TreProX: Innovations in Training and Exchange of Standards for Wood Processing

GREEN FOREST 1 - 2

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Green forests 1-2

Curriculum

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Table of content

Introduction

Green Forests is a course sequence that was founded in the year 2001 in cooperation between the Icelandic Horticultural College at Reykir, Ölfusi, the Forestry Services of Iceland, Local forest projects and the Land Reclamation Institution. The courses have since the beginning been aimed at forest owners and the goal is to increase their knowledge on everything related to forestry, in order to increase the positive results of forestry. The course sequences were offered in every part of the country and the content of the courses took aim from the local situation in forestry. In the beginning there was only one course sequence, Green Forests 1 but shortly after the first group graduated the students felt they needed further education. Green Forests 2 were soon founded and have been taught successfully throughout the country.

Course sequence layout

The Green Forests studies are at the upper secondary level and evaluated to ECVET credits. Each credit equals 3 working days of the student, whether that be lectures, practical exercises or homework.

Each sequence takes up to three years and each participant must take a certain number of compulsory courses and some elective courses, at least two per semester. Each course is a mixture of lectures, practical exercises, field visits and homework. Teaching is on a Friday from 16-19 and the following Saturday from 9-16.

Course descriptions

Green forests 1

The focus of Green Forests 1 is planning and preparing the ground for forestry. How to prepare the soil, how to plant and ensure that the young plants will prosper.

GF1 From barren land to prosperous forests

<table>
<tr><td>Course
From barren land to prosperous forest</td><td>Credits (ECVET)
1</td><td>Skills level</td></tr>
<tr><td colspan="3">Course description
Specific methods of establishing forests in areas of high desertification and difficult growing conditions are introduced to the students. The project is discussed in relation to location of land, height above sea level, land slope and direction of slope, local soil conditions, vegetation and local plant species, site preparation options and soil improvement, climate, wind stress factors, frost heaving, selection of suitable plant material for difficult growing conditions, implementation and follow up to ensure success. The method of ,,sowing for forests“ is introduced along with other new methods. Successful projects of this kind are presented, if possible.</td></tr>
<tr><td colspan="3">Prerequisites</td></tr>
<tr><td colspan="2">Knowledge criteria
The student should have knowledge and understanding of:
• How different environmental conditions affect forestry.
• Which conditions are considered difficult for forestry.
• Different procedures available for enabling forestry under difficult conditions.
• Main methods for site preparation and soil improvement on barren land.
• Main plant species for use under difficult conditions.
• The importance of follow up in this kind of forestry projects.
• Key projects in land reclamation forestry (if any) in home country.</td><td rowspan="2">Learning outcomes
The student should be able to use the knowledge, skills and competency he has accumulated to:
• Compare the effects of different environmental conditions on forestry prospects
• Choose between different procedures in forestry on barren land, with local conditions in mind.
• Choose appropriate plant species for different growing conditions.
• Carry out plans for forestry on barren land.</td></tr>
<tr><td colspan="2">Competency/skills
The student should be competent in:
• Monitoring and analyzing the effects of different environmental conditions on forestry.
• Using different procedures available in forestry on barren land.
• Choosing appropriate methods of site preparation and soil improvement on barren land.
• Identifying the main plant species appropriate for difficult conditions.</td></tr>
</table>

• Working on forestry projects of this kind. • Gather information on key projects in land reclamation forestry.	
Evaluation Assignments, written exam.	
Instructions and comment (for other teachers)	
Connection to key factors of curriculum Literacy – Health and wellbeing – Self sustainability	
Date: 19.3.2020 **Authors:** Björgvin Örn Eggertsson, Björn Bjarndal Jónsson, Guðríður Helgadóttir, Ólafur Oddsson	

GF1 Fences

Course **Fences**	**Credits (ECVET)** **1**	**Skills level**
Course description Participants will have theoretical and practical training in raising traditional fences, as well as electrical fences. Laws and regulations with regards to fences will be discussed. Planning and preparation of fencing is discussed, as well as appropriate material for fences and electrical fences, voltage sources, connection to ground pole, methods of raising fences and how to finish off the fencing process. The students will learn to choose appropriate location for a fence, how to put up a corner post as well as the sides of the fence. Students will learn how to plan a budget for a fencing project and the availability of possible grants will be discussed.		
Prerequisites		
Knowledge criteria The student should have knowledge and understanding of: • Theoretical information needed when setting up a fence. • Appropriate laws and regulations regarding fences. • Choosing appropriate material and equipment when fencing. • Choosing an appropriate location for a fence. • Planning and preparing for fence work, setting up corner poles and sides. • How to finish a fencing project. • How to plan a budget for a fencing project. • Possible grants that can be applied for against the cost of fencing.	**Learning outcomes** The student should be able to use the knowledge, skills and competency he has accumulated to: • Explain to others and discuss the theoretical background of fencings, as well as laws and regulations one must keep in mind when planning and setting up a fence. • Compare and discuss the choice of different material and equipment for fencings, as well as the location of the fence. • Supervise the planning, preparation, execution and finishing of a fencing project. • Ensure that a fencing project is within the financial budget and apply for possible grants against the cost of the project.	
Competency/skills The student should be competent in: • Identifying theoretical information needed when setting up a fence. • Gathering information about laws and regulations regarding fences. • Choosing the appropriate material and equipment for fencing. • Prepare and execute a fencing project, setting up corner poles and sides. • Finish a fencing project in the appropriate manner. • Planning a financial budget for a fencing project. • Gathering information on possible grants against the cost of a fencing project.		

Evaluation The student will be evaluated on how he plans, prepares and executes setting up a portion of a fence. Written evaluation may also be needed.
Instructions and comment (for other teachers) This course should be very practical.
Connection to key factors of curriculum Literacy – Health and wellbeing – Self sustainability
Date: 19.3.2020 **Authors:** Björgvin Örn Eggertsson, Björn Bjarndal Jónsson, Guðríður Helgadóttir, Ólafur Oddsson

GF1 Planting of forest plants

<table>
<tr><td>Course
Planting of forest plants</td><td>Credits (ECVET)
1</td><td>Skills level</td></tr>
<tr><td colspan="3">Course description
Different methods of planting forest plants will be shown and discussed. Diverse plant types and quality demands will be discussed, with regards to plant species, plant sizes and tray types. The students will learn about the transportation and handling of plants from delivery from the producer to the actual planting, storage facilities, watering, fertilizing etc. The timing of planting and choosing a planting site will be discussed, as well as planning the planting process and different methods of planting (physical factors, planting tubes, shovels), scarificating before planting and fertilizing at the time of planting. The students will also learn about how to register individual plants digitally at planting and the use of special apps for that. Practical excercises.</td></tr>
<tr><td colspan="3">Prerequisites</td></tr>
<tr><td>Knowledge criteria
The student should have knowledge and understanding of:
• Mehods of planting forest plants.
• Different plant types and their quality criteria.
• Transportation and handling of plants from the time of delivery until planting.
• Different timing of planting.
• Which planting sites are suitable for each plant species.
• Planning the work at a planting site.
• The purpose of scarification and fertilizing when planting.
• Digital registration/recording of plants and apps used for that purpose.</td><td colspan="2" rowspan="2">Learning outcomes
The student should be able to use the knowledge, skills and competency he has accumulated to:
• Compare and choose appropriate methods of planting forest plants, with regards to plant types, time of planting and planting site.
• Discuss and explain to others the importance of correct handling and care of plants from the time of delivery until planting.
• Evaluate work planning at planting site and come up with improvements, if needed.
• Explain to others the importance of scarification and fertilizing when planting.
• Work with digital data on planting and explain to others how to use appropriate apps on digital registration of plants.</td></tr>
<tr><td>Competency/skills
The student should be competent in:
• Planting forest plants with different methods and at different times of the year.
• Examining different plant types and which quality criteria are appropriate for each type.
• Transporting and handling forest plants appropriately during the time from delivery until planting.
• Choosing the appropriate planting site for different species fo plants.
• Planning work at planting site.
• Scarificating and fertilizing plants at when planting.
• Registering/recording plants digitally when planting and using appropriate apps.</td></tr>
</table>

