

COURSE SYLLABUS
Chapter 1 FORS 241N - DENDROLOGY
Chapter 2 Autumn Semester 3 Credits

• **Instructor and course information**

Instructor: Burke, Edwin J. – Stone Hall – Room 3105 – 406-243-5157

Schedule: **Section 1: Lecture:** Tuesday 13:00 – 13:50, Chemistry 123

Laboratory: Tuesday 14:00- 17:00, Urey 101

Section 2: Lecture: Thursday, 13:00 – 13:50, Chemistry 123

Laboratory: Friday, 14:00 – 17:00, Forestry 106

Quizzes: Weekly Quizzes, each worth 60 pts., will be given on Moodle. Time of quiz offering will be determined Week 2 after discussion with class

Lecture Exams: 2 Lecture exams, each serving as the final exam for the two course sections (Gymnosperm and Angiosperm) will be given at the end of each section. There will be no separate final exam for the course.

Lab Exams: A final laboratory sight examination will be given for each of the two course sections. There will be no separate laboratory final exam for the course.

Required Text: Course Pack from Burke;

Optional Texts: Trees of North America -- Golden Press at any large bookstore or on-line
 Textbook of Dendrology -- McGraw-Hill & Fruit and Twig Key, Dover Press.

• **Grading Scheme:**

Gymnosperm and Angiosperm Lecture Exams:

1 hr. mid-semester lecture exam covering Angiosperms during the Thursday lecture period, 8th week of class	100
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1 hr. end-of-semester exam covering Gymnosperms, during the Thursday lecture period, last week of class	100
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Angiosperm Laboratory:

6 weekly quizzes, starting week #3 @60 pts. ea.	360
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Laboratory Examination, over weeks 1-6, during lab, Week 7	200
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Gymnosperm Laboratory

5 weekly Moodle quizzes, starting week # 10 @60 pts. ea	300
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Laboratory Examination, over weeks 9-13 during lab period in the last week of class	200
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Subtotal Points for Class	1200
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Drop lowest quiz score for the semester	<u>-60</u>
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Total Points for Class	1140
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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%

• **Outcomes**

Students will learn to identify, by sight and verbal description, 117 species of Trees and Shrubs, native to or introduced into North America. They will learn their native ranges, common sites and associates, important disease and insect

pests, products made from them and their natural and human history. These species presence and use in urban forests will also be learned, as well as past, current and future ecological and political problems of the species.

- **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
Autumn Semester**

Week #	New Trees	TOPIC
ANGIOSPERMAE		
1		Course introduction and course pack distribution; No lab periods this week.
2	8	Angiosperm lifecycle, leaf, flower and fruit arrangements and types <i>Salicaceae</i> (8). No Moodle quiz
3	11	<i>Betulaceae</i> (7), <i>Juglandaceae</i> (4); Moodle Quiz A-1
4	12	<i>Fagaceae</i> (9), <i>Ulmaceae</i> (2), <i>Cannabaceae</i> (1); Moodle Quiz A-2
5	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
6	14	<i>Fabaceae</i> (5), <i>Sapindaceae</i> (9); Quiz A-4
7	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
8	0	This week the Angiosperm Lecture Exam is to be held using MOODLE. Study the Riker mounts in Forestry 301, and walk around campus practicing on specimen trees. Angiosperm Quiz A-6, and the Angiosperm Laboratory Exam and will be held during this week's regular laboratory periods, beginning at 14:00 hrs. and will likely take until 17:00.
GYMNOSPERMAE		
9	9	Gymnosperm life cycle, cone and leaf structure; <i>Taxaceae</i> (1), <i>Ginkgoaceae</i> (1), <i>Pinaceae</i> –Subgenus <i>strobilus</i> (<i>Hapoxylon</i>) of <i>Pinus</i> (9)
10	11	<i>Pinaceae</i> –Subgenus <i>Pinus</i> (<i>Dipoxylon</i>) of <i>Pinus</i> (11); Quiz G-1
11	10	<i>Pinaceae</i> – <i>Pseudotsuga</i> (1), <i>Larix</i> (3), <i>Picea</i> (6); Quiz G-2
12	10	Tuesday is a holiday—ELECTION DAY; Thursday/Friday group: <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> (1). Quiz G-3
13	10	Tuesday Group: <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> (1). Quiz G-3. Thursday/Friday group: <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.
14	0	Tuesday group: <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. Thursday & Friday- Finals Thursday/Friday group: Final Lab Exam and Quiz G-5 during Friday Lab Period. Gymnosperm Lecture final on MOODLE at a time to be set
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15	0	Monday– Wednesday- Finals (cont.) Tuesday group: Final Lab Exam and Quiz G-5 during Tuesday Lab Period. Gymnosperm Lecture final on MOODLE at a time to be set. Semester Completed

Total # of trees = 117

Important Dates Restricting Opportunities to Drop Course Autumn 2020:

Days into Semester	Opportunities	Drop Dates
To 7 th instructional day	Last day for students to add Autumn classes via CyberBear without consent of instructor	27 August
To 15 th instructional day	<p>Last Day that students can:</p> <ul style="list-style-type: none"> • drop classes on CyberBear with refund & no “W” on Transcript • withdraw from all classes with a partial refund • add Autumn classes with electronic override on CyberBear • change Autumn credits in variable credit courses • change grade mode in CyberBear • change grading option to or from Audit <p>buy or reuse UM’s student health insurance coverage</p>	8 September = 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.	8 September through 20 October
Beginning 46 th instructional day	<ul style="list-style-type: none"> • adds & drops require a Course Add/Change or Course Drop form with instructor’s & advisor’s signatures; \$10 fee applies • drops require a Course Drop form with instructor’s, advisor’s, & Dean’s signatures; \$10 fee applies • A ‘WP’ or ‘WF’ will appear on the transcript for dropped classes; No refunds • Students can change variable credit amounts, or change grading options, (except audit) using a Course Add/Change form with instructor’s & advisor’s signatures 	21 October– 18 November

- **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.

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- **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 (Quercus) and Erythrobalanus (Lobatae)

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 Haploxylon (Strobus) and Diploxylon (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>Haploxylon</i> (soft pines)	1	Usually 5 (except pinyons)	Deciduous	Usually terminal	Generally Unarmed	Generally gradual
<i>Pinus</i> or <i>Diploxylon</i> (hard pines)	2	2's, 3's, 2&3's	Persistent	Dorsal	Generally Armed	Generally abrupt