

OCCUPATIONAL QUALIFICATION STANDARDS

Tree Worker, Level 4

Occupational Qualification Standards are documents that describe the work, set of skills, knowledge and attitudes or competency requirements for successful performance of the work.

The occupational qualification standard of Tree Worker, level 4 forms a basis for the compilation of vocational secondary education and continuing education and for assessment of the competence on awarding the occupational qualification.

On the basis of this occupational qualification standard is awarded both the initial occupational qualification as well as the occupational qualification:

- a) The initial occupational qualification is obtained on completions of the nationally recognized curriculum meeting this occupational qualification standard. The indication for obtaining of initial occupational qualification entered in the leaving certificate/annex to the diploma certifies that the person has received the training and has a readiness to commence operation in the relevant occupational qualification.
- b) The occupational qualification is obtained when the awarding body has assessed the compliance of the competencies of the person and issued a certificate of occupational qualification.

Occupational title	Estonian Qualifications Framework (EQF) level
Tree Worker, Level 4	4

Possible partial occupational qualifications and titles on the occupational qualification certificate	
Partial occupational title	Estonian Qualifications Framework (EQF) level
Logging Worker, Level 2	2
Maintenance person of forest parks and green areas	4
Maintenance person of fruit trees and berry bushes, level 4	4

Part A

DESCRIPTION OF THE OCCUPATIONAL QUALIFICATION

A.1 Description of work

There are two levels: tree worker, level 4 and tree technician, level 5.

Tree worker, Level 4 is a skilled employee who plants and manages woody plants in populated areas, in order to ensure the best possible state of health of the trees, and a safe and aesthetic environment for people. The tree worker operates outdoors and in a public space and makes independent decisions related to their work. Working in this profession requires physical endurance and stress tolerance.

Tree Worker, Level 4 includes three partial occupational qualifications:

- 1) logging worker, Level 2
- 2) maintenance person of forest parks and green areas, level 4
- 3) maintenance person of fruit trees and berry bushes, level 4

When working in the public space, in her or his planning activities, a tree worker follows a project or work instruction and the Arborist Code of Ethics (Annex 1).

A.2 Work units

Occupational qualification of a Tree Worker, Level 4 consists of 11 work units.

A.2.1 Working with brush saws and chain saws

- 1) Selection of tools
- 2) Assessment of risk factors and the planning of work
- 3) Selection and use of safety and working equipment
- 4) Maintenance of safety and working equipment
- 5) Care of chain and brush saws
- 6) Working with the brush saw
- 7) Working with the chain saw
- 8) Operation in the event of an accident.

A.2.2 Planting of woody plants

- 1) Ensuring preservation of saplings on their transport, planting and storage
- 2) Limiting and marking of the workplace
- 3) Preparation of the planting site
- 4) Planting of woody plants to their growing place
- 5) Cutting of woody plants during the planting
- 6) Follow-up care of the planted woody plants

A.2.3 Re-planting of woody plants

- 1) Preparation of a tree for re-planting
- 2) Re-planting of woody plants to a new growing place
- 3) Cutting of trees during the planting
- 4) Follow up care of re-planted trees

A.2.4 Pruning of woody plants

- 1) Planning for pruning
- 2) Performing of design cutting and pruning of trees
- 3) Pruning of hedges and shrubs

A.2.5 Care of fruit trees and berry bushes

- 1) Planning the pruning

- 2) Pruning of berry bushes
- 3) Pruning of fruit trees
- 4) Protecting stems and crowns
- 5) Assessment of the need for fertilization
- 6) Performance of plant protection work

A.2.6 Performing special care work of woody plants

- 1) Protection of woody plants during construction
- 2) Installation of support belts onto trees
- 3) Protection of woody plants against harmful effects
- 4) Evaluation of fertilization needs and fertilization of woody plants
- 5) Performance of plant protection work

A.2.7 Felling of trees in special conditions (gradients, power line base and proximity, proximity to roads and facilities, limited space, windthrows, etc.)