Evaluation The student will be evaluated by a teacher during a planting excercise. Written exam.
Instructions and comment (for other teachers)
Connection to key factors of curriculum Literacy – Health and wellbeing – Self sustainability
Date: 20.3.2020 **Authors:** Björgvin Örn Eggertsson, Björn Bjarndal Jónsson, Guðríður Helgadóttir, Ólafur Oddsson

GF1 Life in the forest 1

<table>
<tr><td>Course
Life in the forest 1</td><td>Credits (ECVET)
1</td><td>Skills level</td></tr>
<tr><td colspan="3">Course description
The course looks at the conditions of the land in the beginning of forestry, ecology of land and fauna, how the forestry will affect the local environment and what the end results of the forestry project can be in the future. Careful planning is needed. The students will learn about possible uses of the forest and its resources in it‘s first growing phase. Forest culture in other countries will be discussed as well as possible ways of using the forests in various ways and how it is possible to plan the forest in order to maximize its usability in the future.</td></tr>
<tr><td colspan="3">Prerequisites</td></tr>
<tr><td>Knowledge criteria
The student should have knowledge and understanding of:
• The conditions of land, ecology and fauna, at the beginning of forestry.
• The effects of forestry on the environment and possible future outcomes of the planting project.
• Possible uses of the forest and it‘s resources during its first growth phase.
• Culture in connection with forests in other countries.
• Possible future uses of forests.
• Ways of planning forests to maximize their future usability.</td><td colspan="2" rowspan="2">Learning outcomes
The student should be able to use the knowledge, skills and competency he has accumulated to:
• Evaluate the conditions of land, with regards to its‘ ecology and fauna and realize the future effects of forestry on local environment.
• Realize the possible uses of the forest, from planting to felling and choose a plan that maximizes the usability.</td></tr>
<tr><td>Competency/skills
The student should be competent in:
• Observing the conditions of land, it‘s ecology and fauna, at the start of forestry.
• Gathering information on the effects of forestry on local environment and possible future outcomes of the planting.
• Observing and identifying possible uses of the forest during it‘s first growth phase and later.
• Gathering information about culture connected to forestry in other countries.
• Gathering information on possible ways of planning forests to maximize future usabilities.</td></tr>
<tr><td colspan="3">Evaluation
Assignments, written exam</td></tr>
</table>

Instructions and comment (for other teachers)
Connection to key factors of curriculum Literacy – Health and wellbeing – Self sustainability
Date: 23.3.2020 **Authors:** Björgvin Örn Eggertsson, Björn Bjarndal Jónsson, Guðríður Helgadóttir, Ólafur Oddsson

GF1 Domestic study tour

<table>
<tr><td>Course
Domestic study tour</td><td>Credits (ECVET)
1</td><td>Skills level</td></tr>
<tr><td colspan="3">Course description
The domestic study tour is a 3 day tour that aims to introduce students to excellent practices in local forestry. During the tour variable companies, institutions and municipalities will be visited, Forestry Services and Forestry Societies, as well as farmers and even students working on forest related projects or research.</td></tr>
<tr><td colspan="3">Prerequisites</td></tr>
<tr><td>Knowledge criteria
The student should have knowledge and understanding of:
• The different challenges in forestry in different parts of the country.
• The structure of the social system of forestry in the country.
• The everyday work of the people working for Forestry Services, Forestry Associations and forest farmers.
• The importance of field trips to get to know the culture in forestry in the country.</td><td colspan="2" rowspan="2">Learning outcomes
The student should be able to use the knowledge, skills and competency he has accumulated to:
• Discuss the different challenges in forestry in different parts of the country.
• Explain to others the structure of forestry in the country, with regards to the the social system of forestry.
• Organize informative and educational field trips to forests in Iceland with focus on culture connected to forestry.</td></tr>
<tr><td>Competency/skills
The student should be competent in:
• Identifying different challenges in forestry in different parts of the country.
• Gathering further information on the social system and structure of forestry in the country.
• Getting to know the daily work of those who work in forestry in the country.
• Pursuing field trips to forests in the country and thereby increasing his knowledge of forest related culture.</td></tr>
<tr><td colspan="3">Evaluation
Students will write a report about their study tour.</td></tr>
<tr><td colspan="3">Instructions and comment (for other teachers)</td></tr>
<tr><td colspan="3">Connection to key factors of curriculum
Literacy – Health and wellbeing – Self sustainability</td></tr>
</table>

Date: 26.3.2022
Authors: Björgvin Örn Eggertsson, Björn Bjarndal Jónsson, Guðríður Helgadóttir, Ólafur Oddsson

GF1 Cultivation of Christmas trees

<table>
<tr><td>Course
Cultivation of Christmas trees</td><td>Credits (ECVET)
1</td><td>Skills level</td></tr>
<tr><td colspan="3">Course description
The possibilities of local production of Christmas trees will be discussed with regards to local experience and trial results. The course explains the planning and preparation of production, which species are suitable for the area and how to plan the maintainance to ensure maximal utilization. The students will learn about how to choose land for Christmas tree production, planning of production area (either utilizing local planting sites or specific production fields), preparation of the ground, soil improvement, fertilizing, choosing species and plants, planting, pruning, plant protection, harvesting and other information related to the production.</td></tr>
<tr><td colspan="3">Prerequisites</td></tr>
<tr><td colspan="2">Knowledge criteria
The student should have knowledge and understanding of:
The possibilities of local Christmas tree production, in concordance with local experience and trial results.
Which species are suitable for local Christmas tree production.
The preparation of Christmas tree production, i.e. planning of planting site, preparing the ground and soil improvement.
Choosing plants and methods of planting future Christmas trees.
Maintaining plants during the growing period, i.e. pruning, fertilizing, plant protection and harvesting.</td><td rowspan="2">Learning outcomes
The student should be able to use the knowledge, skills and competency he has accumulated to:
Discuss the possibilities of local Christmas tree production, with local experience and trial results in mind.
Advise others on choosing species and plants for Christmas tree production.
Advise others on how to prepare a growing site before Christmas tree production can begin.
Plan the appropriate maintenance of the plants throughout the production and harvesting time and ensure that the plans are followed.</td></tr>
<tr><td colspan="2">Competency/skills
The student should be competent in:
Gathering information on the possibilities of local production of Christmas trees.
Choosing species that are suitable for the production.
Planning and preparing local production of Christmas trees.
Choosing plants and methods of planting.
Maintaining plants during the production period.
Harvesting and selling the production.</td></tr>
<tr><td colspan="3">Evaluation
Assignments, written exam.</td></tr>
<tr><td colspan="3">Instructions and comment (for other teachers)</td></tr>
</table>

Connection to key factors of curriculum Literacy – Health and wellbeing – Self sustainability
Date: 28.3.2020 **Authors:** Björgvin Örn Eggertsson, Björn Bjarndal Jónsson, Guðríður Helgadóttir, Ólafur Oddsson

