TreeKeepers Program

4 Core Classes

- **101 – Trees & Baltimore**  
  Feb – March, 2019
- **102 – Science of Trees**  
  Feb – March, 2019
- **201 – Advanced Tree Planting for Leadership Certification**  
  Feb – March, 2019
- **202 – Advanced Tree Pruning for Certification**

Outdoor Sessions

- **Tree Pruning Workshops** – January & February 2019
- **Tree Planting Events** - Spring 2018

Additional Classes and Activities

- **300’s - Tree ID, Tree Selection, Tree Inventories, Advocacy**
- **400’s – Lectures and other events**
Not to be Missed, Go to
www.treebaltimore.org

TreeBaltimore Winter Gathering
Date to be Determined
Vollmer Center

Weed Warriors
101 – Invasive Plants and Urban Ecosystems
   March 7, Wed Evening at 6:00
102 – Species Identification and Removal Techniques
   March 10, Saturday at 2:00
201 – Leadership and Safety
   March 24, Saturday at 10:00

Tour dem Parks, Hon!
Sunday, June 9, 2019

Notable Tree Bus
2 Saturdays in May & June 2019

Notable Tree Bicycle Tours
Dates to be Arranged
TK 202 – Advanced Tree Pruning Towards Certification

Chad Vrany, Bartlett Tree & Baltimore Tree Trust
Ted Martello & Gary Letteron, Urban Forestry Division

• Definition
• Objectives
• Tree Biology
  o Understanding a tree’s natural growth habit
  o Understanding a tree’s response to injury
• Tools
• Tree Pruning Techniques
• Pruning Young Trees
• What Tree Keepers Prune
• Quiz!

_and then..... Outdoor Pruning_

This class and 2 workshops are required for pruning certification.
Pruning Workshops
Jan, Feb & March 2018
(get your wool socks)

www.treebaltimore.org

Pruning Workshops & Events 2019
TreeKeepers 301: Tree Identification Walk in Clifton Park -- Saturday, December 8, 10a – 12p | N Rose St & Indian Head Dr, 21213

Tree Pruning at Frederick Douglas High School
Saturday, December 15, 9a – 12p | 2207 Windsor Ave, 21216

Tree Pruning in Herring Run Park
Saturday, January 12, 9a – 12p | 4116 Shannon Dr, 21213

Tree Pruning in Mount Olivet Park
Saturday, January 26, 9a – 12p | 27 N Mt Olivet Ln, 21229

Street Tree Pruning in Greektown
Saturday, February 9, 10a – 1p | Lehigh and Gough Park, 21224

Street Tree Pruning on North Ave
Saturday, February 23, 10a – 1p | 1899 Dukeland St, 21216

TreeKeepers 303: Botanical Nomenclature
Saturday, March 16, 1p – 3p | 2631 Sisson St, 21211
Pruning: Removal for Specific Purpose

Involves understanding the plant’s:
- Biological response (science)
- Natural shape and form (art)

Trees of the Northern United States, Austin Apgar
Pruning decisions must be based on clearly defined goals, plus...

Understanding

- Species\ Form of the tree
- Age of the tree
- Objectives for pruning
Pruning Objectives:

- Maintain health
- Safety
- Train
- Improve view\ Vista prune
- Improve aesthetics
- Control size
- Fruit production

Do not prune unless you know why.
Do not prune without a plan!
• Inspect the tree
• Decide what you need to do
• If necessary, go to work
Pruning for Special Purposes

Pollarding

Espaliering

Pleaching
Excurrent trees
-Single trunk to the top
- Pine
- Linden
- Aspen
- Tulip poplar
Decurrent trees - No central leader, round crowns
• Japanese Cherry
• Honeylocust
• Red Bud
**Branch collar** – interweaving of branch and trunk wood to form bark ridge, creating a structurally strong branch union.

Yellow is trunk tissue
Red is branch tissue,
Yellow-green is phloem & bark tissue
A tree is a multiple perennial plant.

Every spring, a new "tree" envelopes all the older trees.
C.O.D.I.T.
Model termed by Dr. Alex Shigo

Compartmentalization Of Decay In Trees
C.O.D.I.T.

Compartmentalization

**Wall 1** - resists, not stops, the spread up and downward.

**Wall 2** stop decay moving inward toward the center of the tree, the pith.

**Wall 3** resists spread in the circumferential direction.

**Wall 4** resist spread into newly formed xylem or wood that grows after the time the tree was wounded.
**Wound Closure**

**Callus** – thin-walled, mostly round, meristematic cells that first form after wounding about the edges of the wound.

**Woundwood** – follows callus formation. When woundwood closes wounds, then normal wood continues to form.
**Collar:** swollen area at the base of the branch where it joins the trunk. Good pruning cuts avoid the collar.
Pruning can change the balance of the tree and how it grows.
Tools & Equipment

- Hand pruners - cuts < ½”
- Loppers – cuts < 1 ½”
- Saws
- Pole Saws & Pull String Pruners

Safety – not around power lines, children, lights, cars or other targets.
Tree Pruning Techniques

Removal Cut
Removes the entire branch back at its point of origin.