- 1) Selecting of felling method
- 2) Felling of trees
- 3) Working in the windthrow areas
- 4) Handling, transport or storage of felled trunks, prepared materials and cutting waste
- 5) Using a wood chipper
- 6) Assessment of the felled trees as timber
- 7) Finishing of the object

A.2.8 Planning and performing forest park and landscaping maintenance

- 1) Planning of maintenance work
- 2) Maintenance of forest parks and green areas
- 3) Assessment of the felled trees as timber
- 4) Handling of felled trunks and cutting waste
- 5) Stump removal
- 6) Finishing of the object

A.2.9 Working from a cage lift

- 1) Selecting and ordering of the lift
- 2) Safe use of the lift
- 3) Working from the cage lift
- 4) Operation in the event of an accident.

A.2.10 Working with climbing ropes

- 1) Selection of climbing equipment and tools
- 2) Conducting risk analysis
- 3) Performance of ordered work
- 4) Maintenance of the climbing equipment
- 5) Operation in the event of an accident.

A.2.11 Management and instruction

- 1) Calculation of costs
- 2) Conclusion of agreements
- 3) Checking the existence of permits and approvals
- 4) Management and supervision of work

Tree Worker, Level 4 contains the following partial occupational qualifications:

- 1) logging worker, Level 2 which is formed of the part A.2.1 of the work
- 2) maintenance person of fruit trees and berry bushes, level 4, which is formed from part A.2.1 and A.2.5 of the work
- 3) maintenance person of forest parks and green areas, level 4, which is formed from part A.2.1 and A.2.7 of the work

A.3 The environment and the specificity of the work

A Tree Worker works outdoors, in the environment of vibration and noise. The work requires physical effort, working at heights, and in forced postures. In his or her work, she or he is exposed to exhaust emissions.

A.4 Work equipment

The basic work equipment of the tree worker are bush saws, chainsaws and motor-cutters, pruning saws and pruning scissors, the means for determining the condition of the trees and other tools: lifts, safety ropes, stump grinders, twig breakers, winches, etc.)

A.5 Personal characteristics necessary for the work

The work of the tree worker requires height tolerance, co-ordination skills, quick response and physical endurance.

A.6 The most common job titles

Tree worker, tree maintenance specialist, tree specialist

A.7 Professional training

The initial occupational qualification of a Tree Worker, Level 4 is obtained on completion of an institution of vocational education.

Tree Worker, level 4 has ordinarily vocational education in forestry or the professional skills have been acquired through practical work.

Part B COMPETENCY REQUIREMENTS

B.1 Structure of the occupational qualification

For the acquisition of tree worker, level 4 is required a certification of the competencies B.2.1- B.2.12. The occupational qualification of a tree worker, Level 4, can be certified in parts.
 Upon certification of the competencies, B.2.1 is awarded the partial occupational qualification of logging worker, level 2.
 Upon certification of the competencies B.2.1, B.2.5 and B.2.12 is awarded the partial occupational qualification of the maintenance person of fruit trees and berry bushes, level 4.
 Upon certification of the competencies B.2.1, B.2.7 and B.2.12 is awarded the partial occupational qualification of the maintenance person of forest parks and green areas, level 4.

B.2 Competencies

B.2.1 Working with brush saws and chain saws

ECT Level 2

Performance indicators

- 1) selects a suitable tool and associated working equipment and tools, based on the nature of work and the specific nature of the work site;
- 2) evaluates risk factors; plans his or her work, based on the degree of risk and the set work objective and takes the necessary steps to mitigate the risks;
- 3) selects the appropriate safety and working equipment, based on the work object and the tools and uses them purposefully, considering the given requirements;
- 4) maintains the security and working equipment, taking into account the operating and maintenance instructions;
- 5) maintains the brush saw and the chainsaw in accordance with the nature of the work, the need for maintenance and the user manuals;
- 6) fells trees with a chain saw, lops and cross-cuts the stems and assembles the prepared materials on the basis of their work duties, and using ergonomic and safe working practices;
- 7) maintains forest rides, shoulders, ditches, line corridors, shrubberies, etc., on the basis of their work duties, and using ergonomic and safe work practices;
- 8) provides emergency assistance in case of an accident, if necessary, calls for professional help and informs the work site manager or the employer of the accident;

Knowledge:

- 1) construction and operation and maintenance principles of brush saws and chainsaws;
- 2) types of safety and working equipment and their care principles;
- 3) requirements of the legislation, guidelines and standards governing the area;
- 4) basics of ergonomics, environmental and occupational safety requirements;
- 5) basic knowledge of forest tree species.