GF1 Forest organization, forest design and forest planning

<table>
<tr><td>Course
Forest organization, forest design and forest planning</td><td>Credits (ECVET)
1</td><td>Skills level</td></tr>
<tr><td colspan="3">Course description
The students will learn about overall planning of farmland where forestry and the cultivation of shelterbelts is a part of the land use. The various and diverse goals of forestry will be discussed. Furthermore the students will learn about reading and evaluating the land, growth classification, forestry conditions, landscaping with forests and choosing species in accordance with growing conditions and forestry goals, with diverse future usability in mind. Heritage protection, environmental protection and different avenues of nature conservation alongside forestry will also be discussed. The students will learn about the process of acquiring necessary permits for planned forestry from local municipalities. The planning of local forestry and the role of forest advisors will be covered, software programs used in both forest planning and execution, fire protection against wild fires and other items that need to be included in the forest plan.</td></tr>
<tr><td colspan="3">Prerequisites</td></tr>
<tr><td>Knowledge criteria
The student should have knowledge and understanding of:
• The importance of overall planning of farm land where forestry and shelter belt cultivations is a part of the land use.
• The goals and conditions of local forestry.
• Reading and evaluating the land, growth classification, forestry conditions, landscaping with forests and choosing species in accordance with conditions and goals of the local forestry.
• The importance of local heritage, environmental and nature protection in the context of forestry.
• The process of acquiring necessary permits for planned future forestry.
• Planning forestry and relevant software programs used both in planning and executing forestry.
• The role of forest advisors.
• Most relevant items one needs to take into account when planning a forest.</td><td colspan="2">Learning outcomes
The student should be able to use the knowledge, skills and competency he has accumulated to:
• Discuss and debate the overall planning of forestry and shelter belt cultivation on farm land, with land quality and forestry goals and conditions in mind.
• Discuss and debate how different areas of protection (heritage, environmental, nature) can affect local forestry.
• Follow the process of acquiring permission from local authorities for forestry.
• Follow and execute forest plans and use the appropriate software programs while working on the project.</td></tr>
</table>

Competency/skills The student should be competent in: • Looking at overall planning of farm land with land use and forestry conditions in mind. • Gathering information on the goals and conditions for local forestry. • Reading and evaluating the land, classifying growth and choosing tree species appropriate for local foresty conditions. • Gathering information on local heritage protection, environmental protection and nature conservation, in context with local forestry. • Gathering information on the process of acquiring permits for local forestry. • Aquiring information on making and executing forest plans and the use of relevant software programs.	
Evaluation Written assignments, written exam.	
Instructions and comment (for other teachers)	
Connection to key factors of curriculum Literacy – Health and wellbeing – Self sustainability	
Date: 5.4.2020 **Authors:** Björgvin Örn Eggertsson, Björn Bjarndal Jónsson, Guðríður Helgadóttir, Ólafur Oddsson	

GF1 Shelter belts

Course **Shelter belts**	**Credits (ECVET)** **1**	**Skills level**
Course description The students will learn about the purpose and goals of shelter belt cultivation, planning of shelter belt systems and their location. The science behind shelter belt cultivation will be discussed, how they reduce wind speed and increase harvest, different levels of wind flow through and the how shelter belts can be used to control snow accumulation. The students will learn about the construction of shelter belts, which species are suitable and shelter impact. Also, choosing and preparing land for shelterbelts, plant protection, planting, fertilizing, care and maintenance of shelter belts will be covered. Pests and diseases that may come up in shelter belts will be mentioned and also the importance of shelter belts as a habitat for animal wild life.		
Prerequisites		
Knowledge criteria The student should have knowledge and understanding of: • The purpose and goals of shelter belt cultivation. • Location and planning of shelter belt systems. • The effects of shelter belts on wind speed, harvest and snow. • The composition of shelter belts with different wind flow through. • The construction of shelter belts and choosing suitable plant species. • The location, preparation and maintenance of shelter belts. • Pests and diseases that can cause problems in shelter belts. • The importance of shelter belts as habitat for animal wild life.	**Learning outcomes** The student should be able to use the knowledge, skills and competency he has accumulated to: • Follow through plans of setting up a shelter belt system, in accordance with the goals and purpose of the cultivation. • Evaluate the construction of shelter belts, with species choice and compostition and wind flow through in mind. • Evaluate the location of shelter belts with regards to construction and maintenance. • React appropriately to problems caused by pests and diseases in shelter belts, while also taking into account the importance of shelter belts as habitat for animal wild life.	
Competency/skills The student should be competent in: • Gathering information on the purpose and goals of shelter belt cultivation. • Choosing locations and setting upp a plan for shelter belt systems. • Identifying the effect of shelter belts on the local environment. • Choosing plant species for a shelter belt with different wind flow through. • Preparing and executing the construction of a shelter belt, as well as maintaining the shelter belt.		

• Identifying pests and diseases that can cause problems in shelter belts. • Understanding the importance of shelter belts as habitat for animal wild life.	
Evaluation Assignments, written exam.	
Instructions and comment (for other teachers)	
Connection to key factors of curriculum Literacy – Health and wellbeing – Self sustainability	
Date: 29.4.2020 **Authors:** Björgvin Örn Eggertsson, Björn Bjarndal Jónsson, Guðríður Helgadóttir, Ólafur Oddsson	

GF1 Forests and ecology

<table>
<tr><td>Course
Forests and ecology</td><td>Credits (ECVET)
1</td><td>Skills level</td></tr>
<tr><td colspan="3">Course description
The students will learn about the history and status of local forestry and its uniqueness. The students will also learn about the main factors that influence growth and development of forests, the roles of forest ecosystems and local forestry potential. The basic principles and definitions of ecology will be discussed, i.e. primary production, biomass, food webs, carrying capacity, progress and more. The course will cover the physiological, topographical and biological factors that influence the ecosystems, as well as the importance of biodiversity. Carbon sequestration and the role of the forest in that process will be discussed, as well as the possibility of formally certifying carbon sequestration in forests.</td></tr>
<tr><td colspan="3">Prerequisites</td></tr>
<tr><td>Knowledge criteria
The student should have knowledge and understanding of:
• The history of local forestry, it‘s status and uniqueness.
• The main factors that influence the growth and development of forests.
• The roles of forest ecosystems.
• The possibilities of local forestry.
• The basic principles and definitions of ecology.
• The main factors that influence ecosystems.
• The importance of biodiversity.
• Carbon sequestration in forests and the possibilities of certifying that process.</td><td colspan="2" rowspan="2">Learning outcomes
The student should be able to use the knowledge, skills and competency he has accumulated to:
• Discuss and debate the status and uniqueness of local forestry, in view of the history of the field and possibilities of local forestry.
• Explain to others the main factors that influence the growth and development of forests, with regards to the roles of the forest ecosystems.
• Discuss and debate the basic principles and definitions of ecology and factors that influence ecosystems.
• Discuss and debate the importance of biodiversity from the point of view of forestry.
• Discuss and debate carbon sequstration of different types of forests.</td></tr>
<tr><td>Competency/skills
The student should be competent in:
• Gathering information on local forestry history, its status and uniqueness.
• Identifying the main factors that influence the growth and development of forests.
• Understanding the roles of forest ecosystems.
• Identify the possibilities of local forestry.
• Use the basic principles and definitions of ecology in conversation.
• Identify the main factors that influence ecosystems.
• Appreciate the importance of biodiversity.</td></tr>
</table>

• Gathering information on carbon sequestration and possible certification of that.	
Evaluation Assignments, written exam.	
Instructions and comment (for other teachers)	
Connection to key factors of curriculum Literacy – Health and wellbeing – Self sustainability	
Date: 9.3.2021 **Authors:** Björgvin Örn Eggertsson, Björn Bjarndal Jónsson, Guðríður Helgadóttir, Ólafur Oddsson	

