38-UCCh.-A

FORMAT 2

Submit originals (including syllabus) and one copy and electronic copy to the **Faculty Senate Office**
See http://www.uaf.edu/uafgov/faculty-senate/curriculum/course-degree-procedures-/ for a complete description of the rules governing curriculum & course changes.

CHANGE COURSE (MAJOR) and DROP COURSE PROPOSAL

Attach a syllabus, except if dropping a course.

SUBMITTED BY:

Department	High Latitude Agriculture	College/School	SNRAS
Prepared by	Patricia S. Holloway	Phone	907-474-6686
Email Contact	psholloway@alaska.edu	Faculty Contact	Patricia S. Holloway

1. ***COURSE IDENTIFICATION:*** ***As the course now exists.***

Dept NRM | Course # 215 | No. of Credits 3

COURSE TITLE Plant Propagation

2. ***ACTION DESIRED:*** √ ***Check the changes to be made to the existing course.***

Change Course [x] If Change, indicate below what is changing. Drop Course [ ]

NUMBER [x] **TITLE** [x] **DESCRIPTION** [x]
PREREQUISITES* [x] ***FREQUENCY OF OFFERING*** [x]

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

CREDITS (including credit distribution) 1 (1+0 | ***COURSE CLASSIFICATION*** NRM 151

ADD A STACKED LEVEL *(400/600) Include syllabi.* [ ] Dept. [ ] Course # [ ]

How will the two course levels differ from each other? How will each be taught at the appropriate level?:

Stacked course applications are reviewed by the (Undergraduate) Curricular Review Committee and by the Graduate Academic and Advising Committee. Creating two different syllabi—undergraduate and graduate versions—will help emphasize the different qualities of what are supposed to be two different courses. The committees will determine: 1) whether the two versions are sufficiently different (i.e. is there undergraduate and graduate level content being offered); 2) are undergraduates being overtaxed?; 3) are graduate students being undertaxed? In this context, the committees are looking out for the interests of the students taking the course. Typically, if either committee has qualms, they both do. More info online - see URL at top of this page.

ADD NEW CROSS-LISTING [ ] Dept. & No. [ ] Requires approval of both departments and deans involved. Add lines at end of form for additional signatures.

STOP EXISTING CROSS-LISTING [ ] Dept. & No. [ ] Requires notification of other department(s) and mutual agreement. Attach copy of email or memo.

OTHER (specify) [ ]

3. ***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 **and** the appropriate Faculty Senate curriculum committee. 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* [ ] *2* [ ] *3* [ ] *4* [ ] *5* [x] *6 weeks to full semester*

OTHER FORMAT (specify all that apply)

Mode of delivery (specify lecture, field trips, labs, etc.) **Course will be delivered via campus lectures that will be available distance via smart classroom. They will also be offered asynchronous distance via Blackboard/eluminate live and more.**

4. **COURSE CLASSIFICATIONS:** (undergraduate courses only. Use approved criteria found in Chapter 12 of the curriculum manual. If justification is needed, attach 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 also submitted [ ] W = Writing Intensive, *Format 7 submitted [ ] X = Baccalaureate Core [ ]

4.A ***Is course content related to northern, arctic or circumpolar studies? If yes, a "snowflake" symbol will be added in the printed Catalog, and flagged in Banner.***

YES	X	NO	

5. **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**

6. ***COMPLETE CATALOG DESCRIPTION including dept., number, title, credits, credit distribution, cross-listings and/or stacking, clearly showing the changes you want made. (Underline new wording ~~strike through old wording~~ and use complete catalog format including dept., number, title, credits and cross-listed and stacked.)***

Example of a complete description:

PS F450 Comparative ~~Aboriginal~~ Indigenous Rights and Policies (s)
3 Credits
Offered As Demand Warrants
~~Case-study~~ Comparative approach ~~in assessing Aboriginal~~ to analyzing Indigenous rights and policies in different nation-state systems. ~~Seven Aboriginal situations~~ Multiple countries and specific policy developments examined for factors promoting or limiting self-determination. Prerequisites: Upper division standing or permission of instructor. (Cross-listed with ANS F450.) (3+0)

