

COURSE SYLLABUS
FORS 241N - DENDROLOGY
Spring Semester 3 Credits

Instructor and course information

Instructor: Burke, Edwin J. – Stone Hall – Room SH105 – 406-243-5157
Schedule: Lecture: Tuesday, Thursday, 11:10 - 12:00 pm., Forestry 301 (Plant Lab)
Laboratory: Wednesday, 3:10 – 6 PM & or Thursday, 2:10 - 5:00 pm., Forestry 305 (Plant Lab)
Required Text: Course Pack from Burke;
Optional Texts: Trees of North America -- Golden Press at UM or any bookstore Textbook of Dendrology -- McGraw-Hill; Fruit and Twig Key, Dover Press.

Grading Scheme:

Gymnosperm and Angiosperm Lecture Exams:

1 hr. mid-semester exam covering Gymnosperms,
during the Thursday lecture period, Week #6 100

1 hr. mid-semester lecture exam covering Angiosperms
during the Thursday lecture period, last week of class 100

Gymnosperm Laboratory:

5 weekly quizzes, starting week #2 @60 pts. ea. 300

Laboratory Examination, over weeks 1-5, during lab, Week 6 200

Angiosperm Laboratory

6 weekly quizzes, starting week # 8 @60 pts. ea 360

Laboratory Examination, over weeks 7-13 during lab period in
the last week of class 200

Subtotal Points for Class 1260

Drop lowest quiz score for the semester -60

Total Points for Class 1200

In addition, one grade-enhancement quiz will be given during the last week of the class. The enhancement quiz will cover Angiosperms, but can be used to count for a missed quiz or will substitute for the lowest quiz score if no quizzes were missed. In addition, the lowest quiz score for the semester, including the enhancement quiz if it is the lowest, will be dropped. Weekly grades will be posted in the classroom.

A=90%+; B=80%+; C=70%+; D=60%+; F< 60%

Student Conduct Code

All students must practice academic honesty. Academic misconduct is subject to an academic penalty by the course instructor and/or a disciplinary sanction by the University. All students need to be familiar with the [Student Conduct Code](#).

Topical Outline and Course Schedule
FORS 241N--DENDROLOGY
Spring Semester

Week #	New Trees	TOPIC
GYMNOSPERMAE		
1	9	Introduction; Dendrology Terminology, Gymnosperm lifecycle, leaf and cone morphology ; <i>Ginkgoaceae</i> (1), <i>Taxaceae</i> (1), <i>Pinaceae</i> -- Subgenus <i>Strobus</i> (<i>Hapoxylon</i>) of <i>Pinus</i> (7); No Quiz this wk.
2	11	<i>Pinaceae</i> --Subgenus <i>Pinus</i> (<i>Dipoxylon</i>) of <i>Pinus</i> (11); Quiz G-1
3	10	<i>Pinaceae</i> -- <i>Pseudotsuga</i> (1), <i>Larix</i> (3), <i>Picea</i> (6); Quiz G-2
4	10	<i>Pinaceae</i> -- <i>Abies</i> (4), <i>Tsuga</i> (3), <i>Cedrus</i> (1); <i>Cupressaceae</i> -- <i>Sequoia</i> (1), <i>Sequoiadendron</i> Quiz G-3 (1)
5	10	<i>Cupressaceae</i> -- <i>Calocedrus</i> (1), <i>Thuja</i> (2), <i>Taxodium</i> (1), <i>Chamaecyparis</i> (2), <i>Cupressus</i> (1), <i>Juniperus</i> (3), Quiz G-4
6	0	Review session during Tuesday's lecture period. Gymnosperm Lecture Exam on Thursday. Quiz G-5 during Gymnosperm Laboratory Exam will be held during this week's regular laboratory periods.

ANGIOSPERMAE

7	8	Angiosperm lifecycle, leaf, flower and fruit arrangements and types ; <i>Salicaceae</i> (8). Lecture and lab during lab periods this week.
8	11	<i>Betulaceae</i> (7), <i>Juglandaceae</i> (4); Quiz A-1
9	12	<i>Fagaceae</i> (9), <i>Ulmaceae</i> (2), <i>Cannabaceae</i> (1); Quiz A-2
10	0	Spring Break, No Classes
11	12	<i>Magnoliaceae</i> (2), <i>Lauraceae</i> (2), <i>Altingiaceae</i> (1), <i>Platanaceae</i> (1), <i>Elaeagnaceae</i> (1), <i>Rosaceae</i> (3), <i>Moraceae</i> (2); Quiz A-3
12	14	<i>Fabaceae</i> (5), <i>Sapindaceae</i> (9); Quiz A-4
13	10	<i>Aquifoliaceae</i> (1), <i>Tiliaceae</i> (1), <i>Anacardiaceae</i> (1), <i>Cornaceae</i> (3), <i>Oleaceae</i> (2), <i>Ericaceae</i> (1), <i>Bignoniaceae</i> (1); Quiz A-5
14	0	Review session during Tuesday's lecture period. The Angiosperm Lecture Exam is to be held during Thursday's lecture period. The Angiosperm Quiz A-6 , the Grade Enhancement Quiz and the Angiosperm Laboratory Exam and will be held during this week's regular laboratory periods.
15	0	Study week for all other classes
16	0	Finals Week. Examinations to be graded and ready to pick up by Friday. Grades posted in classroom.

