% = A; 80-89% = B; 70-79% = C; 60-69% = D; < 60% = F.

10. Support Services:

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Students are encouraged to contact the instructor with any questions, or to clarify the lecture or the assignments. I will be happy to review drafts of assignments and answer questions any time. Arctic Health, Room 254. Phone 474-2460, dawalker@alaska.edu. Home phone: 451-0800.

11. Disabilities services:

The instructor will work with the Office of Disabilities Services (203 WHIT, 474 7043, to provide reasonable accommodation to students with disabilities.

September 10, 2011

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To: UAF Faculty Senate, Curriculum Review Committee

From: Skip Walker, Department of Biology of Wildlife

Re: New and revised courses for an Arctic Vegetation Science curriculum

During my recent Fulbright sabbatical year I was inspired by the vegetation science courses being taught by Prof. Milan Chytry and his colleagues in the Botany and Zoology Department at Masaryk University, Czech Republic. I would like to develop a short curriculum of courses at UAF that would use the methods I learned in the Czech Republic to better train UAF students in vegetation science. One of the keys to the success of the European programs is emphasis on field courses and getting students out and observing the plants and vegetation patterns in Nature. This is difficult to do in Alaska during the regular academic year. The new Arctic Plants and Vegetation Ecology courses I am offering include a spring LECTURE component and an EXCURSION component, which is offered in early summer. This is particularly needed for students in Alaska, many of whom will be hired by government and non-government agencies to describe and manage the natural resources of the state. It is also increasingly needed for multi-disciplinary academic approaches to study, understand, manage, and preserve complex and changing Earth systems. The courses are organized around my primary expertise and over 40-years experience working in Arctic ecosystems.

The curriculum consists of three courses that are designed to give students a thorough practical background and training in vegetation sampling and analytical methods adapted to northern ecosystems:

- <u>BIOL 4 /6</u>, <u>New Course: Arctic Plants and Vegetation Ecology</u>, <u>LECTURE</u>. 2 Credits. Offered Spring 2013, 2014 and even number years thereafter. Provides a background in Arctic vegetation ecology, Arctic plant identification, and snow-vegetation interactions. In 2013 and even-numbered years thereafter, this course will alternate with BIOL 331 Systematic Botany. (See NOTES below).
- BIOL 4 /6, New Course: Arctic Plants and Vegetation Ecology, EXCURSION. 2 Credits. Offered Springs of even numbered years. This course is different in name only from Course 2. Provides a solid field experience in vegetation sampling and field knowledge of a wide variety of Arctic plants and plant communities along the Dalton and Elliott highways. The title "Arctic Plants and Vegetation Ecology: EXCURSION" is used to be compatible with the Arctic Plants and Vegetation Ecology: LECTURE course.
- BIOL 4 / 6 , Major course change, Vegetation Description and Analysis.
 3 Credits. Offered Fall of even numbered years. Revision of BIOL 475 to 3 credits and stacked with 600-level course. The course provides in-depth treatment of the field sampling procedures applied to boreal forest ecosystems, vegetation data management and computer analysis methods.

NOTES:

- a. In 2013 and even numbered years thereafter, the Arctic Plants and Vegetation Ecology course will be an alternative to satisfy a botany requirement of the Wildlife Biology and Conservation program. Currently BIOL 331, taught every year by Steffi Ickert-Bond, meets this requirement, but in 2013, Steffi will be on sabbatical, and in even numbered years thereafter she will teach a different course. The Arctic Plants and Vegetation Ecology LECTURE course will be offered as an alternative.
- b. The courses will also be listed as University of the Arctic courses, with possible participation by foreign students interested in Arctic ecosystems.

Thank you for considering these proposals.

Best regards, Skip Walker