

Dendrology Laboratory

Required Text: *Woody Plants In North America*
Kendall-Hunt Publishing
Multimedia Computer Software

Other Texts: *A Field Guide to Trees and Shrubs* by G. Petrides
The Peterson Field Guide Series
Houghton Mifflin Co.

It is also recommended that you carry with you a hand lens (10x) and a small pocket knife.

Instructor:

Dr. John Seiler is the instructor in charge of the course. His office is in Room 230J Cheatham. Teaching assistants will also be assigned to the various course sections. Any questions you may have regarding course content or grades should be directed to Dr. Seiler (jseiler@vt.edu, 231-5461). My teaching Assistants:

Educational Goals:

- a. To expose students to morphological, ecological and phenological traits used in field identification of woody plants.
- b. To stimulate curiosity about woody plant vegetation in North America and to gain an appreciation of its uses by wildlife and people.
- c. To introduce some basic characteristics of forest ecosystems.

Specific Objectives:

- a. Students should know and be able to list characteristics useful in distinguishing woody plant families and genera.
- b. Students should know the scientific and common names of each plant studied in laboratory.
- c. Students should be able to identify and name each plant covered in laboratory, either by fruit, cone, leaf, twig, bark, habit, or any combination of these or other characteristics.
- d. Students should be familiar with the basic ecology and range of each species covered in the lab through reading materials in the texts.

If you are a person with a disability and desire any assistive devices, services, or other accommodations to participate in this class, please contact John Seiler, 230J Cheatham, at 231-5461, jseiler@vt.edu during business hours of 8 a.m. to 5 p.m. to discuss accommodations.

Grading:

So that you can earn partial credit on wrong answers, the point distribution for grading each quiz specimen is as follows:

Family: 1 point Species: 1 point
Genus: 1 point Common Name: 3 points

One-half point will be deducted for each misspelling of any part of the Latin name.

The final numerical grade in the course will be based on the average of all quizzes. The final course average will be calculated as points earned/total points possible.

You will also have the opportunity to earn **bonus points**. During some labs, certain tree quizzes will be designated as **bonus** trees. Correctly identifying these trees by common name only will earn **1 point per tree**. These bonus points will be added only to the **points earned** portion of your grade. Missing a bonus tree will not lower your grade.

If you miss a quiz, the grade will be recorded as a zero (0) unless an acceptable medical excuse is provided or a family emergency occurs. The instructor may schedule a make-up quiz if and when appropriate. If you are sick or need to travel home, contact Dr. Seiler as soon as possible.

Final Course Grade:

If your final numerical grade is:	Your final course grade is:
93 or above	A
90-92	A-
87-89	B+
83-86	B
80-82	B-
77-79	C+
73-76	C
70-72	C-
67-69	D+
63-66	D
60-62	D-
59 or below	F

Honor Code:

The use of any electronic device is prohibited during class. The only material that should be in use during lab time is the week's current fact sheets. All other material must be put away. We (classmates and instructors) ask that you do your own work, keep your eyes on your quiz sheet, and keep your papers well covered during quiz time.

The Undergraduate Honor Code pledge that each member of the university community agrees to abide by states:

“As a Hokie, I will conduct myself with honor and integrity at all times. I will not lie, cheat, or steal, nor will I accept the actions of those who do.”

Students enrolled in this course are responsible for abiding by the Honor Code. A student who has doubts about how the Honor Code applies to any assignment is responsible for obtaining specific guidance from the course instructor before submitting the assignment for evaluation. Ignorance of the rules does not exclude any member of the university community from the requirements and

expectations of the Honor Code.

For additional information about the Honor Code, please visit: <https://www.honorsystem.vt.edu/>

Safety Awareness:

All laboratories are conducted outdoors in whole or in part, **regardless of weather conditions**. Appropriate protective clothing should be worn when inclement weather is anticipated. Boots are recommended for off-campus trips. ***Because of the obvious health risks associated with exposure to inclement weather, the instructors reserve the right to dismiss any student who is not properly dressed from any lab period.***

Being outdoors carries some additional risk. Always be aware of your surroundings. Pay special attention while crossing roads or examining trees near roads. Use your knife responsibly. Bees, wasps and yellow jackets, although not common, may be encountered during a lab. Poison ivy will be present so know what the species looks like. You may wish to inform your instructor and TA of any allergies or other medical conditions you may have. It is everyone's responsibility to keep the class safe, so stay alert and point out any hazards.

Wellness principles:

By participating in this class, all students agree to abide by the Virginia Tech Wellness principles.

If you are exhibiting even very slight signs of illness, you **must** not attend class in person. Notify me by email and follow the instructions posted at <https://vt.edu/ready/health.html#tips>.