Assessment method(s):

Practical work and a written task.

B.2.2 Planting of woody plants

ECT Level 4

Performance indicators:

- 1) ensures the preservation of the saplings in their transport and before the planting, taking into account the weather conditions;
- 2) limits and demarks the site of performance of works, taking into account occupational safety and the pedestrian and vehicular traffic;

- 3) examines and prepares the planting site, considering the size of the sapling and its root system and the character of the soil, taking into account the requirements of the provided instructions;
- 4) plants the woody plants, taking into account the requirements related to the growth place, performing correctly the reversal, scaffolding, watering and mulching;
- 5) cuts woody plants at the time of planting, recognizing the previous maintenance errors and using correct techniques and tools, taking into account the maximum preservation of the live crown of the tree;
- 6) performs follow-up care (watering, mulching, protection, supporting, etc.), taking into account the size of the tree, the specific nature of the growing site and using suitable work materials. On the basis of the external signs, evaluates the sprouting of the saplings and if possible, corrects the errors and in a timely manner removes the ties and supports.

Knowledge:

- 1) the most common tree species and their characteristics;
- 2) anatomy of woody plants (including the specific nature of the root system), basics of physiology and ecology;
Basics;
- 3) the types of soil, growing media and mulches and their properties;
- 4) principles of reading a design.

Assessment method(s):

Practical work and an interview.

B.2.3 Re-planting of trees

ECT Level 4

Performance indicators:

- 1) prepares the tree root systems and the crown for replanting, taking into account the size of the tree and the volume of the root system and prepares for a new growing place;
- 2) plants the woody plants, taking into account the requirements related to the grow place, performing the reversal correctly, scaffolding, watering and mulching;
- 3) cuts woody plants at the time of planting, using correct techniques and tools, taking into account the maximum preservation of the live crown of the tree;
- 4) maintains the replanted trees (waters, supports, mulches etc.) in compliance with the requirements of follow-up care plan.

Knowledge:

- 1) the most common tree species and their characteristics;
- 2) anatomy of woody plants (including the specific nature of the root system), basics of physiology and ecology;
- 3) the types of soil, growing media and mulches and their properties;
- 4) principles of reading of a design.

Assessment method(s):

Practical assignment (case study)

B.2.4 Pruning of woody plants

ECT Level 4

Performance indicators:

based on management directions and maintenance needs:

- 1) plans the cutting work based on the biology of the woody plant, the specific nature of the growing place (street, park, forest park, home garden, etc.), the condition of the tree, and risk analysis;
- 2) performing safe design cutting and pruning of trees;
- 3) performs pruning of hedges and shrubs using appropriate manual and motor cutters, taking into account the biological specificity of the plant;

Knowledge:

- 1) anatomy of woody plants (including the specific nature of the root system), basics of physiology

- and ecology;
- 2) types of different cuttings and their use;
 - 3) techniques, kinds and ways of cutting, their impact on the later shape of the woody plant, the robust design and the rate of growth of the crown;
 - 4) types of intra-tree defense mechanisms and their importance;
 - 5) types of pests of woody plants;
 - 6) the most common tree species and their characteristics;
 - 7) construction and principles of operation and maintenance of manual and motor cutters.

Assessment method(s):

Practical work and a written task.

B.2.5 Care for fruit trees and berry bushes

ECT Level 4

Performance indicators:

based on management directions and maintenance needs:

- 1) plans the cutting works on the basis of the biology and the condition of the fruit trees and berry bushes;
- 2) performs pruning of hedges using appropriate manual and motor cutters, taking into account the biological specificity of the plant;
- 3) performs safely pruning of fruit trees, using appropriate manual and motor cutters, based on the type, variety and type of the rootstock;
- 4) protects the crowns and stems of woody plants from damaging weather conditions, based on the type, location of growth and damaging factors;
- 5) evaluates the need for fertilization and fertilizes;
- 6) performs plant protection operations on the basis of the instructions of use of preparations.