GF1 Choosing plant species for forests, forest plants

<table>
<tr><td>Course
Choosing plant species for forests, forest plants</td><td>Credits (ECVET)
1</td><td>Skills level
1</td></tr>
<tr><td colspan="3">Course description
The students will learn about tree species and related concepts. The taxonomical classification of plants will be discussed shortly, i.e. plant families, genus and species and the binomial system. The distribution of natural forests and their development over time will be covered, as well as the history of plant collection trips abroad with emphasis on key species that have been collected. The students will learn about the experience of growing different plant species around the country, as well as the results on plant trials of species, provenance and clones of important forest plants. The usability and requirements of each species will be covered with special emphasis on key species in local forestry.</td></tr>
<tr><td colspan="3">Prerequisites</td></tr>
<tr><td>Knowledge criteria
The student should have knowledge and understanding of:
• The main species used in local forestry.
• The usability and environmental requirements of each species.
• The main concepts of taxonomy of plants and the binomial system.
• The distribution of local natural forests and their development over time.
• The most importan plant collection trips abroad and the key species collected.
• The experience of growing key tree species around the country.
• The main results of trials of species, provenance and clones for key species in local forestry.</td><td colspan="2" rowspan="2">Learning outcomes
The student should be able to use the knowledge, skills and competency he has accumulated to:
• Advise others on the key species in local forestry, their usability and environmental requirements.
• Explain to others the main concepts of plant taxonomy and the binomial system.
• Participate in discussion about plant collection trips abroad and their results, with regards to growing experience and trial results around the country.</td></tr>
<tr><td>Competency/skills
The student should be competent in:
• Identifying the main tree species used in local forestry.
• Identifying the usability and environmental requirements of each tree species.
• Using the basic concepts of taxonomy of plants and the binomial system in conversation.
• Gathering further information on the distribution of local forests and their development over time.
• Gathering further information about important plant collection trips abroad and their results.</td></tr>
</table>

• Gathering further information on the experience of growing key tree species around the country. • Gathering further information on the results of trials of species, provenance and clones of key species in local forestry.	
Evaluation Assignments, written exam	
Instructions and comment (for other teachers)	
Connection to key factors of curriculum Literacy – Health and wellbeing – Self sustainability	
Date: 9.3.2021 **Authors:** Björgvin Örn Eggertsson, Björn Bjarndal Jónsson, Guðríður Helgadóttir, Ólafur Oddsson	

GF1 Maintenance of young forests

<table>
<tr><td>Course
Maintenance of young forests</td><td>Credits (ECVET)
1</td><td>Skills level</td></tr>
<tr><td colspan="3">Course description
The students will learn about the maintenance of young forests, f.ex. pruning, result appraisal and additional planting, pruning and first thinning of the forest in accordance with the goals of the concerning forestry. The benefits of intervening in the development of the young forest with suitable actions will be discussed. Fertilizing in different types of forest fields will be discussed, as well as methods of dealing with competing plant species. The students will learn about suitable equipment and tools and their usage, f.e. secateurs, branch saws and brush saws as well as general maintenance of the equipment and tools with regards to security and safety. The course will also cover how GPS technology can be used to monitor work on maintaining young forests.</td></tr>
<tr><td colspan="3">Prerequisites</td></tr>
<tr><td>Knowledge criteria
The student should have knowledge and understanding of:
All key actions in the maintenance of young forests, f.ex. pruning, result appraisal, replanting and first thinning, in accordance with forestry goals.
The efficiency of the actions that may be used in the cultivation of young forests.
The purpose of fertilizing in different types of forests.
Methods to contain competing growth in young forests.
The main tools and equipment used in maintenance of young forests.
Safety and security issues when maintaining young forests.
The use of GPS tecnhology to monitor work in young forests.</td><td colspan="2" rowspan="2">Learning outcomes
The student should be able to use the knowledge, skills and competency he has accumulated to:
Plan and supervise key actions in maintaining young forests, in accordance with the forestry goals.
Evaluate and compare the efficiency of the actions that may be used in the cultivation of young forests.
Choose and explain the use of relevant tools and equipment in maintenance of young forests, with regards to safety and security issues.
Discuss and explain to others how the GPS technology can be used to monitor work in maintenance of young forests.</td></tr>
<tr><td>Competency/skills
The student should be competent in:
Using key actions in maintaining young forests.
Realize the efficiency of the actions that can be used in the maintenance of young forests.
Fertilizing appropriately different types of forests.
Using suitable methods when dealing with competing plants.
Using appropriate tools and equipment when maintaining young forests.</td></tr>
</table>

• Following the utmost security and safety rules when working in a young forest. • Using GPS technology to monitor work when maintaining af young forest.	
Evaluation Assignments, written exam.	
Instructions and comment (for other teachers)	
Connection to key factors of curriculum Literacy – Health and wellbeing – Self sustainability	
Date: 9.3.2021 **Authors:** Björgvin Örn Eggertsson, Björn Bjarndal Jónsson, Guðríður Helgadóttir, Ólafur Oddsson	

GF1 Preparing land for forestry

Course **Preparing land for forestry**	**Credits (ECVET)** **1**	**Skills level**
Course description The students will learn about different land types, their properties and which soils constitutions are characteristic for each land type. Fertility of soils will be discussed with respect to land types and which actions must be taken to prepare the land for forestry. Preparation for forestry under different situation will be covered, i.e. what kind of preparation needs to be made, f.ex. land reclamation and fertilization. The students will learn about different methods of tillage, tools and machinery needed for different methods and the timing of the tillage. Construction of roads, paths and trails will be discussed alongside forestry preparation, the location of roads and methods of constructing them. The course wil also cover how to use GPS technology to track in forest areas and paths.		
Prerequisites		
Knowledge criteria The student should have knowledge and understanding of: • Different land types, their properties and what kind of soils are characteristic for each land type. • The fertility of soils of different land types and which actions are needed to prepare for forestry. • Which kind of preparations are needed for forestry under different conditions. • Tillage methods, technology and timing. • Road construscion in connection with forest preparation, location of paths and execution. • How GPS technology can be used to track in forest areas and paths.	**Learning outcomes** The student should be able to use the knowledge, skills and competency he has accumulated to: • Evaluate different land types and decide which actions are needed each time to prepare for forestry. • Compare different tillage methods and choose appropriate methods and timing for each situation. • Plan construction of roads/paths alongside forestry planning, with the help of GPS technology.	
Competency/skills The student should be competent in: • Identifying soil fertility of different land types and decide which action are needed to prepare for forestry. • Preparing forestry for different conditions. • Using appropriate tillage methods. • Construction roads/paths/trails when preparing for forestry. • Using GPS technology to track in forest areas and roads.		

