



TITLE: PLANT PROPAGATION – II. Vegetative Propagation

NUMBER: NRM 151

CREDITS: 1 credit (1+0)

PREREQUISITES: Prerequisites: recommended basic high school biology, botany

LOCATION: Online

MEETING TIME: variable; online chat availability:

INSTRUCTOR: Dr. Patricia S. Holloway

OFFICE LOCATION: 104AH Arctic Health Research Building

OFFICE HOURS: TBA

TELEPHONE: (406) 451-1653

EMAIL ADDRESS: psholloway@alaska.edu

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.

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 practice problem-solving skills for researching and making management decisions in resources management.

COURSE READINGS/MATERIALS

A textbook is not required for this course. Required weekly readings, web sites and videos, will be assigned on Blackboard. A recommended reading list will be provided.



UAF eLearning & Distance Education - Supported Course

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TECHNICAL REQUIREMENTS FOR COURSE

This course 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.](#)

INSTRUCTIONAL METHODS

This course is asynchronous, meaning you work at your own pace within the class deadlines. Assignments are due weekly plus one-week at the end to complete the final. There are no joint weekly meetings or discussion sections. You are encouraged to email me, and I will post common questions on the class discussion board.

The basic course will use Blackboard as the main interface for exams, presentation of videos, and more. YouTube videos are on a private channel specifically for this course. Once the class begins, you will receive emails using your UAF account that has a link to each video.

Methods will include:

- 1) Online PowerPoint/YouTube lectures
- 2) Audio/video demonstrations using Powerpoint, Camtasia, Youtube
- 3) Propagation terms- a combination of puzzles, quizzes, matching, short answer
- 4) Weekly quizzes about how seeds are harvested, processed, used, that will be from the required readings, web sites and videos
- 5) Videos or production practices for seeds

COURSE SCHEDULE

See the separate coarse calendar with the dates and assignments and when they are due. The course content is as follows:

1. 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
2. Major concerns with vegetative propagation: viruses, mutations and how they are managed.
3. Cuttings: vegetative shoot anatomy, where roots/shoots come from, adventitious organs
Chimeras- definition, how they arise, to good and bad of chimeras
4. Commercial stock plant production and nurseries
5. Cuttings, callus and development; environmental control of root development especially light, air and soil temperature, humidity, propagation medium (quiz 6, video commentary 3)
6. Leaf cuttings, leaf-bud cuttings- anatomy, commercial applications; factors affecting success

7. Layerage- the art and science of layering - origin, anatomy, methods of commercial propagation; factors affecting regeneration by layerage.
8. Root cuttings- anatomy, commercial applications, factors affecting root/shoot development
9. Growth regulators and rooting- common plant hormones and how they are used in promoting root/shoot production; how they work
10. Propagation by specialized stems: bulbs, corms tubers, rhizomes, tuberous rhizomes; their origin, anatomy, methods of commercial propagation; factors affecting regeneration by specialized stems
11. Specialized structures- pseudobulbs, offsets, runners; their origin, anatomy, methods of commercial propagation; factors affecting regeneration by specialized stems
12. Grafting and Budding- definition, origin, anatomy, methods of commercial propagation; factors affecting regeneration by grafting and budding

COURSE SCHEDULE CHECKLIST

See separate document

COURSE POLICIES

This course is very short- only 6 weeks. We also cover a lot of course material. It is imperative that you begin on time and allocate ample time each week to complete assignments. I do provide a one-week buffer for exams beyond the due date just in case you get busy, too many tests one week, etc. However, it is your responsibility to keep up so you finish during the class time. The exams and vocabulary quizzes are only available for a specific time, and then they disappear from Blackboard. You must complete these exams on time or lose the opportunity. See the policy for incompletes and no basis grades below.

Every exam, puzzle, etc. required in this course must be answered using Blackboard. DO NOT email answers either in the body of an email or as an attachment. It will not be graded and can easily get lost in the mountains of emails I deal with.

If you have issues with entering grades or working with Blackboard, contact UA e-learning for support (see below). They will help you navigate the program.

Plagiarism will not be tolerated. If you use someone else's work or quote from a website, paper, journal or whatever and the thoughts are not original to you, you **MUST** cite the work using the citation style included in the course documents. Honor the hard work of others and recognize them for their efforts.

This course is to be completed by you alone, not in groups of students.

EVALUATION POLICIES

Weekly vocabulary quiz/game, etc. (6)	120 points	A= 90-100%
Weekly exams (5)	250	B= 80-89
Final	50	C= 70-79%
		D= 60-69%
		F= Below 60%
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Weekly vocabulary quizzes/games: (20 points each, 120 points total) A weekly quiz will be given using a variety of tools such as crossword puzzles, short answer, fill in the blank, etc. that give you opportunities to learn the unique vocabulary of plant propagation. Sorry, there are a lot of new words to learn. There is no way around it!

Exams (50 points each) will be open book, open notes, any sources except fellow students. Citations are required for all essay questions and are worth 5 points of the total for that question. If work is used from a published source (literature, web) the source must be cited completely. See separate paper on citation style. There will be 5 exams in a semester.