Knowledge:

- 1) types of different cuttings and their use;
- 2) techniques, kinds and ways of cutting, their impact on the later shape of the woody plant, the robust design and the rate of growth of the crown;
- 3) types of rootstocks;
- 4) fruit trees and berry bushes species, the bases of their anatomy and physiology, and the directions of management;
- 5) types of pests of plants;
- 6) types of fertilizers, their use and conservation;
- 7) types of plant protection products, their use and conservation;
- 8) types and characteristics of sapling protection products;
- 9) construction and principles of operation and maintenance of manual and motor cutters.

Assessment method(s):

Practical work and a written task.

B.2.6 Performing special care work of woody plants

ECT Level 4

Performance indicators:

- 1) protects the woody plants during construction, based on tree biology and the requirements of normative documents and other regulatory prescriptions governing tree protection;
- 2) installs the support belts on trees, on the basis of the given instructions;
- 3) protects the woody plants from damage, based on the type, location of growth and damaging factors;
- 4) evaluates the need for fertilization and fertilizes, based on the evaluation results;
- 5) performs plant protection operations on the basis of the instructions of use of preparations.

Knowledge:

- 1) the most common tree species and their characteristics;

- 2) anatomy of woody plants (including the specific nature of the root system), basics of physiology and ecology;
- 3) the principles of protection of the trees growing on construction sites;
- 4) types of pests of woody plants;
- 5) the specifics of fertilizers and plant protection products and their characteristics;
- 6) principles and methods of tree fertilization;

Assessment method(s):

Practical work and a written task.

B.2.7 Felling of trees in special conditions (gradients, power line base and proximity, proximity to roads and facilities, limited space, windthrow, etc.)

ECT Level 4

Performance indicators:

- 1) assesses the risks associated with the work and selects the appropriate felling method (including sectional felling), personal protective equipment and tools, (winch, cage lift, etc.), on the basis of risk analysis;
 - 2) fells trees safely, ensuring the safety of themselves and passers-by, and the preservation of buildings and structures causing minimal damage to soils and vegetation;
 - 3) works in storm fracture zones, lopping and cross-cutting safely the stems under tension;
- In accordance with the agreement between the parties;
- 4) organizes cutting waste removal and/or storage;
 - 5) uses a wood chipper;
 - 6) assesses the suitability of the trees to be felled for timber manufacture and if possible, prepares commercial assortments of them;
 - 7) refines the object, restores the landscaping.

Knowledge:

- 1) the most common tree species and their characteristics;
- 2) anatomy of woody plants (including the specific nature of the root system), basics of physiology and ecology;
- 3) Safety requirements for storm fracture zones.

Assessment method(s):

Practical work and a written task.

B.2.8 planning and performing of forest park and landscaping maintenance

ECT Level 4

Performance indicators:

- 1) in the course of maintenance works, selects the trees to be cared for and felled, based on the objectives set out in the maintenance plan or of the agreements between the parties;
 - 2) maintains forest parks or landscaping areas, without damaging other plants and facilities;
- On the basis of the agreement between the parties:
- 3) assesses the suitability of the trees to be felled for timber manufacture and if possible, prepares commercial assortments of them;
 - 4) organizes handling of cutting waste;
 - 5) arranges for stump removal
 - 6) refines the object.

Knowledge:

- 1) the most common tree species and their characteristics;
- 2) anatomy of woody plants (including the specific nature of the root system), basics of physiology and ecology;
- 3) basics of forest management;
- 4) basics of park management;
- 5) the most common protected species;

Assessment method(s):
Practical work and a written task.

B.2.9 Working from a cage lift

ECT Level 4

Performance indicators:

- 1) selects and orders a suitable cage lift based on the nature of the work;
- 2) sets the cage lift into a safe working position; controls the movement of the lift and works safely; communicates with the driver of the lift, using the agreed signals;
- 3) takes care of or fells trees, taking into account the safety instructions of working from the lift and the goals of its care;
- 4) in the case of an accident at the height, brings the victim to the ground, ensuring his or her own safety and avoiding the deterioration of the condition of the victim.