Evaluation Assignment, written exam
Instructions and comment (for other teachers)
Connection to key factors of curriculum Literacy – Health and wellbeing – Self sustainability
Date: 16.3.2021 **Authors:** Björgvin Örn Eggertsson, Björn Bjarndal Jónsson, Guðríður Helgadóttir, Ólafur Oddsson

GF1 Forest plant production – quality assessment

<table>
<tr><td>Course
Forest plant production – quality assessment</td><td>Credits (ECVET)
1</td><td>Skills level</td></tr>
<tr><td colspan="3">Course description
The student will learn about the main propagation methods of plants, mainly sowing and hard wood cuttings (winter cuttings). The process of propagation and raising forest plants will be discussed, that is sowing, choosing growing media and trays, facilities for raising plants, watering and over wintering. The caring and handling of young plants up until planting in the field will also be covered, storage methods (frost or cold storage), planting time and planting methods. The students will also learn about quality assessment of young plants against standards that are used in local forestry. If there is time the propagation and raising of additional species will also be covered.</td></tr>
<tr><td colspan="3">Prerequisites</td></tr>
<tr><td colspan="2">Knowledge criteria
The student should have knowledge and understanding of:
Main methods of propagating plants, mostly sowing and hard wood cuttings (winter cuttings).
The main work factors in propagating and raising forest plants.
The caring for and handling of young plants up until the time of planting.
Methods of storing forest plants.
Key planting methods and their timing.
Quality standards used when assessing young plants.
The propagation and raising of additional plant species.</td><td rowspan="2">Learning outcomes
The student should be able to use the knowledge, skills and competency he has accumulated to:
Choose appropriate propagation methods when producing forest species and additional species.
Discuss and debate the importance of proper care and handling of young plants up until the time of planting, with quality issues in mind.
Choose the appropriate methods for storage of forest plants, with quality issues in mind.
Choose appropriate methods when planting forest plants and plan the timing with regards to environmental conditions and quality issues.</td></tr>
<tr><td colspan="2">Competency/skills
The student should be competent in:
Using main methods of propagation plants, mostly sowing and hard wood cuttings (winter cuttings).
Working on key factors in propagating and raising forest plants.
Handling and caring for young plants until they are planted in the field.
Gathering information on storage method of forest plants.
Using main methods of planting.
Using quality standard when evaluating young plants.
Gathering information on propagation and raising of additional tree species.</td></tr>
</table>

Evaluation Assignment, written exam
Instructions and comment (for other teachers)
Connection to key factors of curriculum Literacy – Health and wellbeing – Self sustainability
Date: 16.3.2021 **Authors:** Björgvin Örn Eggertsson, Björn Bjarndal Jónsson, Guðríður Helgadóttir, Ólafur Oddsson

GF1 Green forests 1 - Assignment

Course **Green forests 1 - Assignment**	**Credits (ECVET)** **1**	**Skills level**
Course description The students will work on an assignment that they choose in cooperation with their teachers. The assignment should mirror material that has been covered in the courses. It is recommended that students, that are able to do so, write about their own forestry, where they gather information about the land, climate, soils, plantings and cultivation history. If students are unable to do an assignment of this kind, the teachers will assist them to choose an appropriate assignment. Students will return their written assignment to the teacher on time and on a special day of presentation, present their assignment for their fellow students and teachers.		
Prerequisites		
Knowledge criteria The student should have knowledge and understanding of: • The importance of assignment work as a method of gathering information in one place. • Gathering information on key issues that are being discussed in the assignment. • Methods of processing information for an assignment. • Presenting an assignment that fulfills the quality requirements of the course. • How to present an assignment on a presentation day.	**Learning outcomes** The student should be able to use the knowledge, skills and competency he has accumulated to: • Explain to others the results of their assignment and discuss the results, with regards to gathered and processed information.	
Competency/skills The student should be competent in: • Gathering information from different courses in one place. • Gathering information on key factors that are to be discussed in the assignment. • Processing information and presenting it in an appropriate manner in a written text. • Presenting the assignment orally for others in an appropriate manner.		
Evaluation Written assignment, oral presentation		
Instructions and comment (for other teachers)		
Connection to key factors of curriculum Literacy – Health and wellbeing – Self sustainability		

Date: 16.3.2021
Authors: Björgvin Örn Eggertsson, Björn Bjarndal Jónsson, Guðríður Helgadóttir, Ólafur Oddsson

Green forests 2

The objectives of the Green forests 2 courses are forests that are already fully planted and growing, up until the time of felling and using the wood.

GF2 Side products of the forest

<table>
<tr><td>Course
Side products of the forest</td><td>Credits (ECVET)
1</td><td>Skills level</td></tr>
<tr><td colspan="3">Course description
The students will learn about various products of the forest, other than traditional wood products. Those can either be products made in small amounts, maine for private use or products that can procure significant amounts and yield a considerable income. The course will discuss common berry and mushroom species that grow locally, plant material other than wood or timber (f.ex. plant material used for decoration), bee honey production and more. The aim of the course is to get the students to think about the forest as a source of diverse ideas on forest productivity and use.</td></tr>
<tr><td colspan="3">Prerequisites</td></tr>
<tr><td colspan="2">Knowledge criteria
The student should have knowledge and understanding of:
Which products, other than wood and timber that forests can yield.
Forest products suitable for private use.
Forest products that can create an income.
Common edible berry and mushroom species that thrive in the forest.
The possibilities of bee honey production in woodland areas/forests.</td><td rowspan="2">Learning outcomes
The student should be able to use the knowledge, skills and competency he has accumulated to:
Analyze and estimate the efficiency of utilization of other forest products than timber.
Explain to others and discuss how edible berry and mushroom species of the forest can be utilized.
Choose an appropriate and suitable plant material for use, other than wood or timber.
Discuss and debate the possibilities of bee honey production in woodland areas/forests.</td></tr>
<tr><td colspan="2">Competency/skills
The student should be competent in:
Use for own consumption products of the forests, other than timber.
Use products of the forests, other than timber, for providing income.
Identify common edible species of berries and mushrooms in forests.
Gathering knowledge on producing bee honey in woodland areas/forests.</td></tr>
<tr><td colspan="3">Evaluation
Written assignment, oral presentation</td></tr>
<tr><td colspan="3">Instructions and comment (for other teachers)</td></tr>
<tr><td colspan="3">Connection to key factors of curriculum
Literacy – Health and wellbeing – Self sustainability</td></tr>
<tr><td colspan="3">Date: 30.3.2021
Authors: Björgvin Örn Eggertsson, Björn Bjarndal Jónsson, Guðríður Helgadóttir, Ólafur Oddsson</td></tr>
</table>

GF2 Berries and fruits

<table>
<tr><td>Course
Berries and fruits</td><td>Credits (ECVET)
1</td><td>Skills level</td></tr>
<tr><td colspan="3">Course description
The students will learn about the most common species of berries and fruits that can thrive in local forests and increase the biodiversity of the forest area. Methods of planting the species will be explained, in relation to harvesting and general health of the plants, finding the correct location with nutrition and soil properties in mind, pruning and general care. Pests and diseases of the relevant species will be covered, as well as pest control. Nutritional information and other chemicals that the fruits and berries can contain will be discussed. The students will also learn about harvesting and utilization of the produce with regards to preserving nutrient content.</td></tr>
<tr><td colspan="3">Prerequisites</td></tr>
<tr><td colspan="2">Knowledge criteria
The student should have knowledge and understanding of:
The main species of berries and shrubs that thrive locally in forests.
The importance of biodiversity in forests.
Planting methods that aim to maintain plant health and maximize harvest.
The location of berries and fruit with regards to the needs of the plants.
General care and maintenance of the plants, f.ex. pruning and fertilizing
Key pests and diseases that cause difficulties for berries and fruits.
General methods of pest control in fruiting plants.
The nutritional content of berries and fruits, as well as other chemical compounds the plants can contain.
Harvesting and utilizing berries and fruits with the preservation of nutrient content in mind.</td><td rowspan="2">Learning outcomes
The student should be able to use the knowledge, skills and competency he has accumulated to:
Choose the appropriate species of berries and fruits to grow in woodland area/forest, with regards to biodiversity of the location and plant needs.
Choose methods of planting that aim to keep plants healthy, maximize yield and make general maintenance accessible.
Choose appropriate pest control methods against pests and diseases in fruits and berries and discuss the choice.
Discuss and debate the nutritional content of berries and fruits and choose between processing methods that maximize the preservation of the nutrients.
Explain to others methods of harvesting and utilizing the harvest of fruit and berry plants.</td></tr>
<tr><td colspan="2">Competency/skills
The student should be competent in:
Identifying the most common local species of berries and fruits that thrive in forests.
Gathering information on biodiversity in forests and it‘s importance.
Using key methods of planting berry and fruit plants.
Locating berry and fruit plants in forests with their needs in mind.
Caring and maintaining fruiting plants, like pruning and fertilizing.
Identifying common pests and diseases in fruit and berry plants.</td></tr>
</table>