Lateral Cut\ Reduction Cut
Shortens the branch to a lateral

Cross Cut\ Heading Cut
Not recommended, not taught here
Tree Pruning Techniques

Removal Cut

Removes the entire branch back at its point of origin.

(The 3 cut method will be reviewed later.)
Lateral Cut / Reduction Cut

Shortens the branch to a lateral

Lateral should be at least 1/3 the diameter of the parent.
Tree Pruning Techniques

Lateral Cut \ Reduction Cut

**Reduction Cut**

- Main branch shortened back to lateral branch

**Lateral Cut**

- Imaginary line perpendicular to removed stem
- Cut along dashed line
- Remove this stem
- This lateral branch remains
- Branch bark ridge
Tree Pruning Techniques

Cross Cuts? Say no, no, no….

Cross Cuts can stimulate unwanted growth and can cause deadwood which is prone to infection.
Tree Pruning Techniques

3 cut method
(Can be used for lateral or removal cuts.)
Tree Pruning Techniques

Did not use the 3 cut method.
Tree Pruning Techniques

Do Not Over Prune – 25% at the Most

(You can keep your prunings in a pile and compare to the tree.)
Tree Pruning Techniques

Do Not Over Elevate

...or you might get this!
Cleaning
Remove dead, dying, diseased, damaged, defective and crossing limbs

Structural Pruning for future growth
- Remove co-dominant stems
- Promote & maintain central leader
- Promote good limb spacing and attachments
- Promote Symmetry
- Maintain characteristic shape for species
Tree Pruning Techniques

- Thinning
- Reduction
- Raising
- Cleaning
Cleaning the canopy:

- Rubbing and crossed branch
- Water sprouts
- Broken branch
- Dead branch
- Sucker
Thinning

Before

After

Increases light penetration, & air movement, reduces weight
Thinning should be performed along the entire limb or leader.

At least 50% of the foliage should be left on branches arising from the lower two-thirds of the limb and crown.
Thinning

BEFORE

AFTER
Co-Dominant Stems & Weak Attachments

Both Trees have Included Bark
Removing a Co-Dominant Stem
Branch Angle & Weak Attachment
Objective: delay removing lower branches

Reduction of branch length

- is more attractive
- minimizes the size of the trunk wound when low branches are eventually removed
- helps prevent decay and cracks from entering the trunk.

Could have subordinated lower branches,
Note the competing branch on left that could be subordinated then removed later.
Raising - Subordinating

All this also applies to small trees.
Subordinating & Maintaining Central Leader

BEFORE

AFTER
Cross Cuts or Topping Cuts are not made at a lateral branch.
After 1st Spring

Topping is not an acceptable pruning practice
Maintain Radial Symmetry
Radial Symmetry

Provide adequate spacing for scaffold limbs

6-8 inches for small trees

18 inches for large trees

Figure 7. Scaffold branches of trees should have proper vertical and radial spacing on the trunk.
Tree Pruning Techniques

Provide adequate spacing for scaffold limbs

6-12” apart on small trees
18-36” apart on larger trees
Tree Pruning Techniques

How much to raise?
• 14’ clearance over street – trucks
• 7’ minimum clearance over sidewalk – head bangers, eye pokers, hair pullers

How often to prune?
• 2-3 yrs after planting
• Every 5-10 years depending on health, vigor, species, defects & budget
Most trees can be pruned anytime of the year.

Late November thru March has advantages, no leaves, lots of stored energy, no insects. Plus winter pruning parties do not compete with other events.

Prune elms in September and October. Might be later if our falls continue to be warmer.

Anytime is good for weak and diseased branches, broken branches, watersprouts and root suckers (except elms).

Pruning and timing is specialized for fruit trees.

As other pests and problems arrive, more species will need special consideration.
Summary

What TreeKeepers Prune

The 5 Ds
1. Dead
2. Dying
3. Diseased
4. Damaged
5. Deformed

And...
Co-Dominant Leaders
Weak Attachements
Crossed branches
Low branches
Safety takes no Holidays

Hold a briefing and Job Hazard Analysis before work begins
“PPE”
Communication is a must when working in teams.
Review.........

Quiz Time.
Name this issue
What do you do?

(What we didn’t cover in class, we cover in the quiz.)
What do you see, what do you do?
Why is the picture here?
What do you do?
And finally this one.....
Review

• Why prune?
• What is pruning’s impact?
• What do we prune?
• When do we prune?
Yay!
TreeKeepers

Thank you!
Bring 4 or 5 nursery trees with structural problems for indoor demo.

Presentation needs: Summary of what Ansii is.