Knowledge:

- 1) types of lifts and their specificities;
- 2) safety requirements and restrictions on working on the lift.

Assessment method(s):
Practical work

B.2.10 Working with climbing ropes

ECT Level 4

Performance indicators:

- 1) chooses safe and properly certified climbing equipment and tools, based on the assignment, the intended use, weather conditions, etc;
- 2) conducts a tree-based pre-climbing risk assessment, selects the safe and appropriate climbing method, based on the assignment, weather conditions, etc;
- 3) performs the commissioned tree care or felling works from the rope, taking into account the care goals and ensuring work safety;
- 4) cares for climbing equipment, taking into account the manufacturer's instructions;
- 5) in the case of an accident at the height, brings the victim to the ground, ensuring his or her own safety and avoiding the deterioration of the condition of the victim.

Knowledge:

- 1) types of ropes and the types of the related accessories, and the principles of their use;
- 2) methods and techniques of working with ropes/climbing;
- 3) types of safety equipment and requirements for their use;
- 4) safe practices for working with ropes;
- 5) types of different knots and the principles of their use;

Assessment method(s):
Practical work

B.2.11 Management and instruction

ECT Level 4

Performance indicators:

- 1) prepares calculations of work-related costs, based on the purpose of the work and the requirements of current legislation;
- 2) enters into agreements with the clients to clarify the obligations between the parties, receives objects for the care and delivers the cared objects, documents the performed work;
- 3) verifies the permissibility of felling of trees and obtains approvals in accordance with applicable legal requirements;
- 4) supervises colleagues, guided by the tasks, occupational health and safety requirements, the selection of the right tools and techniques, and following the quality requirements.

Knowledge:

- 1) bases of organizational behavior;

- 2) basics of records management and entrepreneurship;
- 3) requirements of the legislation governing the field, including the requirements for working with protected species.

Assessment method(s):

Practical work and a written task.

TRASVERSAL COMPETENCIES

B.2.12 Tree Worker, level 4, transversal competency	ECT Level 4
<p>Performance indicators:</p> <ol style="list-style-type: none"> 1) attaches importance to ethical principles and values, respecting the professional ethics of a tree worker (see Annex 1); 2) prepares the risk analysis of the object, plans his or her work, based on the degree of risk and the set work objectives; 3) accepts obligations and is responsible for their timely performance; 4) is open to cooperation, participates in team work; communicates with clients and colleagues, acts in the name of achieving the best common results; 5) uses in his or her work ergonomic and safe working practices and safety and working equipment; 6) checks the safety of the equipment on a regular basis, maintains the security and working equipment, as necessary, including disinfects tools; 7) organizes the treatment of the organic and non-organic waste emerging as a result of work in accordance with the requirements of environmental protection; 8) provides emergency assistance in case of an accident, calls for professional help and informs the work site manager or the employer of the accident; 9) in case of an accident at the height, brings the victim to the ground, ensuring his or her own safety and avoiding the deterioration of the condition of the victim. 10) uses the computer on the level Module 1 - Module 4, and Module 7 (see Annex 2); 11) uses the official language at level B2 and one foreign language at level A2 (see Annex 3). 	
<p>Knowledge:</p> <ol style="list-style-type: none"> 1) requirements of the legislation, guidelines and standards governing the area; 2) basics of ergonomics, environmental and occupational safety requirements; 3) the meaning of terms used in the guidelines; 4) principles and stages of the construction and landscaping design and working drawings; 5) basics of waste management. 	
<p>Assessment method(s):</p> <p>Transversal competencies are assessed in an integrated way in the course of the assessment of other competencies provided in the occupational standard.</p>	

