

WTCS Repository Program Design Summary & Curriculum Standards Model [2015-16]

50-001-1 ARBORIST APPRENTICE

Program & Trade Information

Instructional Level Technical Diploma & Apprenticeship

Career Cluster Agriculture, Food and Natural Resources

Program Description

Urban forestry combines the science of arboriculture with the practical disciplines related to tree planting; tree care and protection, and the overall management of trees as a natural resource. Arborists are the skilled workers who perform the related job duties and tasks. The urban environment can present many arboricultural challenges such as limited root and canopy space, poor soil quality, deficiency or excess of water and light, heat, pollution, mechanical and chemical damage to trees, and mitigation of tree-related hazards. Arboriculture is a related science for this occupation and trade. Arborists are individuals trained in the art and science of planting, caring for, and maintaining individual trees.

Arborists are knowledgeable about the needs of trees and are trained and equipped to provide proper care. Well-cared-for trees are attractive and can add considerable value to your property. Poorly maintained trees can be a significant liability. Pruning or removing trees, especially large trees, can be dangerous work. Tree work should be done only by those trained and equipped to work safely in trees. Certified Arborists are individuals who have achieved a level of knowledge in the art and science of tree care through experience and by passing a comprehensive examination developed by some of the nation's leading experts on tree care.

Tree Trimmers and Pruners are a related occupation (www.bls.gov) and use sophisticated climbing and rigging techniques, cut away dead or excess branches from trees or shrubs to maintain right-of-way for roads, sidewalks, or utilities, or to improve appearance, health, and value of tree. Tree care standards pertaining to integrated vegetation management guide the work done by this occupation. These workers prune or treat trees or shrubs using handsaws, hand pruners, clippers, and power pruners. Works off the ground in the tree canopy and may use truck-mounted lifts.

Mission

Prepare workers for careers linked to urban forestry related occupations, including arborist, arboriculture, tree care specialist, tree trimming, grounds maintenance and other identified occupations. This program follows an apprenticeship training model which combines on-the-job learning with classroom related instruction.

Target Population: Wisconsin registered apprentices

Career/Job Titles

Tree Care Specialist/Worker with Certification

Bob Gansemer General Manager Buckley Tree Care Mequon
Tim Harris President Buckley Tree Care New Berlin
Randy Krouse Urban Forestry District Manager City of Milwaukee Forestry Services Milwaukee
Adam Alves Arborist Dane Co. Land & Water Madison
August Hoppe President Hoppe Tree Service Milwaukee
John Paul Sanborn Owner/Operator Sanborn's Services Franklin
Evan Slocum Exec. Director Urban Tree Alliance Madison
Holly Zart Arborist Wachtel Tree Science Merton
Brian Wahl Reg. Urban Forester WI DNR Fitchburg

WTCS Program Outcomes for Related Instruction & DACUM Aligned

- 1 Adhere to safe work practices
- 2 Operate equipment
- 3 Maintain equipment
- 4 Prune trees and shrubs
- 5 Remove trees and shrubs
- 6 Establish trees and shrubs
- 7 Assess trees to mitigate risks
- 8 Apply plant health care treatments
- 9 Demonstrate core ability skills required for the trade

WTCS Program Configuration Model

50-001-1 WTCS Arborist Apprenticeship Related Instruction [2015-2016]

This program configuration model outlines a sequence of courses and curriculum standards for related instruction in the Arborist Apprenticeship. The model outlines the equivalent of 6 semesters of related instruction coursework for a total of 432 hours plus the Transition to Trainer course. The apprenticeship is 42-month, and 3.5 years long.

Instructional activities may include presentation, discussion, hands-on learning in shop style courses, and small group activities designed by the instructor. Courses listed below were designed for a combination of block scheduling and traditional semesters during the school year and summer. The program configuration model aligns with a DACUM which was conducted and validated by the trade in 2014. The program configuration model aligns common course numbers, credits, hours, and descriptions that colleges can use across the WTCS in the future. The maximum number of both course credits and course hours are provided for WTCS reporting and BAS record keeping.

Credits & Hours

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|---------------------------|---|
| 1 - Occupation Specific | 12.00 credits @ 36 hours per credit = 432 hours |
| 2 - Occupation Supportive | 0.00 credits @ 8 hours (Transition to Trainer) |

Total Credits 12.00 credits and 440 hours

Related Instruction Year 1

Course #	Course Title	Credits & Hours	Course Descriptions
50-001-710	Arborist Skills 1	1.00 36 hours	Apprentices will examine aspects of being an arborist and the trade and occupations related to urban forestry. Course learning outcomes include an orientation to the trade, standards related to the tree care industry, safety and personal protective equipment, electrical hazard awareness; ground support for aerial operations, basic tree biology for first year apprentices, and the basic pruning cuts used by the trade.
50-001-711	Arborist Equipment Fundamentals	1.00 36 hours	Course learning outcomes include skill building with common equipment used by the trade. Chain saws, chippers, vehicle operations, plant health care, and aerial lift operations will be learned. Equipment maintenance is examined. Safety and safe work practices are reinforced.
50-001-712	Introduction to Aerial Tree Work	1.00 36 hours	Course competencies include pre-climb inspections, climbing equipment for safety, rope installations, ascending skills, re-positioning skills, maneuvering techniques, and descending skills. Apprentices will build skills selecting knots for various situations and applications. Emergency response procedures for arborist apprentices will be explored, and aerial rescue basic concepts are introduced in this course.
50-001-713	Applied Aerial Work for Arborist Apprentices	1.00 36 hours	Apprentices will develop skills involved in aerial work performed by arborists. Course competencies include safety work practices, operating chain saws in an aerial situation; performing pruning cuts at heights, rigging loads during aerial work, climbing in spurs and decision-making for aerial pruning cuts and tree care. Aerial rescue training for arborist apprentices is included in this course.

