Vertical Green
Learning Outcomes
EQF 4

Water	Learning Outcomes (who does what how)	Assessment Criteria (who does what how to what extent)
Raingarden	Learner **explains** to others the relations between basic elements in the hydrological cycle. Learner **guides** a team to use sustainable and appropriate techniques and materials to support hydrological cycle.	Learner **identifies** main hydroligical factors in the urban environment such as stormwater, groundwater, flooding and drainage systems. Learner **recognizes** and **explains** the water flow and how soil, water and air is connected in the urban environment and **explains** the impact of the hydrological factors in the specific site. Learner **chooses** propriate maintenance and building techniques and materials for the team and **explains** their factors affecting ecosystem services. Learner **leads** a team according to the given guidelines of the project while taking into account urban biodiversity through hydrological cycle. Learner **identify** variety of local habitat factors affecting growth such as water, soil and micro-climate and takes action to improve the health in urban enviroment.
Stormwater management		
Flood meadow		
Wetland	Learner **understands** and works with nature-based solutions while landscaping and maintaining the hydroligical structures while leading a team	Learner **identifies and explains to others** the hydroligical NBS structures such as rainbeds, floating gardens, flood meadows and **leads** a team while taking into account stormwater, groundwater and the hydrological cycle in NBS. Learner **understands** and **explains** hydrolocal factors affecting local plants growth in nature based solutions sites. Learner **identify on site and quides the team to remove** local harmful invasive species while doing bulding / maintenance work in uban greening sites.
Water harvesting systems		
Floating garden		
NBS		
Hydrological cycle		

Soil / substrates	Learning Outcomes (*who does what how*)	Assessment Criteria (*who does what how to what extent*)
Vegetated roof soil or substrates	Learner **understands** and **explains** to others the importance of soil organisms	Learner **identifies** different beneficial and harmful microorganisms in the soil. Learner **explains** soil conditioners and methods that support the structure of the soil, the living organisms in the soil, water management, nutrient economy and carbon sequestration. Learner **identifies** site specific variety of soils and substrates and their factors affecting ecosystem services and biodiversity.
Green wall substrates	Learner **builds** and **maintains** the urban green site by taking into account basic carbon cycle in the soil	Learner **explains** the importance of the basics of carbon cycle in the soil and **chooses** appropriate maintenance and building techniques to support ecosystem services and local biodiversity in the soil.
Soil biodiversity	Learner **chooses** healthy and appropriate soils and substrates for different environments while leading a team to build and maintain urban green sites.	Learner **identifies** and **explains** to others different types of soils in the urban green site. Learner **evaluates** visually and by soil analysis report the suitability of the growing medium for the environments and provides recommendations towards healthy soil. Learner **identifies** and **explains** how soil, water, nutrients and air are connected for environmental well-being and explains the balance of micro-organisms in the site specific soil. Learner **prepares** a plan for a team to prevent the release of the contaminants and chemicals generated, while doing maintenance and landscaping work into the environment.
Soil food web		
Carbon cycle		
Nutrient cycle	Learner **takes action to remove** local harmful invasive species and handles them according to the legislation	Learner **follows** the list of harmful invasive species and complies with instructions in the removal of invasive alien species. Learner **recognises** and **reports** local harmful invasive species (flora and fauna) while doing landscaping and maintenance work in urban greening sites. Learner **instructs** others to remove harmful invasive species according to plan and legislation.
NBS		