• Using appropriate pest control against pests and diseases in fruiting plants. • Gathering further information on nutritional content and other possible chemical contents in berries and fruits. • Harvesting and utilizing produce of fruiting plants with nutritional preservation in mind.	
Evaluation Written assignment, oral presentation	
Instructions and comment (for other teachers)	
Connection to key factors of curriculum Literacy – Health and wellbeing – Self sustainability	
Date: 30.3.2021 **Authors:** Björgvin Örn Eggertsson, Björn Bjarndal Jónsson, Guðríður Helgadóttir, Ólafur Oddsson	

GF2 Thinning of forests

<table>
<tr><td>Course
Thinning of forests</td><td>Credits (ECVET)
1</td><td>Skills level</td></tr>
<tr><td colspan="3">Course description
The students will learn about the purpose and execution of forest thinning in different types of forests, with the quality of the remaining trees in mind. The importance of regularly evening out the distance between trees will be discussed. Branching up will be covered and it‘s effect on plant quality. The emphasis will be on demonstrating the need for different actions depending on the different goals of the forestry in question. The students will also learn about different methods of using and storing the timber that comes out of the thinning process in young forests and how to possibly create something valuable from the timber.</td></tr>
<tr><td colspan="3">Prerequisites
Chain saw</td></tr>
<tr><td>Knowledge criteria
The student should have knowledge and understanding of:
• The purpose of thinning in different types of forests.
• How to execute thinning in different types of forests, with the quality of the remaining plants in mind.
• The effect of branching up on plant quality.
• Different methods of thinning depending on the different goals of the forestry in question.
• Methods of using and storing wood that comes out of the thinning process.
• Ways to create something valuable out of the wood that comes out of the thinning process.</td><td colspan="2" rowspan="2">Learning outcomes
The student should be able to use the knowledge, skills and competency he has accumulated to:
• Discuss and debate the purpose and execution of thinning in different types of forests, with the quality of the remaining plants in mind.
• Evaluate the importance of methods used in the thinning process and discuss their effect on plant quality.
• Evaluate the need for different methods depending on the goal of the forestry in question.
• Choose between realistic methods to use and store wood that comes out of the thinning process, with possible future value of the wood in mind.</td></tr>
<tr><td>Competency/skills
The student should be competent in:
• Identifying the purpose of thinning in different types of forests.
• Execute thinning in different types of forests, with the quality of the remaining plants in mind.
• Identifying the effect of branching up on plant quality.
• Using different methods of thinning in accordance with the different goals of forestry each time.
• Using and storing wood that comes out of the thinning process.
• Making something valuable out of the wood that comes out of the thinning process.</td></tr>
<tr><td colspan="3">Evaluation
Written assignment, teacher evaluation</td></tr>
</table>

Instructions and comment (for other teachers)
Connection to key factors of curriculum Literacy – Health and wellbeing – Self sustainability
Date: 6.4.2021 **Authors:** Björgvin Örn Eggertsson, Björn Bjarndal Jónsson, Guðríður Helgadóttir, Ólafur Oddsson

GF2 Making furniture out of forest material

Course **Making furniture out of forest material**	**Credits (ECVET)** **1**	**Skills level**
Course description The students will learn about using the wood that comes out of the thinning process as well as other practical uses. The properties of different wood types will be discussed, as well as their uses. The students will learn how to assemble stools and benches made of branch material and trunk wood or wood boards. They will also learn the different properties of both fresh and dried wood material and how to put the material together. Methods of debarking, sharpening and assembling will be taught and the final processing, surface treatment and wood preserving. The students should go home with a stool and a bench, fully made.		
Prerequisites		
Knowledge criteria The student should have knowledge and understanding of: • Using material that comes out of the thinning process for making furniture and other practical items. • Properties and uses of different types of wood. • How to assemble stools and benches out of branch material, trunk wood or wood boards. • The properties of both fresh and dried material and how to put it together. • Methods of debarking, sharpening and assembling. • Final processing of furniture, surface treatment and wood preserving.	**Learning outcomes** The student should be able to use the knowledge, skills and competency he has accumulated to: • Explain to others how material that comes out of the thinning process can be used for furniture and other practical items. • Evaluate the properties of different wood types, fresh and dried, with assembly and usability in mind. • Explain to others key methods of fully processing utility items out of forest material.	
Competency/skills The student should be competent in: • Using material that comes out of the thinning process for making furniture and other practical items. • Identifying the properties and uses of different types of wood. • Assembling stools and benches from branch material and trunk wood or wood boards. • Identifying the properties of both fresh and dried wood material and assembling it. • Using mehods of debarking, sharpening and assembly. • Fully processing furniture, treating surface and preserving wood.		
Evaluation Written assignment.		

Instructions and comment (for other teachers)
Connection to key factors of curriculum Literacy – Health and wellbeing – Self sustainability
Date: 6.4.2021 **Authors:** Björgvin Örn Eggertsson, Björn Bjarndal Jónsson, Guðríður Helgadóttir, Ólafur Oddsson

GF2 Chain saw

Course **Chain saw**	**Credits (ECVET)** **1**	**Skills level**
Course description The students will learn about the care and maintenance of chain saws. Safety protocol that needs to be followed when working with chain saws will be discussed, as well as the personal protective gear that is mandatory during that work. The students will learn about the structure of chain saws, general maintenance of wear surfaces, sharpening and other factors relevant to the use of the saws. They will also learn how to apply their body while working with chain saws and methods to reduce physical strain and risk while working. Emphasis is on practical excercises, both in tool care and maintenance and tree felling where the students will learn how to use all equipment in accordance with safety and security protocolls. **This course is taught over two weekends. During the first weekend there will be lectures and emphasis on chain saw structure, care and maintenance. On the second weekend students will be working in the forest, practicing tree felling and using all equipment correctly.**		
Prerequisites		
Knowledge criteria The student should have knowledge and understanding of: • Care and maintenance of chain saws. • Security and safety protocolls that must be followed when working with a chain saw. • Personal protection equipment that must be used when working with a chain saw. • Structure and general care of chain saws. • How to employ the body during work with a chain saw. • Methods to reduce physical strain and risk when working with a chain saw. • Work with a chain saw while using all equipment correctly.	**Learning outcomes** The student should be able to use the knowledge, skills and competency he has accumulated to: • Explain to others the structure, care and maintenance of chain saws. • Explain to others relevant information on security and safety protocoll that must be followed while working with a chain saw, as well as methods to reduce risk during that work. • Discuss the importance of using certified personal protection equipment and how to employ the body correctly when working with a chain saw.	
Competency/skills The student should be competent in: • Caring and maintaining a chain saw. • Following mandatory safety and security protocolls when working with a chain saw. • Using certified personal protection equipment while working with a chain saw. • Applying the body correctly when working with a chain saw. • Using methods of reducing physical exertion and risk while working with a chain saw. • Working with a chain saw with emphasis on using all equipment correctly with safety and security protocolls in mind.		