Total # of trees = 117

Important Dates Restricting Opportunities to Drop Course Spring 2016:

Days into Semester	Opportunities	Drop Dates
To 15 th instructional day	Students can drop classes on Cyberbear with refund	February 13 = last day
16 th to 45 th instructional day	Drop requires form with instructor and advisor signature, a \$10 fee from registrar's office; student will receive a 'W' on transcript, no refund.	February 13 through March 28, 2016
Beginning 46 th instructional day	Students are only allowed to drop a class under very limited and unusual circumstances. Not doing well in the class, deciding you are concerned about how the class grade might affect your GPA, deciding you did not want to take the class after all, and similar reasons are not among those limited and unusual circumstances. If you want to drop the class for these sorts of reasons, make sure you do so by the end of the 45 th instructional day of the semester.	March 29 – May 6

Class Attendance Policy

- Students who are registered for a course but do not attend the first two class meetings may be required to drop this course. This rule allows for early identification of class vacancies to permit other students to add classes. Students not allowed to remain must complete a drop form or drop the course on the Internet: [CyberBear](#).
- Students are expected to attend all class meetings and complete all assignments for this course. Student may be excused for brief and occasional absences for reasons of illness, injury, family emergency, religious observance or participation in a University sponsored activity. (University sponsored activities include for example, field trips, ASUM service, music or drama performances, and intercollegiate athletics.) Students shall be excused for military service or mandatory public service.
- Students incurring an excused absence will be allowed to make up missed work when done in a manner consistent with the educational goals of this course.
- Students expecting to incur excused absences should consult with the instructor early in the term to be sure that they understand the absence policies for this course.

FORS 241 Dendrology

Key to Species Groups and Geographic Location Abbreviations

OCYP	=	oak, chestnut, yellow-poplar	OH	=	oak, hickory
BBM	=	birch, beech, maple	SM	=	sycamore, silver maple
NH	=	northern hardwoods (mixture of white oak, northern red oak, sugar and red maple, yellow and paper birch, white ash, quaking and bigtooth aspen, yellow-poplar and basswood).			
SH	=	southern hardwoods (mixture of southern red oaks, sweetgum, black and water tupelo, flowering dogwood, magnolia, basswood, pecan hickories)			
SCP	=	sycamore, cottonwood, poplar (riparian or riverbanks of midwest is a better descriptor as this abbreviation can be confused with southern coastal plain)			
D-FL	=	Douglas-fir, western larch	NWC	=	northern white cedar
EWP	=	eastern white pine	ESAF	=	Engelmann spruce, subalpine fir
PJ	=	pinyon, juniper	SH	=	spruce, hemlock (eastern or western species)
SYP	=	southern yellow pine	WYP	=	western yellow pine
LPES	=	lodgepole pine, Engelmann spruce	SPF	=	spruce, pine, true fir
PC	=	Pacific coast of U.S. and Canada, including Alaskan coast			
NE	=	New England, or northeast U.S. and eastern Canada			
SW	=	Southwest U.S.	SCP	=	southern coastal plain
NRM	=	northern Rocky Mountains; eastern Washington, northern Idaho, Montana & Canada			
SRM	=	southern Rocky Mountains (Wyoming, southern Idaho, Utah, Colorado, New Mexico, Arizona, western Texas and northern Mexico)			
BH	=	Black Hills of South Dakota and northern Nebraska			
FB	=	Fog Belt of northern California, north to southern coast of Oregon			
IE	=	Inland Empire (western Montana, northern Idaho, western Washington, southeastern British Columbia)			

FORS 241 Dendrology

Examples of Tables of Comparative Features that you should develop in order to learn how to differentiate the species that have similar characteristics

Morphologic Comparison of the Subgenera Leucobalanus and Erythrobalanus

Subgenus	Leaf Margins	Acorn Taste	Acorn Inner Shell	Acorn Maturity	Latewood vessel elements	Tyloses
<i>Leucobalanus</i> (white oaks)	Smooth, rounded lobes	Mildly sweet to bland	Smooth	1 year	Outline indistinct on transverse surface when viewed w. hand lens	Abundant in heartwood
<i>Erythrobalanus</i> (red oaks)	Pointed, bristle-tipped lobes	Bitter	Pubescent	2 years	Outline distinct on transverse surface when viewed w. hand lens	Sparse in heartwood

Morphologic Comparison of the Subgenera Hapoxylon (Strobus) and Dipoxylon (Pinus)

Subgenus	Fibro-vascular Bundles in Needle	Leaves per Fascicle	Fascicle Sheath	Umbo Location	Cone Armature	Earlywood to Latewood Transition
<i>Strobus</i> or <i>Hapoxylon</i> (soft pines)	1	Usually 5 (except pinyons)	Deciduous	Usually terminal	Generally Unarmed	Generally gradual
<i>Pinus</i> or <i>Dipoxylon</i> (hard pines)	2	2's, 3's, 2&3's	Persistent	Dorsal	Generally Armed	Generally abrupt