Vegetation	Learning Outcomes (who does what how)	Assessment Criteria (who does what how to what extent)
Invasive species	Learner **manages** and **guides** others to work with different types of vegetation in the urban environment	Learner **recognises** and **works** with different types of vegetation and local plants in plans and documents while building and maintaining the urban environment and nature sites. Learner **identifies** decorative plants used in green areas, knowing their native names, scientific families and species. Learner **manages** others to work with the common local plants, scientific names and purposes of decorative plants. Learner **identifies** the different nature types and indigenous plants and explains the impacts of the layered structure of the vegetation.
Integrated vegetation, roofs and walls	Learner **monitors** growing conditions and **guides** others to improve the factors affecting plants growth	Learner **explains** local habitat factors affecting plants growth such as water, wind, light, micro climate, growing media and nutrients. Learner **determines** common climate-related growth factors and instructs others to take action to improve vegetation health. Learner **monitors** and **reports** on pests and diseases and **leads** a team to carry out maintenance work while taking into account the surrounding vegetation and landscape and the built environment.
Indigenous plants	Learner **takes action to remove** local harmful invasive species and handles them according to the legislation	Learner **follows** the list of harmful invasive species and **complies** with instructions in the removal of invasive alien species. Learner **recognises** and **reports** local harmful invasive species while doing landscaping and maintenance work in urban greening sites and **instruct** others to remove invasive species according to plan and legislation.
Fin E taimi	Learner **leads** a team to plant and maintain plants and **guides** the team to handle vegetation in an economical and sustainable way	Learner **protects** the vegetation to be preserved according to the given guidelines and ensures the quality of plants, **plans** work and **makes** site specific guidelines. Learner **protects** and **maintains** the vitality of the plants on site during intermediate storage and construction and **ensures** that the plant protection measure is ecological to minimise harmful effects on the environment. Learner **motivates** the team by setting goals and dividing tasks with the team and **evaluates** the progress of the set goals with the team during and at the end of the project.
NBS	Learner **manages** a team to work with nature-based solutions in urban environment by following the given plans and documents	Learner **leads** a team to support biodiversity and carbon sequestration while taking into account the impact of the origin of the plants and the impact of horticultural plants. Learner **leads** a team to carry out the required maintenance while taking into account the development stage of the plant population and **chooses** suitable machines and devices for site and **manages** a team to use them.

Materials, techniques	Learning Outcomes (who does what how)	Assessment Criteria (who does what how to what extent)
Recycled materials Recyclable materials	Learner **leads** a team to work with raw materials, to **use** them in a responsible way and to consider the possibility of reuse and recycling	Learner **explains** raw materials to others and **works**, within the reponsibility of his job, with sustainable materials and products used in urban green sites, given in plans and documents. Learner **calculates** the amount of the required materials for the job specific site and **minimises** the generation of waste, sorts and recycles waste material, promoting the circular economy. Learner **selects** raw materials that are suitable for further processing of the product and works with the used materials safely and cost-effectively, taking into account the working properties of the material. Learner **motivates** the team sorting waste and recycling and prevents usable materials from ending up in landfills.
Vegetated roofs and walls Irrigation systems	Learner **recommends** to the others and **chooses** ecologically and economically sustainable materials in maintenance and landscaping work in urban environment	Learner **promotes** the benefits of sustainable materials and their factors affecting ecosystem services and biodiversity in maintenance and landscaping. Learner **explains** the footprint of ecologically sustainable products and the local context, where the products are made and why they are chosen for the job site and **recommends** products and materials with a small environmental burden. Learner **understands** the labelling of the materials used in the project/site, **produces** the required documentation for the customer and **interprets** and **guides** others of the contents of the (safety) data sheet.
Biochar NBS	Learner **recommends** to and **chooses** for others ecologically and economically sustainable techniques in maintenance and landscaping work in urban environment	Learner **promotes** the benefits of sustainable techniques and their factors affecting ecosystem services and biodiversity in maintenance and landscaping. Learner **explains** the footprint of ecologically sustainable techniques and why they are chosen for the job site and **recommends** techniques with a small environmental burden. Learner **manages** the work sequences of the techniques used in the project/site and produces the required documentation of the techniques and methods for the customer.
	Learner **leads** a team to comply to quality and safety regulations	Learner **instructs** the team how to use the site specific quality and safety regulations and **monitors** the team to comply to quality and safety regulations for the specific job site. Learner **reports** the monitored documents on quality and safety regulations to the client.