Related Instruction Year 2

Course #	Course Title	Credits & Hours	Course Descriptions
50-001-714	Tree and Shrub Identification 1 for Arborist Apprentices	1.00 36 hours	Course examines tree and shrub identification using industry accepted standards. Course learning outcomes include anatomy and morphology, tree and shrub identification, and tools used by the trade to identify trees and shrubs. An introduction to insects and diseases will provide foundational knowledge for future courses in related instruction. The first tree & shrub identification course (1 of 3) will focus on deciduous and coniferous trees from the arborist apprenticeship must-know list.
50-001-715	Arborist Skills 2	1.00 36 hours	Arborist skills for second year apprentices will examine the ANSI A-300 tree care standards and apply those standards to various tree care situations. Apprentices will learn how to assess different trees for pruning needs; evaluate when and where to make cuts; demonstrate basic pruning cuts used by the trade; compare

			commercial, municipal, and utility applications for pruning; and relate pruning needs for specific trees. Course helps prepare apprentices for future coursework in the 2nd year of related instruction.
50-001-717	Rigging and Tree Removal Fundamentals for Arborist Apprentices	1.00 36 hours	Apprentices will explore concepts and develop skills related to tree removal and rigging. Course learning outcomes include safe climbing, safe tree removal, basic felling skills, rigging loads, using ropes and rigging systems, and performing ground work associated with tree removal.
50-001-718	Tree Biology & Identification 2 for Arborist Apprentices	1.00 36 hours	Apprentices will examine tree biology and relate concepts to the work performed by arborists in an urban forestry setting. Course competencies include understanding tree function and structure, categorizing the impact of diseases and pests, examining the CODIT model, and exploring tree risk concepts. Course will examine basic plant health needs, tree sites, and nutrition and soil requirements. The second of 3 tree and shrub identification courses will focus on more coniferous and deciduous trees from the arborist apprenticeship must-know list, and explore associated tree and shrub disorders.

Related Instruction Year 3

Course #	Course Title	Credits & Hours	Course Descriptions
50-001-719	Arborist Skills 3	1.00 36 hours	Arborist skills for third year apprentices will examine light rigging systems and then examine hazards associated with working in trees. Methods for identifying branch failure risks; and strategies for assessing and mitigating tree risks will be explored. Course learning outcomes include examining tree support and protection systems, identifying signs and symptoms of decay, and applying the CODIT model to tree defects. Course prepares apprentices for additional coursework in the third year of related instruction.
50-001-720	Advanced Rigging and Tree Felling with Field Skill Building for Arborist Apprentices	1.00 36 hours	Course provides skill development for arborist apprentices related to tree felling and field skills associated with working outside. Competencies include specialized knots and equipment used in rigging applications; making aerial pruning cuts in accordance with tree care standards; tree felling and field work associated with the occupation. Key concepts and safety related to wood under tension will be introduced in this course.
50-001-722	Plant Health Care Treatments & Shrub Identification 3 for Arborist Apprentices	1.00 36 hours	Apprentices will explore plant health care management by examining treatment options and prescriptions. Course learning outcomes will examine PHC options, examine integrated pest management; and build skills handling chemicals, operating equipment, and applying treatments. Course will compare specialized equipment used by arborists for plant health care. The course will also explore amending soils and responding to tree

			damage from construction. Integrated vegetation management standards will be reviewed. Additional tree and shrub disorders will be identified and diagnosed. The third of 3 tree and shrub identification courses will focus on identifying both evergreen and deciduous woody shrubs in the field. Apprentices must already possess their State applicator's license before taking this course.
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Related Instruction Year 4

Course #	Course Title	Credits & Hours	Course Descriptions
50-001-723	Leadership in Tree Care Operations, Communication Skills, and a Capstone Project	1.00 36 hours	Arborist apprentices will prepare for post-apprenticeship work duties and examine key job duties and tasks associated with tree care operations, communications, planning, and leadership. Course learning outcomes include conducting job briefings, training others, setting up job sites, managing resources, reporting work performed, and applying communication and interpersonal skills to various situations. Apprentices will build skills interpreting written work orders/plans, and applying leadership skills to solve problems. . A capstone skill-based project is optional – for example plan a tree cabling project for a given situation/scenario which aligns with the ISA tree climber specialist certification.
47-455-455	Transition to Trainer: Your Role as a Journey Worker	0.00 8 hours	You have already learned to use the tools of your chosen trade. In this workshop you will be introduced to a new set of basic tools--the tools of a jobsite trainer. You will explore the skills that are necessary to be an effective trainer, discover how to deliver hands-on training, and examine the process for giving useful feedback. During the workshop you will build a Training Toolkit to take back to your

Related Instruction Term (Other)

Course #	Course Title	Credits & Hours	Course Descriptions
varies	State Pesticide Applicator License, Safety, CPR, First Aid, AED, CDL, and other employer required training or certifications	Varies	Determined by employers based on need.