Part C

GENERAL INFORMATION AND ANNEXES

C.1 Information for the preparation and approval of occupational standards, the awarding body and a reference to the location of the occupational standard in the classifications	
1. The marking of the occupational standard in the occupational qualification register	16-20022014-2.2/4k
2. Occupational qualification standard prepared by:	Aino Mölder, Luua Forestry School Sulev Järve, Eesti Arboristide Ühing MTÜ, Tallinn Environment Department Heiki Hanso, Estonian Chamber of Arborists, ArborEst OÜ Aivar Paat, A-Kuller & Partnerid OÜ Eero Tali, Roheline Ruum OÜ Liina Jürisoo, Estonian University of Life Sciences; Anu-Kristin Tara, OÜ Puudehooldus Ulve Pärn, Teede Projektijuhtimise AS Ain Järve, Tallinn Utilities Department, Kadriorg Park Aita Sauemägi, SA Innove
3. Occupational qualification standard approved by	Professional Council of Forestry
4. Professional Council Decision No.	14
5. Date of Professional Council Decision.	20.02.2014
6. Occupational standard valid until	19.02.2019
7. Occupational standard version number	4
8. Reference to the Classification of Occupations	621 Forestry workers and related workers
9. Reference to the European Qualifications Framework (EQF)	4
C.2 Occupational title in a foreign language	
English	Tree Worker, Level 4
In Russian	Арборист
C.3 Annexes	
Annex 1 Arborist Code of Ethics	
Annex 2 Computer skills	
Annex 3 Language skill levels descriptions	

ARBORIST CODE OF ETHICS

The conceptual goal of the Estonian Arborist Code of Ethics is to avoid unprofessional employees, in order through it to reach the implementation of safe working practices, and the valuing of a tree as a part of living nature. This Code of Ethics is a national application document of the standards of arborist ethics developed by *ISA* (International Society of Arboriculture). The Code sets out the mission, behavioral norms, values, attitudes and responsibilities of an arborist to the wildlife, to the society and to each other.

The mission of an arborist is to ensure through his or her activities a good health and a long life cycle as possible for the settlement trees, in order to shape a safe and aesthetic environment for people and maintaining as many as possible habitats for other life forms. An arborist dedicated to his or her vocation promotes the right techniques of caring for a tree and the profession of an arborist in every possible case in the spirit of the best beliefs and skills of their profession.

Arborist Standards of Conduct:

An Arborist:

- is guided in his or her work by the legislation in force in the Republic of Estonia, the Occupational Qualifications Standard of an Arborist and on the Arborist Code of Ethics;
- when making decisions related to caring for trees, is guided by the value of the tree, biology, health and safety requirements, and not in his or her business interests;
- in their evaluations and recommendations are objective and independent and avoids preparation of recommendations and expert estimates based on the private and/or commercial interest of the customer;
- objectively evaluates his or her professional abilities and provides services only within the limits of his or her powers and capabilities, if necessary, recommending a different, more skilled arborist;

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- when making decisions related to caring for trees and when working, complies with health and safety requirements, ensuring both their own safety and the safety of all the other people and their property;
- on application or recertification of the occupational qualification of an arborist or on raising the qualifications for being awarded the occupational qualification ensures the accuracy and completeness of the necessary information;
- uses his or her occupational qualification certificate for its intended purpose (i.e., does not "sell" his or her name or occupational qualification certificate on procurements in which he or she himself or herself does not participate);
- adheres to the principles of fair and honest business.

Values and attitudes of an arborist:

An Arborist:

- has an attitude of respect for life as such; for him or her is equally sacred both the tree itself to be cared for or the associated habitats for other life forms – an arborist tries to preserve them as much as possible;
- is engaged in continuous self-development in order to keep abreast of changes in the environment societal values and technical developments in the field, affecting the work of an arborist.

Responsibility of an arborist

An Arborist:

- envisages the final results of their work and is responsible for them;
- on the prioritization is based on the safety of people and their property, the safety of the surrounding natural environment, and finally on the safety of the tree to be cared for, while ensuring the safety of himself or herself;
- takes conscious responsibility for the consequences of the lives of others in situations where choices must be made;
- understands the scope of responsibilities associated with working under the gaze of the public and the impact of their work culture to the reputation of the occupational qualification of an arborist.



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The Code of Ethics is approved by the following, organizations uniting arborists:

- 1) Estonian Association of Arborists
- 2) Estonian Chamber of Arborists

Date of approval: 10. 12. 2013.