NRM ~~215~~ 151 Plant Propagation II. Vegetative Propagation
~~3 credits~~ 1 credit
Offered fall, spring, summer
Principles and practices of plant propagation useful in horticulture, botany, forestry, agronomy, revegetation and land reclamation projects and plant research. ~~Emphasis on both macro- and micro propagation (tissue culture) of Alaska native plants by seeds, spores and vegetative propagation such as cuttings.~~ Course will cover methods of vegetative propagation including cuttings; layering; grafting; bulb, corm and tuber propagation; and micro propagation through tissue culture. Emphasis will be on Alaska native and economically useful plants. **~~Prerequisites: NRM F211 or Intro to Biology or Botany or permission of the instructor (2+3)~~ Recommended: basic course in high school biology. (1+0)**

7. ***COMPLETE CATALOG DESCRIPTION AS IT SHOULD APPEAR AFTER ALL CHANGES ARE MADE:***

NRM 151 Plant Propagation: II. Vegetative Propagation
1 credit
Offered: Fall, spring, summer
Principles and practices of plant propagation useful in horticulture, botany, forestry, agronomy, revegetation and land reclamation projects and plant research. Course will cover methods of vegetative propagation including cuttings; layering; grafting; bulb, corm and tuber propagation; and micro propagation through tissue culture. Emphasis will be on Alaska native and economically useful plants. **Recommended: basic course in high school biology. (1+0)**

8. *GRADING SYSTEM:* *Specify only one.*

LETTER: [x] PASS/FAIL: [ ]

9. *ESTIMATED IMPACT*

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

There should be no impact on budget, facilities/space, faculty. This course is one of three that will replace NRM 215. It is being split into three components mostly for distance/online delivery to separate lectures from labs.

10. *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 [ ]

The course has been offered for more than 20 years. Library/media collections and equipment have been well vetted.

11. *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)

This course is not required by any degree program including NRM. It may be used by NRM students, other beginning undergraduates and also AAS Renewable Resources students as an elective.

12. *POSITIVE AND NEGATIVE IMPACTS*

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

Recent interest by non-degree seeking students, Renewable Resources Associates degree students (CRCD) and high school students wishing to take college credits would allow the delivery of this course to be statewide. Course delivery would be 1) synchronous campus class and simultaneous distance delivery using the smart classroom and 2) asynchronous distance delivery. There would be no impact on changing it from a 200 level to a 100 level in NRM since it would continue to be a lower division elective. It would simply be more accessible to a broader audience.

13. *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. If you ask for a change in # of credits, explain why; are you increasing the amount of material covered in the class? If you drop a prerequisite, is it because the material is covered elsewhere? If course is changing to stacked (400/600), explain higher level of effort and performance required on part of students earning graduate credit. 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.

This course will be one of three individual classes in plant propagation that will be roughly equivalent to the original course except offered at an introductory level. We conducted a survey of horticulture businesses in spring 2013: (40 surveys sent statewide, 345 survey respondents). The response was overwhelmingly positive for science-based training in a wide array of horticulture/agronomy/soils topics. Our goal is to offer NRM 151 as an elective for NRM majors, other undergraduate students, but also to reach a statewide audience through a variety of distance delivery tools. Plant propagation is a techniques class that forms the basis for many other advanced classes in plant science. We wish to provide these tools (with an emphasis on Alaska-specific plants taught nowhere else in the world) at an introductory level, and in the future, couple it with an advanced class for students who wish to explore plant propagation at a greater depth. Our school is also working with CRCD on a re-vamping of the Renewable Resources Associates Degree. We will offer this class as an elective in that degree. Our audience will expand to non-degree seeking students statewide, AAS degree students and NRM 4 year degree students as an elective.

APPROVALS: (Additional signature blocks may be added as necessary.)

Meriam Karboom — Date 10/2 2013
Signature, Chair, Program/Department of: High Latitude Agriculture

Peter — Date 10/4/13
Signature, Chair, College/School Curriculum Council for: CNRS

J. Yarie — Date 10/4/13
Signature, Dean, College/School of:

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

Date
Signature of Provost (if applicable)

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

Date
Signature, Chair
Faculty Senate Review Committee: ___Curriculum Review ___GAAC
___Core Review ___SADAC

ADDITIONAL SIGNATURES: (As needed for cross-listing and/or stacking; add more blocks as necessary.)