Energy saving, machinery	Learning Outcomes (*who does what how*)	Assessment Criteria (*who does what how to what extent*)
Electrical machinery	Learner **manages** a team to use different energy saving methods and machinery in urban environment, in order to reduce the use of resources and minimize C02 emission	Learner **explains** benefits of different energy saving methods such as reducing energy consumption, using machinery only in necessary job duties, avoiding unnecessary driving and carries out site logistics according to the plan. Learner **sets goals** with the team on reducing energy consumption by (for example): • switching off the machine when not in use • using the machinery economically by choosing the right fuel (emission free) • driving and operating machinery in different conditions and sites as required by legislation • maintaining the machine properly • ordering only the amount of material needed • handling materials, products and plants so that they can be recycled or used at another site • keeping the site tidy • using the chemicals safely Learner **stimulates** and **empowers** the team to achieve the goals.
Mechanical machinery		
<mark>Smart landscaping sofware</mark>		
Emisson free tools and machinery	Learner **motivates** a team to improve air quality and provides tools to stimulate holistic well-being of the urban environment, by (pre-)set goals	Learner **sets goals** with a team to protect air quality (noise, dust and pollution reduction), by **selecting** sustainable tools, technologies and methods. Learner **explains** to others how to avoid habitat destruction and prevent negative impacts on holistic well-being on site specific jobs. Learner **stimulates** and **empowers** the team to achieve the goals by using the selected tools, technologies and methods and **evaluates** the progress of the set goals with the team during and at the end of the project.
Silent site tools		
<mark>Smart lighting tecniques</mark>	Learner **explains** the importance and relevance of the use of smart software and technologies to others in an ecofriendly and service and future orientated approach	Learner **chooses** between different smart software and technologies related to the landscape and gardening industry for the specific job site (for example: smart lighting techniques, silent site tools, project management tools, robotics, virtual and augmented technologies, site surveillance tools). Learner **explains** the use and relevance of the chosen smart software and technologies to others.
	Learner **uses** smart software and technologies in a specific job site in order to work efficiently on management tasks and save resources	Learner **uses** and **maintains** the selected and installed smart software and technologies up to date on the specific job site. Learner **sets goals** for one's own and with a team to work efficiently on project management and **resources** and **evaluates** energy savings and resource savings at the site specific job.

Well-being
The urban ecology
Well-being and effects of green spaces
Pollinators and wildlife
Ecosystem services
The ecological cycle
NBS
Green care

Learning Outcomes (who does what how)	Assessment Criteria (who does what how to what extent)
Learner **analyses** the purpose of the project and the effects to the urban green site towards holistic well-being, to team members and to customer in service oriented and cooperative manner	Learner **explains** the purpose of the project and brings out its effects to the green space and people. Learner **improves** the one's own and team's action according to the purpose of the project and **communicates** openly with the team and customers while guiding and advising them towards holistic well-being.
Learner **leads** a team in maintenance and landscaping to improve and supports **ecosystem services** and local biodiversity by instructing proper techniques and use of materials in urban green sites and understands the general information of holistic well-being	Learner **leads** a team to build and maintain the urban green site by taking into account stormwater, groundwater and the hydrological cycle, leads a team by choosing different types of soils and guides the team how soil, water and air are connected in the urban green site for holistic, environmental well-being. Learner **selects** local plants and understands factors affecting their growth in urban green sites, **recognises** and **guides** the team to remove local harmful invasive species while working in urban greening sites according to plan and legislation. Learner **selects** for the team variety of maintenance and building materials and understands their factors affecting ecosystem services and biodiversity and **chooses** appropriate maintenance and building techniques for the team to support ecosystem services and local biodiversity.
Learner **explains** the importance of Green Care in the urban environment	Learner **identifies** the use of nature in combination with wellbeing and health services to maintain and improve human well-being and quality of life.
Learner is **aware** of one's own and team well-being at work while considering the health, safety and sustainability	Learner **plans** one's own and team´s work with consideration, by taking care of health and safety rules and sustainability and **leads** and **monitors** team's building and maintaining work according to the health and safety rules.