Evaluation Teacher evaluation.
Instructions and comment (for other teachers)
Connection to key factors of curriculum Literacy – Health and wellbeing – Self sustainability
Date: 6.4.2021 **Authors:** Björgvin Örn Eggertsson, Björn Bjarndal Jónsson, Guðríður Helgadóttir, Ólafur Oddsson

GF2 Carbon sequestration

<table>
<tr><td>Course
Carbon sequestration</td><td>Credits (ECVET)
1</td><td>Skills level</td></tr>
<tr><td colspan="3">Course description
The students will learn about forests and forest ecology both from a global and local standpoint, with carbon circulation in mind. The green-house effect will be discussed, its‘ causes and effects. The carbon storage capacity of forests will be covered and the connection between nature and carbon sequestration and carbon emissions. The students will learn about the goals and results of the latest research and key concepts related to carbon research explained. Methods of reducing carbon emissions will be covered. Local obligations on carbon sequestration will be discussed as well as ways to fulfill the obligations with forestry and other cultivation methods and how forest farmers can approach the subject as carbon farmers. The course aims to connect carbon economy to practical factors of forestry, like the binding of carbon in timber and emission of carbon when burning fire wood.</td></tr>
<tr><td colspan="3">Prerequisites</td></tr>
<tr><td colspan="2">Knowledge criteria
The student should have knowledge and understanding of:
Forests and their ecology, from both a global and a local point of view.
The carbon cycle in a forest.
Causes and effects of the green-house effect.
The forest as a carbon storage.
The connection between nature and carbon sequestration/ -emissions.
Key concepts related to carbon research.
The goals of lates carbon research projects.
Key methods of reducing carbon emissions.
Local obligations regarding carbon sequestration.
Ways to fulfill local obligations, with forestry and other cultivation methods.
The role of forest farmers in the carbon economy as forest farmers.
The connection between forest economy and practical factors of forestry.</td><td>Learning outcomes
The student should be able to use the knowledge, skills and competency he has accumulated to:
Explain to others information on forests and their ecology, from different points of view.
Realize the importance of forests as a carbon storage and explain to others about the carbon cycle in a forest.
Realize and discuss the connection between nature and carbon sequestration and carbon emissions with key methods of carbon offset in mind.
Realize the cause and effects of the green house effect and the importance of an honest discussion regarding the issue.
Participate in debate on carbon research, their goals and results.
Participate in debate on local obligations in carbon sequestrations from different points of view, i.e. forestry and other cultivation methods.</td></tr>
</table>

Competency/skills The student should be competent in: • Gathering information on forest ecosystems from different points of view. • Understanding the carbon cycle in a forest and the importance of a forest as a carbon storage. • Understanding the connection between nature and carbon sequestration and carbon emissions. • Using key concepts related to carbon research. • Identifying causes and effects of the green-house effect. • Gathering information on latest carbon related research and its‘ goals. • Gathering information on key methods of carbon offset and its‘ goals. • Gathering information on local obligations in carbon sequestration. • Identifying ways to evaluate local obligations in carbon sequestration, i.e. forestry and other cultivation methods. • Understanding the connection of carbon economy to practical factors of forestry.	• Realize the role of forest farmers as carbon farmers and debate the connection of carbon economy to practical factors of forestry.
Evaluation Written assignment, written exam	
Instructions and comment (for other teachers)	
Connection to key factors of curriculum Literacy – Health and wellbeing – Self sustainability	
Date: 13.4.2021 **Authors:** Björgvin Örn Eggertsson, Björn Bjarndal Jónsson, Guðríður Helgadóttir, Ólafur Oddsson	

GF2 Study tour abroad

<table>
<tr><td>Course
Study tour abroad</td><td>Credits (ECVET)
1</td><td>Skills level</td></tr>
<tr><td colspan="3">Course description
A study tour abroad is a 5-7 day long tour with emphasis on learning about how other nations plan and execute their forestry, with farm forestry in mind. Institutions and companies in the forest sector will be visited and specialized machines and tools for forestry examined. The goal of the tour is to introduce students to the status and culture of forestry in an other country and thereby sparking new ideas for the future. The students will write a summary of their experience during the tour.</td></tr>
<tr><td colspan="3">Prerequisites</td></tr>
<tr><td colspan="2">Knowledge criteria
The student should have knowledge and understanding of:
The importance of social interaction of people with similar interests.
Key factors in the operation of forestry in the country visited.
The organization of farm forestry in the country visited.
Key factors in the structure of companies and instistutions visited during the study tour.
The status and culture of forestry in the country visited.</td><td rowspan="2">Learning outcomes
The student should be able to use the knowledge, skills and competency he has accumulated to:
Appreciate how important social interaction is to people in forestry.
Discuss and debate key factors in the operation of forestry in the country visited, with Icelandic foresty operation in mind.
Discuss and debate the organization of farm forestry in the visited country and compare to the situation in Iceland.
Compare key factors in the structure of companies and institusions visited, with the utilization of good ideas in mind.
Realize the status and culture of forestry in the country visited and how it might be possible to build up such culture in Iceland.</td></tr>
<tr><td colspan="2">Competency/skills
The student should be competent in:
Mixing with other students.
Gathering information on key factors in the operation of foresty in the country visited.
Understanding the organization of farm foresty in the country visited.
Identifying key factors in the structure of the companies and institutions visited.
Understanding the status and the culture of forestry in the country visited.</td></tr>
<tr><td colspan="3">Evaluation
Written assignment.</td></tr>
<tr><td colspan="3">Instructions and comment (for other teachers)</td></tr>
<tr><td colspan="3">Connection to key factors of curriculum
Literacy – Health and wellbeing – Self sustainability</td></tr>
</table>

Date: 13.4.2021
Authors: Björgvin Örn Eggertsson, Björn Bjarndal Jónsson, Guðríður Helgadóttir, Ólafur Oddsson

GF2 Pests, diseases and other damages in the forest

<table>
<tr><td>Course
Pests, diseases and other damages in the forest</td><td>Credits (ECVET)
1</td><td>Skills level</td></tr>
<tr><td colspan="3">Course description
The students will learn about diseases in tree species and damage caused by insects, climate, wildfires and animals. The life cycles of key species of pests and diseases on forest plants will be discussed and also new pests that might be damaging to forestry. Methods of reducing and minimalizing damage with preventive actions will be covered.</td></tr>
<tr><td colspan="3">Prerequisites</td></tr>
<tr><td>Knowledge criteria
The student should have knowledge and understanding of:
• Key diseases in forest plants.
• Damage of trees that can be caused by insects, climate, wildfires and animals.
• The life cycles of key species of pests and diseases that attack forest plants.
• New pests that might cause damage in forestry.
• Preventive methods that can be used to reduce and minimize damage.</td><td colspan="2" rowspan="2">Learning outcomes
The student should be able to use the knowledge, skills and competency he has accumulated to:
• Realize and debate the grave effect pests, diseases, climate, wildfire and animals can have on forest vegetaion.
• Explain to others information on the life cycles of key pests and diseases that attack forest plants.
• Evaluate results and choose relevant preventive methods to reduce and minimalize damage.</td></tr>
<tr><td>Competency/skills
The student should be competent in:
• Identifying key diseases in forest plants.
• Identifying damage in trees caused by pests, climate, wildfires and animals.
• Examining the life cycles of key pests and diseases that attack forest plants.
• Gathering information on new pests that might cause damage in forestry.
• Using preventive methods to reduce and minimize the risk of damage.</td></tr>
<tr><td colspan="3">Evaluation
Written assignment</td></tr>
<tr><td colspan="3">Instructions and comment (for other teachers)</td></tr>
<tr><td colspan="3">Connection to key factors of curriculum
Literacy – Health and wellbeing – Self sustainability</td></tr>
<tr><td colspan="3">Date: 27.4.2021
Authors: Björgvin Örn Eggertsson, Björn Bjarndal Jónsson, Guðríður Helgadóttir, Ólafur Oddsson</td></tr>
</table>