Date
Signature, Chair, Program/Department of:

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

Date
Signature, Dean, College/School of:

Note: If removing a cross-listing, attach copy of email or memo to indicate mutual agreement of this action by the affected department(s). If degree programs are affected, a Format 5 program change form must also be submitted.

UNIVERSITY OF ALASKA FAIRBANKS

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School of Natural Resources and Agricultural Sciences
Agricultural and Forestry Experiment Station

MEMORANDUM

TO: Susan Henrichs, Provost

FROM: Stephen D. Sparrow, Interim Dean and Director
School of Natural Resources and Agricultural Sciences
Agricultural and Forestry Experiment Station

DATE: September 27, 2013

RE: Signature Authority

I will be in Girdwood for the 8th Circumpolar Agricultural Conference/University of the Arctic Inaugural Food Summit meetings September 29-October 3, and Palmer October 4. During my absence, Professor John Yarie will have signature authority for all routine paperwork for the School of Natural Resources and Agricultural Sciences and Agricultural and Forestry Experiment Station.

NRM 151
PLANT PROPAGATION- II. Vegetative Propagation

1 credit (1+0)
Prerequisites: none; recommended basic high school biology
Location: 183 Arctic Health Bldg (AHRB)
Time: TBA (1 hr per week, 14 weeks; 2 hour final)

Instructor: Dr. Patricia S. Holloway
Office: 104AH Arctic Health Building; Georgeson Botanical Garden (Fairbanks Experiment Farm)
Office hours: TBA
Telephone: (907)474-6686
Email: psholloway@alaska.edu

Textbook: Beyl, C. and R. Trigiano. 2008. Plant Propagation Concepts andx Laboratory exercises. CRC Press, New York.

Course Description:
Principles and practices of plant propagation useful in horticulture, botany, forestry, agronomy, revegetation and land reclamation projects and plant research. Course will cover methods of vegetative propagation including cuttings; layering; grafting; bulb, corm and tuber propagation; and micro propagation through tissue culture. Emphasis will be on Alaska native and economically useful plants.

Prerequisite: none
Recommended: basic course in high school biology. (1+0)

Goals and Objectives:
The propagation of plants by seeds, cutting, grafting and more is the foundation of plant-based natural resources management. This course is part two of a three-part series exploring the theory and methods of propagating plants. It is designed to provide natural resource managers with basic knowledge in plant regeneration by vegetative means such as cuttings, specialised stems, grafting and tissue culture. These methods form the basis for the science of horticulture. The lectures and assigned activities explore the fundamental basis for reproduction in plants and the methods by which we use natural processes to propagate plants for use in horticulture, agronomy, forestry, revegetation and reclamation.

Student Learning Outcomes:
It is expected that you will become familiar with the theory and practice of plant vegetative propagation sufficient for entry level work in a commercial greenhouse/nursery or fields that require information on revegetation and reclamation such as mining, highway and forest revegetation; propagation of plants for home and garden use; and sharing propagation information with others. You will develop a working knowledge of

vegetative propagation terminology and techniques to allow you to pursue specific interests as well as pracatice problem-solving skills for researching and making management decisions in resources management.

Instructional Methods: The basic course will use Blackboard as the main interface for exams, presentation of videos, YouTube and more.

1) Online or classroom powerpoint lecture
2) Audio/video demonstrations using Powerpoint, Camtasia, Youtube
3) Propagation terms- a combination of puzzles, quizzes, matching, short answer
4) Situational essays: short essays answering questions about how veetative propagation methods are used in natural resources management that require independent research of literature, analysis and problem solving
5) Videos or production practices for seeds
6) In-class or distance discussions about the biology and/or business of vegetative propagation

Technology Requirements:
One section of this course will be online and will use several multimedia technologies accessible through Blackboard. Lectures will be recorded using Powerpoint/Camtasia/Youtube and will require audio and video capabilities. There are no requirements to purchase additional software. Students will be expected to have the most current versions of several applications that will be used in this course, including QuickTime, Flash (Mac|Windows), iTunes and Java. Before the first online class meeting, please visit the OIT website to make sure all of your systems are up to date.