Final exam: The final exam is cumulative over the 6 weeks and will be composed of a mixture of fill in the blank, short answer, essays, matching, and more.

I go back and review every single test and quiz. In some instances, there is a glitch with Blackboard where no points show up where you think you should have them. Remember, Blackboard is a machine. If things are not spelled exactly correctly, or you put a space where there is no space, the answer is considered incorrect. I go back and fix these. Keep checking your score, and if you have questions after your score has changed, email me, and I will try to resolve issues.

GRADE EXPLANATION

A grade of C– (1.7) is the minimum acceptable grade that undergraduate students may receive for courses to count toward the major or minor degree requirements. A minimum grade of C (2.0), however, MAY be required by specific programs for prerequisite and/ or major / minor courses. Please consult specific program listings in the UAF Catalog.

EXPLANATION OF NB/I/W GRADES

NB Grades

The NB grade is for use only in situations in which the instructor has No Basis upon which to assign a grade. In general, the NB grade will not be granted.

Incomplete Grade Policy:

“The letter “I” (Incomplete) is a temporary grade used to indicate that the student has satisfactorily completed (C or better) the majority of work in a course but for personal reasons beyond the student’s control, such as sickness, she/he has not been able to complete the course during the regular semester. Negligence or indifference are not acceptable reasons for an “I” grade.”

Successful, timely completion of this course depends on committing yourself early and maintaining your effort. To this end, this course adheres to the following UAF eLearning Procedures:

1. The first contact assignment (Introduction) is due one week after the first day of instruction. Failure to submit this assignment within the first two weeks of the course could result in withdrawal from the course.
2. The first content assignment (Week 1) is due one week after instruction for that week. Failure to submit this assignment within the deadlines could result in withdrawal from the course.
3. Failure to submit the first three content assignments (Weeks 1, 2 and 3) by the deadline for faculty-initiated withdrawals (the ninth Friday after the first day of classes) could result **in instructor initiated withdrawal from the course (W)**.

INSTRUCTOR RESPONSE TIME

I will make every effort to grade assignments within 48 hours of completion. I try to wait until most students have completed an exam or quiz to make sure there are no common misunderstandings with the way I wrote something. If there is a problem, I will notify you immediately. You may email me any time to discuss this course and its content. I will make every attempt to respond to your emails within 24 hours. You may also call me directly during office hours and other times by appointment to discuss this class or arrange for an office visit in Fairbanks.

HOW TO CHECK YOUR GRADE

To check your grades for assignments and find comments from your instructor, click on the My Grades link in the sidebar menu of Blackboard. All the assignments and their due dates are listed. If your instructor has left comments, there will be a Comments link. Click on this link to view comments.

If the score is for a test or quiz, click on the check mark or your score to see results and feedback.

If the score is for an assignment, the title of the assignment is a link and by clicking this link you'll be taken to your submission, grade and comments.

If you see a green explanation point, your assignment has not been graded yet.

EXPECTATION OF STUDENT EFFORT

You should expect to spend a minimum of 3 hours per week on this class outside the time for weekly videos, reading, etc. Your background and knowledge of basic plant biology will determine how long it takes for you to complete assignments. You are expected to complete the weekly assignments by their due dates. I expect to be informed in advance if you are not able to submit your assignment on time. (Emergency situations will be dealt with as needed.) You are expected to maintain a working backup plan to be implemented in the event of a computer malfunction or an interruption of their normal Internet service during the course.

ACADEMIC INTEGRITY

As described by UAF, scholastic dishonesty constitutes a violation of the university rules and regulations and is punishable according to the procedures outlined by UAF. Scholastic dishonesty includes, but is not limited to, cheating on an exam, plagiarism, and collusion. Cheating includes providing answers to or taking answers from another student. Plagiarism includes use of another author's words or arguments without attribution. Collusion includes unauthorized collaboration with another person in preparing written work for fulfillment of any course requirement. Scholastic dishonesty is punishable by removal from the course and a grade of "F." For more information go to Student Code of Conduct. (<http://uaf.edu/usa/student-resources/conduct>)

SUPPORT SERVICES

UAF eLearning Student Services helps students with registration and course schedules, provides information about lessons and student records, assists with the examination process, and answers general questions. Our Academic Advisor can help students communicate with instructors, locate helpful resources, and maximize their distance learning experience. Contact the UAF eLearning Student Services staff at 907-479-3444 or toll free 1-800-277-8060 or contact staff directly – for directory listing see: <http://uaf.edu/usa/student-resources/conduct>

UAF Help Desk

Go to <http://www.alaska.edu/oit/> to see about current network outages and news. Reach the Help Desk at:

- e-mail at helpdesk@alaska.edu
- fax at (907)-450-8312
- phone in the Fairbanks area is 450-8300 and outside of Fairbanks is 1-800-478-8226

DISABILITIES SERVICES

The **UA Office of Disability Services** operates in conjunction with UAF eLearning. Disability Services, a part of UAF's 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 their web site (<http://www.uaf.edu/disability/>) or contact a student affairs staff person at your nearest local campus. You can also contact Disability Services on the Fairbanks Campus by phone, (907) 474-5655, or by e-mail (uaf-disabilityservices@alaska.edu).