Principles of Community:

- ***We affirm*** the inherent dignity and value of every person and strive to maintain a climate for work and learning based on mutual respect and understanding.
- ***We affirm*** the right of each person to express thoughts and opinions freely. We encourage open expression within a climate of civility, sensitivity, and mutual respect.
- ***We affirm*** the value of human diversity because it enriches our lives and the University. We acknowledge and respect our differences while affirming our common humanity.
- ***We reject*** all forms of prejudice and discrimination, including those based on age, color, disability, gender, gender identity, gender expression, national origin, political affiliation, race, religion, sexual orientation, and veteran status. We take individual and collective responsibility for helping to eliminate bias and discrimination and for increasing our own understanding of these issues through education, training, and interaction with others.

Other Digital Media:

The Dendrology Class Home Page can be found at:

<http://www.dendro.cnre.vt.edu/dendrology/main.htm>

This site has links to the syllabus, grades, announcements, the weather, and much more. Also available are printable tree fact sheets that can be printed out beforehand and carried to the field.

We strongly encourage the use of these fact sheets.

Virginia Tech Tree Identification free smart phone app can be found at your app store.

Other Help:

The Dendrology Lab, Room 218 Cheatham Hall, will be set up with specimen examples (twigs, leaves, fruit, etc.) for each week's laboratory. This is for your use on your own time. In addition, we will be having occasional outdoor review sessions. These will be announced in class and by e-mail. Pay attention to and take advantage of these opportunities. You are paying a large sum of money for this course, so make the most of it.

Transportation:

Many of the labs are off campus. You are responsible for getting to these locations on time. The locations are nearby (e.g., Pandapas Pond) and the class web page has maps to all locations. We encourage you to carpool. If you do not have a car and need help arranging a ride, let us know well in advance. Please plan ahead (e.g., be sure you have gas) and be sure you know where you are going.

Dendrology Lab Schedule

Laboratory # and Site
1 – On Campus
2 – On Campus
3 – On Campus
4 – Mid-County Park
5 – On Campus
6 – On Campus
7 – Midterm Outdoor Exam
8 – Pandapas Pond, lower lot
9 – Seiler Home
10 – Pandapas Pond, upper lot
11 – On Campus
12 – Pandapas Pond, lower lot
13 – Mid-County Park
14 – Review/Bonus Day
15 – Final Outdoor Exam

Lab #1: On Campus

Family	Botanical Name	Common Name
Aceraceae	<i>Acer rubrum</i>	red maple
Aceraceae	<i>Acer saccharum</i>	sugar maple
Anacardiaceae	<i>Toxicodendron radicans</i>	poison-ivy
Cornaceae	<i>Cornus florida</i>	flowering dogwood
Fagaceae	<i>Quercus alba</i>	white oak
Fagaceae	<i>Quercus velutina</i>	black oak
Magnoliaceae	<i>Liriodendron tulipifera</i>	yellow-poplar
Oleaceae	<i>Fraxinus pennsylvanica</i>	green ash
Pinaceae	<i>Abies concolor</i>	white fir
Pinaceae	<i>Picea abies</i>	Norway spruce
Pinaceae	<i>Pinus strobus</i>	eastern white pine
Platanaceae	<i>Platanus occidentalis</i>	American sycamore
Rosaceae	<i>Prunus serotina</i>	black cherry

Lab #2: On Campus

Family	Botanical Name	Common Name
Aceraceae	<i>Acer negundo</i>	boxelder
Aceraceae	<i>Acer platanoides</i>	Norway maple
Aceraceae	<i>Acer saccharinum</i>	silver maple
Annonaceae	<i>Asimina triloba</i>	pawpaw
Cornaceae	<i>Nyssa sylvatica</i>	blackgum
Cupressaceae	<i>Metasequoia glyptostroboides</i>	dawn redwood
Fagaceae	<i>Fagus grandifolia</i>	American beech
Fagaceae	<i>Fagus sylvatica</i>	European beech
Hamamelidaceae	<i>Liquidambar styraciflua</i>	sweetgum
Lauraceae	<i>Sassafras albidum</i>	sassafras
Rosaceae	<i>Prunus avium</i>	sweet cherry
Salicaceae	<i>Populus grandidentata</i>	bigtooth aspen
Salicaceae	<i>Salix babylonica</i>	weeping willow
Salicaceae	<i>Salix nigra</i>	black willow