Evaluations:

1.	Weekly vocabulary quiz/game, etc. (12)	120 points	A=90-100%
2.	Situational essays (5)	125	B=80-89%
3.	Video commentaries (5)	125	C=70-79%
4.	Mid-term exam	50	D= 60-69%
5.	Final exam	50	F= below 60%
		470	

Weekly vocabulary quizzes: (10 points each, 120 points) A weekly quiz (open book) will be given using a variety of tools such as crossword puzzles, short answer, fill in the blank, etc. that give students opportunities to learn the unique vocabulary of plant propagation. There will be 12 quizzes in a semester and must be completed on Blackboard within one week of the class time.

Situational Essays: (25 points each, 125 points) An essay question will be given approximately every two weeks that require a search of the literature and exploration of the seed industry. Essays will be 500 words or less and must include referenced sources of information. They will be made available on Blackboard and will be due one week from assigned date. A required citation style will be provided.

Exams: Two exams will be given, a mid term and a final. Using a mixture of short answer, fill in the blank, and essay, the exams will cover a review of materials for one half of the course. The final is not cumulative, however because of the nature of the course content, material from the first half will be required to answer questions from the second half.

Course Policies:

Plagiarism and Academic Honesty

Plagiarism is using what another person has developed as your own words or thoughts. Plagiarism is never acceptable. UAF requires students to conduct themselves honestly and responsibly and to respect the rights of others. Cheating, plagiarism or other forms of academic dishonesty may result in disciplinary action and sanctions. The UAF Student Code of Conduct is adhered to in this course.

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 (208 WHIT, 907□474□5655) to provide reasonable accommodation to students with disabilities.

UAF Disability Services for Distance Students

UAF has a Disability Services office that operates in conjunction with the College of Rural and Community Development (CRCD) 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. If you believe you are eligible, please visit the Office of Disability Services 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□5655, fydso@uaf.edu.

Make up quizzes and exams will be given only in emergency situations (Note from Dean, Physician, Employer).

Incomplete grades: Incompletes will be given only in the case of family or medical emergencies or circumstances beyond your control. You must have a C- or better average in the class, have attended all of the classes and labs, and shown good progress toward completing the course BEFORE the emergency in order to receive an incomplete grade.

Audits: Auditing the class is accepted but not recommended. You must complete all work, including the exams, readings and lab reports. They simply won't be graded. If exams, etc. are not completed, the instructor will initiate a withdrawl from the class.

Spelling and Grammar: On all written papers including lab reports and exams, you will lose points for poor spelling and grammar.

Tentative Schedule (by week)

1. Asexual or vegetative propagation – introduction - how vegetative propagation is used in horticulture, forestry, agronomy, wildland restoration, landscaping. A broad overview of the importance of asexual propagation and examples of it used professionally around the world (quiz 1, essay 1)
2. Introduction continued - Major plants that are propagated vegetatively (root crops, bulbs, clones and naturally cross pollinating species (quiz 2, video commentary 1)
3. Cuttings: vegetative shoot anatomy, where roots/shoots come from, adventitious organs (quiz 3, essay 2)
4. Chimeras- definition, how they arise, to good and bad of chimeras (quiz 4, video commentary 2)
5. Commercial stock plant production and nurseries (Quiz 5, essay 3)
6. Cuttings, callus and development; environmental control of root development especially light, air and soil temperature, humidity, propagation medium (quiz 6, video commentary 3)
7. Leaf cuttings, leaf-bud cuttings- anatomy, commercial applications; factors affecting success (Quiz 7, essay 4)
8. Midterm exam
9. Layerage- the art and science of layering - origin, anatomy, methods of commercial propagation; factors affecting regeneration by layerage. (quiz 8, video commentary 4)
10. Root cuttings- anatomy, commercial applications, factors affecting root/shoot development (quiz 9, essay 5)
11. Growth regulators and rooting- common plant hormones and how they are used in promoting root/shoot production; how they work (quiz 10)
12. Propagation by specialized stems: bulbs, corms tubers, rhizomes, tuberous rhizomes; their origin, anatomy, methods of commercial propagation; factors affecting regeneration by specialized stems (quiz 11, video commentary 5)
13. Specialized structures- pseudobulbs, offsets, runners; their origin, anatomy, methods of commercial propagation; factors affecting regeneration by specialized stems (quiz 12)
14. Grafting and Budding- definition, origin, anatomy, methods of commercial propagation; factors affecting regeneration by grafting and budding
15. Final exam