GF2 Forest culture

Course **Forest culture**	**Credits (ECVET)** **1**	**Skills level**
Course description The students will learn about the forest culture of different nations and ways to use this information in a local context. Defininitions of forest cultures will be discuss and when behaviour and attitude become culture. The effect of other nations on local forest culture will be covered. Forest traditions, both old and new, will be analyzed and also how they have been formed and retained. The students will learn about the attitude and behaviour of specific groups with regards to cultivation, the use of forests as a natural resource, environment, materials, carbon offset and land reclamation, in both a local and a global context. What is the image of local forestry and how news and media affect the image. How do different art forms, i.e. literature, art and music influence the image of local forestry, trees and woodlands? The course will discuss how trees and forest culture of different nations appear in history, religion an economy.		
Prerequisites		
Knowledge criteria The student should have knowledge and understanding of: • The forest culture of different nations and how this information can be used under local conditions. • Definition of forest culture and how it is formed. • The influence of other nations on local forest culture. • Local forest traditions and how they have been formed. • The attitude and behaviour of different groups on forestry related issues in a broad context. • The image of local forestry and the influence of news and media on the image. • The influence of different artforms on the image of forestry, trees and woodlands. • How trees and the forest culture of other nations appears in history, religion and economy.	**Learning outcomes** The student should be able to use the knowledge, skills and competency he has accumulated to: • Explain to others relevant information on the forest culture of different nations and their influence on local forest culture. • Discuss and debate the attitude and behaviour of different groups to forestry related issues, in a broad context. • Discuss and debate the influence of media and artforms on the image of forestry and local forest culture. • Discuss the formation, shaping and status of forest culture and how it appears in different nations.	
Competency/skills The student should be competent in: • Gathering information on forest culture of different nations and how that information can be used for local conditions. • Identifying the definition of forest culture and how it is formed. • Gathering information on local forest culture and using it in conversation.		

• Identifying the attitude and behaviour of different groups to forestry related issues, in a broad context. • Identifying the influence of news and media on the image of local forestry. • Identifying the influence of different artforms on the image of forestry, trees and woodlands. • Gathering information on how trees and forest culture of different nations appear in history, religion and economy.	
Evaluation Written assignment, oral presentation	
Instructions and comment (for other teachers)	
Connection to key factors of curriculum Literacy – Health and wellbeing – Self sustainability	
Date: 27.4.2021 **Authors:** Björgvin Örn Eggertsson, Björn Bjarndal Jónsson, Guðríður Helgadóttir, Ólafur Oddsson	

GF2 Forest maintenance

Course **Forest maintenance**	**Credits (ECVET)** **1**	**Skills level**
Course description The most common maintenance factors needed in a growing forest will be covered. Maintenance of forest paths and the making of new paths in a young forest will be taught. The students will learn about nutrition of forest plants, decisions on fertilizing, what kind of a fertilizer and timing and quantity of fertilization. The basic principles of using a brush saw in the care for a young forest will be reviewed. The timing and execution of first branching up will be explained. The students will get an insight into the making of a maintenance plan for a forest area. Also, areas that are suitable for receiving guests into the forest are discussed, f.ex. an experience trail or an educational forest clearing. A forest advisor will visit the course and explain the services of local forest institutions.		
Prerequisites		
Knowledge criteria The student should have knowledge and understanding of: • Key maintenance factors needed in a growing forest. • The care of forest paths and the construction of new forest paths in a young and growing forest. • The nutrition of forest plants and decisions on fertilizing. • Main types of fertilizers, timing and quantity of fertilization. • The basic principles when using a brush saw in maintenance of a young forest. • The timing and execution of first branching up. • Basic principles in making a maintenance plan for a forest area. • Ideas on an experience trail and an educational forest clearing to receive guests in the forest. • The role of the forest advisor and the services of local forestry institutions/services.	**Learning outcomes** The student should be able to use the knowledge, skills and competency he has accumulated to: • Evaluate the key maintenance factors that need to take place in a young and growing forest. • Explain to others information on the construction and maintenance of paths in a young and growing forest and the necessity of being able to get aroung easily in a forest. • Realize the needs of forest plants for nutrition and choosing methods to meet their nutritional requirements with maximum results of the forestry in mind. • Realize the importance of branching up and other mechanical maintenance in a young and growing forest and also the importance of correct timing for these actions. • Follow a simple maintenance plan for a forest area. • Put forth realistic ideas on an experience trail or an educational forest clearing for receiving guests in forests. • Realize when forest advisory counsel is needed and when it is imperative to seek information from the local forest services.	
Competency/skills The student should be competent in: • Using key maintenance factors needed in a young and growing forest. • Maintaining forest paths and constructing new paths in a young forest. • Identify nutritional needs of forest plants.		

• Making decisions on fertilizing, types of fertilizers, timing and quantity. • Using a brush saw in simple forest maintenance. • Timing and executing first branching up. • Making a simple maintenance plan for a forest area. • Gathering information on how to make an experience trail or an educational forest clearing to receive guests in forests. • Gathering information on the role of forest advisors and the local forest services.	
Evaluation Written assignment, written exam.	
Instructions and comment (for other teachers)	
Connection to key factors of curriculum Literacy – Health and wellbeing – Self sustainability	
Date: 27.4.2021 **Authors:** Björgvin Örn Eggertsson, Björn Bjarndal Jónsson, Guðríður Helgadóttir, Ólafur Oddsson	

GF2 Tree measurements 1 – density, volume, trunk wood

<table>
<tr><td>Course
Tree measurements 1 – density, volume, trunk wood</td><td>Credits (ECVET)
1</td><td>Skills level</td></tr>
<tr><td colspan="3">Course description
The students will learn about the basic principles of measuring single trees and tree stands. The physical structure of the tree will be explained and which factors are most important in timber production and can be measured. The methodology of tree measuring will be covered, as well as importance of accuracy. Digital registration of measurements will be introduced and data banks that keep such measurements. The duties of the forest farmer of recording all relevant information on the forest will be explained.</td></tr>
<tr><td colspan="3">Prerequisites</td></tr>
<tr><td colspan="2">Knowledge criteria
The student should have knowledge and understanding of:
• Basic principles of measuring single trees and tree stands.
• The physical structure of the tree and which parts of it are measured with timber production in mind.
• The methodology of measurements and the importance of accuracy in measuring.
• Digital recording of measurements and data banks that keep such information.
• The duties of forest farmers to record all relevant information on the forest.</td><td>Learning outcomes
The student should be able to use the knowledge, skills and competency he has accumulated to:
• Compare results in forest production by measuring single trees and tree stands with quality of timber production in mind.
• Realize the importance of accuracy in tree measurements and digital recording of information that is kept in suitable databanks.
• Discuss the duties of forest farmers to record all relevant information on the forest.</td></tr>
<tr><td colspan="2">Competency/skills
The student should be competent in:
• Using basic principles of measuring single trees and tree stands.
• Identifying the physical structure of the tree and which parts are to be measured with regards to timber production and quality.
• Measuring a tree with acknowledged methods and suitable accuracy.
• Recording tree measurements digitally in a data bank that keeps the information.
• Gathering information on the duties of forest farmers to record all relevant information on the forest.</td><td></td></tr>
<tr><td colspan="3">Evaluation
Written assignment, written exam</td></tr>
<tr><td colspan="3">Instructions and comment (for other teachers)</td></tr>
<tr><td colspan="3">Connection to key factors of curriculum
Literacy – Health and wellbeing – Self sustainability</td></tr>
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