Lab #3: On Campus

Family	Botanical Name	Common Name
Betulaceae	<i>Betula lenta</i>	sweet birch
Betulaceae	<i>Betula nigra</i>	river birch
Fabaceae	<i>Gleditsia triacanthos</i>	honeylocust
Fabaceae	<i>Gymnocladus dioicus</i>	Kentucky coffeetree
Fagaceae	<i>Castanea dentata</i>	American chestnut
Fagaceae	<i>Castanea mollissima</i>	Chinese chestnut
Fagaceae	<i>Castanea pumila</i>	eastern chinkapin
Fagaceae	<i>Quercus imbricaria</i>	shingle oak
Fagaceae	<i>Quercus macrocarpa</i>	bur oak
Fagaceae	<i>Quercus palustris</i>	pin oak
Fagaceae	<i>Quercus phellos</i>	willow oak
Pinaceae	<i>Picea glauca</i>	white spruce
Rosaceae	<i>Pyrus calleryana</i>	callery pear

NOTE: Because taxonomists occasionally rename species, a botanical name on the syllabus may not match what is in your book.

Lab #4: Mid-County Park and Pool

Family	Botanical Name	Common Name
Betulaceae	<i>Ostrya virginiana</i>	eastern hophornbeam
Caprifoliaceae	<i>Viburnum prunifolium</i>	blackhaw
Fabaceae	<i>Cercis canadensis</i>	eastern redbud
Fabaceae	<i>Robinia pseudoacacia</i>	black locust
Fagaceae	<i>Quercus muehlenbergii</i>	chinkapin oak
Fagaceae	<i>Quercus rubra</i>	northern red oak
Juglandaceae	<i>Juglans nigra</i>	black walnut
Lauraceae	<i>Lindera benzoin</i>	spicebush
Magnoliaceae	<i>Magnolia acuminata</i>	cucumbertree
Oleaceae	<i>Fraxinus americana</i>	white ash
Pinaceae	<i>Pinus virginiana</i>	Virginia pine

Lab #5: On Campus

Family	Botanical Name	Common Name
Betulaceae	<i>Betula papyrifera</i>	paper birch
Betulaceae	<i>Betula populifolia</i>	gray birch
Betulaceae	<i>Carpinus caroliniana</i>	hornbeam
Bignoniaceae	<i>Catalpa speciosa</i>	northern catalpa
Cupressaceae	<i>Juniperus virginiana</i>	eastern redcedar
Ebenaceae	<i>Diospyros virginiana</i>	common persimmon
Juglandaceae	<i>Carya cordiformis</i>	bitternut hickory
Juglandaceae	<i>Carya glabra</i>	pignut hickory
Juglandaceae	<i>Carya ovata</i>	shagbark hickory
Juglandaceae	<i>Carya tomentosa</i>	mockernut hickory
Pinaceae	<i>Larix decidua</i>	European larch
Rosaceae	<i>Crataegus</i> spp.	hawthorn
Tiliaceae	<i>Tilia americana</i>	American basswood
Tiliaceae	<i>Tilia cordata</i>	littleleaf linden

NOTE: Because taxonomists occasionally rename species, a botanical name on the syllabus may not match what is in your book. The syllabus has the most updated name.

Lab #6: On Campus

Family	Botanical Name	Common Name
Cornaceae	<i>Cornus kousa</i>	kousa dogwood
Ericaceae	<i>Rhododendron maximum</i>	great rhododendron
Ginkgoaceae	<i>Ginkgo biloba</i>	ginkgo
Magnoliaceae	<i>Magnolia grandiflora</i>	southern magnolia
Pinaceae	<i>Pinus nigra</i>	Austrian pine
Pinaceae	<i>Pinus palustris</i>	longleaf pine
Pinaceae	<i>Picea pungens</i>	blue spruce
Ulmaceae	<i>Celtis occidentalis</i>	hackberry
Ulmaceae	<i>Ulmus americana</i>	American elm
Ulmaceae	<i>Ulmus parvifolia</i>	Chinese elm
Ulmaceae	<i>Ulmus rubra</i>	slippery elm
Ulmaceae	<i>Zelkova serrata</i>	Japanese zelkova

Lab #7: Midterm Outdoor Exam, On Campus

Lab #8: Pandapas Pond, lower lot

Family	Botanical Name	Common Name
Betulaceae	<i>Alnus serrulata</i>	hazel alder
Cornaceae	<i>Cornus amomum</i>	silky dogwood
Ericaceae	<i>Kalmia latifolia</i>	mountain laurel
Ericaceae	<i>Oxydendrum arboreum</i>	sourwood
Ericaceae	<i>Rhododendron calendulaceum</i>	flame azalea
Ericaceae	<i>Vaccinium pallidum</i>	low bush blueberry
Fagaceae	<i>Quercus ilicifolia</i>	bear oak
Fagaceae	<i>Quercus montana</i>	chestnut oak
Pinaceae	<i>Pinus pungens</i>	Table Mountain pine
Rosaceae	<i>Rubus occidentalis</i>	black raspberry

NOTE: Because taxonomists occasionally rename species, a botanical name on the syllabus may not match what is in your book. The syllabus has the most updated name.

