

Candidate Exam Outline
ISA Certified Tree Worker Climber Specialist®
and
ISA Certified Tree Worker Aerial Lift Specialist®

I. Safety

A. Laws and Regulations

1. OSHA/OHSA
2. ANSI Z.133
3. Other

B. Personal Protective Equipment

1. Headgear (hardhats)
2. Eye
3. Ear
4. Clothing/Boots (chaps)
5. Other

C. General Safety

1. Policies/Training
2. First Aid/CPR
3. Aerial Rescue
4. Electrical Hazards
5. Chain Saws
6. Other

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II. Removal

- A. Preparation
 - 1. Inspection of site
 - 2. Assessment of tree
 - 3. Felling strategy
- B. Felling
 - 1. Cut/notch types/back cut
 - 2. Use of ropes, wedges, etc.
 - 3. Safety (e.g. escape angle, techniques)
- C. Limbing and bucking
- D. Other (e.g. lifting, tools)

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III. Rigging

- A. Ropes
 - 1. Types and sizes
 - 2. Tensile strength and working loads
 - 3. Knots
- B. Equipment
 - 1. Carabiners
 - 2. Slings
 - 3. Blocks/pulleys
 - 4. Lowering/friction devices
- C. Techniques
 - 1. Rope positioning (e.g. load/tag, butt/tip)
 - 2. Use of false crotch
 - 3. Butt-hitching
 - 4. Speedlining
 - 5. Wraps/friction
 - 6. Cutting techniques
 - 7. Other

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IV. Pruning

- A. Reasons for Pruning/When/Theory –
- B. Pruning Tools
 - 1. Shears/secateurs/loppers
 - 2. Pruning saws
 - 3. Pole saws/pole pruners
 - 4. Chain saw
 - 5. Other
- C. Pruning Cuts and Miscellaneous
 - 1. Position and sequence
 - 2. Type
 - 3. Wound dressings
 - 4. Other (e.g. disinfection)
- D. Pruning Techniques
 - 1. Thinning/crown cleaning
 - 2. Crown reduction
 - 3. Hazard reduction
 - 4. Other (e.g. raising, vista, utility, restoration)
- E. Problems
 - 1. Topping, pollarding, and heading
 - 2. Over-thinning
 - 3. Lions-tailing
 - 4. Other (e.g. improper cuts, “bleeding”)

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V. Cabling

A. Principles and Needs

1. Co-Dominant stems
2. Over-extended limbs

B. Tools (e.g. cable aid, Haven grip, come-along)

C. Hardware

1. Cable type and size
2. Lags/bolts, amon nuts, etc.
3. Preformed tree grips
4. Other (e.g. washers, thimbles)

D. Installation

1. Attachment of cable to hardware
2. Proper hardware installation
3. Angle, height, spacing, tautness, etc.
4. Other

E. Maintenance

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VI. Tree Health and Sciences

- A. Tree growth and structure
 - 1. Roots
 - 2. Trunk and branches
 - 3. Leaves
- B. Defense against decay
- C. Tree health and stress
- D. Hazard recognition
 - 1. Root/crown decay and problems
 - 2. Conks, mushrooms, etc.
 - 3. Cracks, splits, etc.
 - 4. Other (e.g. lean, weight)
- E. Principles of tree identification
 - 1. Twigs, buds, scars etc.
 - 2. Leaf characteristics and arrangements
 - 3. Other

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VII. Tree ID

- A. Nomenclature
- B. Classification (e.g. Coniferous/Deciduous/Palms)
 - 1. General
 - 2. Specific
- C. Tree Characteristics
 - 1. General characteristics
 - a. Leaves
 - b. Fruits
 - c. Flowers
 - d. Stem and pith
 - e. Bark
 - f. Profile/habit/silhouette

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VIII. EHAP

A. Laws & Regulations

1. ANSI Z133.1
2. Others
3. OSHA/OHSA

B. Hazards

1. Contact
 - a. Direct
 - b. Indirect
2. Conditions
 - a. Elevation
 - b. Weather
 - c. Voltage

C. Hardware Recognition