Lab #9: Seiler Home

Family	Botanical Name	Common Name
Anacardiaceae	<i>Rhus copallinum</i>	shining sumac
Anacardiaceae	<i>Rhus typhina</i>	staghorn sumac
Betulaceae	<i>Betula alleghaniensis</i>	yellow birch
Cornaceae	<i>Cornus alternifolia</i>	alternate-leaf dogwood
Fagaceae	<i>Castanea pumila</i>	eastern chinkapin
Fagaceae	<i>Quercus stellata</i>	post oak
Pinaceae	<i>Picea rubens</i>	red spruce
Pinaceae	<i>Pinus resinosa</i>	red pine
Pinaceae	<i>Pinus taeda</i>	loblolly pine
Rosaceae	<i>Malus pumila</i>	common apple

Lab #10: Pandapas Pond, upper lot

Family	Botanical Name	Common Name
Aceraceae	<i>Acer pensylvanicum</i>	striped maple
Fagaceae	<i>Quercus coccinea</i>	scarlet oak
Hamamelidaceae	<i>Hamamelis virginiana</i>	witch-hazel
Myricaceae	<i>Comptonia perigrina</i>	sweetfern
Pinaceae	<i>Pinus rigida</i>	pitch pine
Pinaceae	<i>Tsuga canadensis</i>	eastern hemlock
Rosaceae	<i>Amelanchier arborea</i>	downy serviceberry
Rosaceae	<i>Rubus allegheniensis</i>	Alleghany blackberry

Lab #11: On Campus

Family	Botanical Name	Common Name
Aceraceae	<i>Acer palmatum</i>	Japanese maple
Aquifoliaceae	<i>Ilex opaca</i>	American holly
Cupressaceae	<i>Taxodium distichum</i>	baldcypress
Cupressaceae	<i>Thuja occidentalis</i>	northern white-cedar
Cupressaceae	<i>xHesperotropis leylandii</i>	Leyland cypress
Moraceae	<i>Morus rubra</i>	red mulberry
Pinaceae	<i>Abies fraseri</i>	Fraser fir
Pinaceae	<i>Pinus sylvestris</i>	Scots pine
Pinaceae	<i>Pinus thunbergii</i>	Japanese black pine
Pinaceae	<i>Pseudotsuga menziesii</i>	Douglas-fir
Scrophulariaceae	<i>Paulownia tomentosa</i>	royal paulownia
Taxaceae	<i>Taxus</i> spp.	yew
Ulmaceae	<i>Ulmus pumila</i>	Siberian elm

NOTE: Because taxonomists occasionally rename species, a botanical name on the syllabus may not match what is in your book. The syllabus has the most updated name.

Lab #12: Pandapas Pond, lower lot

Family	Botanical Name	Common Name
Caprifoliaceae	<i>Sambucus nigra</i>	American elderberry
Caprifoliaceae	<i>Viburnum acerifolium</i>	mapleleaf viburnum
Elaeagnaceae	<i>Elaeagnus umbellata</i>	autumn-olive
Ericaceae	<i>Epigaea repens</i>	trailing arbutus
Ericaceae	<i>Gaultheria procumbens</i>	teaberry
Rubiaceae	<i>Mitchella repens</i>	partridge berry
Smilacaceae	<i>Smilax rotundifolia</i>	common greenbrier
Vitaceae	<i>Parthenocissus quinquefolia</i>	Virginia creeper

Lab #13: Mid-County Park and Pool

Family	Botanical Name	Common Name
Caprifoliaceae	<i>Lonicera japonica</i>	Japanese honeysuckle
Caprifoliaceae	<i>Lonicera maackii</i>	Amur honeysuckle
Celastraceae	<i>Celastrus</i> spp.	bittersweet
Hippocastanaceae	<i>Aesculus flava</i>	yellow buckeye
Oleaceae	<i>Ligustrum</i> spp.	privet
Pinaceae	<i>Pinus echinata</i>	shortleaf pine
Rosaceae	<i>Rosa multiflora</i>	multiflora rose
Simaroubaceae	<i>Ailanthus altissima</i>	tree-of-heaven
Vitaceae	<i>Vitis</i> spp.	grape

Lab #14: Review

Lab #15: Final location will be announced

NOTE: Because taxonomists occasionally rename species, a botanical name on the syllabus may not match what is in your book. The syllabus has the most updated name.