



AGFORWEB



Co-funded by
the European Union

Project Name: Agroforestry practices in West Balkan for sustainable development:
weaknesses and strengths

Result: Report of proposal for new curricula

No: 2022-1-RS01-KA220-HED-000089900

September/2023.



Project information

Project title	Agroforestry practices in West Balkan for sustainable development: weaknesses and strengths
Project acronym	AGFORWEB
Project reference number	2022-1-RS01-KA220-HED-000089900
Coordinator	University of Belgrade
Project start date	December 1, 2022
Project duration	24 months

Document control sheet

Title of the Work Package	Preparation (WP3)
Title of Deliverable	Report 3 - Report of new curricula
Author/s of the deliverable	1. University of Montenegro Biotechnical faculty from Podgorica, Montenegro (E10208590 - ME) Milić Čurović, Milena Đokić, Dušica Radonjić
Contact	Milić Čurović, curovic@ucg.ac.me
Status of the document	Draft

Project number: 2022-1-RS01-KA220-HED-000089900 "This project has been funded with support from the European Commission. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein"

ACRONYMS / ABBREVIATIONS

ERASMUS	European Community Action Scheme for the Mobility of University Students
FAO	Food and Agriculture Organization of the United Nations
UoM	University of Montenegro
AGFORWEB	Agroforestry practices in West Balkan for sustainable development: weaknesses and strengths
UNCCD	The United Nations Convention to Combat Desertification
NTFPs	Non-timber forest products
EU	European Union

Contents

ACRONYMS / ABBREVIATIONS

1. OBJECTIVES AND SCOPE OF ACTIVITY

2. INTRODUCTION

2.1. Key concepts of the new curricula

3. PROPOSAL OF NEW CURRICULA

3.1. The basic concept of the new curricula

3.2. Plan of lessons by weeks

4. Anex I - Proposal of the created syllabus

1. OBJECTIVES AND SCOPE OF ACTIVITY

The specific objective of this Task is to create new curriculum in the field of agroforestry at University of Montenegro Biotechnical Faculty, which will be proposed for the next accreditation round. The introduction of a new Modul is important, because there is no study of Forestry issues at the University of Montenegro at all. Therefore, it would be of great importance to include this Modul as a part of the Agricultural studies at Biotechnical Faculty.

The aim of the Report of proposal for new curriculum is to provide an overview of analyses and detailed explanations how the syllabus for the new subject in the field of Agroforestry was created for the needs of the UoM. The Report contains an analysis of each Lecture that will cover different areas of agroforestry.

2. INTRODUCTION

Agroforestry is a discipline that is gaining more and more importance. In recent decades, as a result of human activities and climate changes, the stability of forest and agricultural ecosystems has been threatened, and the acceleration of degradation processes is noticeable. This is the reason why EU strategies indicate a cross-sectoral, common approach such as agroforestry practices, to solving these problems.

The basic prerequisite for spreading knowledge and successful implementation of agroforestry practices is representation of agroforestry topics in educational programs. Fact that only University of Montenegro of all AGFORWEB project partners does not have a separate Agroforestry module within its study programs was key to put creation of new module in the list of tasks. The goal of this Task is to create an Agroforestry module in order to successfully transfer knowledge to students on how agroforestry systems can be established and be a complementary part of traditional agricultural production.

Agroforestry systems certainly exist on the territory of Montenegro, in a way of the use of forest areas for agricultural purposes. The very fact that forest land cover significant part of the country's territory indicates the importance of these areas and their use throughout history. Agricultural production is one of the most important branch of the economy in Montenegro, and despite the large area under forests, some forms of agroforestry systems are inevitably represented. The goal is to recognize these systems, look at their use in the past and today, the possibilities for their further development, shaping and use in the future.

As a first step towards that goal, it was necessary to create a syllabus for the subject Agroforestry, so that it would be nominated as a new subject at the next accreditation. One of the project Tasks within WP3 is the creation of a separate curriculum for the needs of the University of Montenegro.

This curriculum will be proposed for adoption during the next Reaccreditation of master study programs of the Biotechnical Faculty

2.1. Key concepts of the curricula in agroforestry

The basic concept for creating the syllabus of Agroforestry for the needs of the University of Montenegro - Biotechnical Faculty is that the module should be adapted to the specifics of Montenegrin agroforestry praxis, but also harmonized with the syllabuses of courses in Agroforestry at other Universities.

An analysis of the specifics of the Agroforestry systems of Montenegro, as well as a detailed analysis of the existed Agroforestry syllabus in other countries are given in Report 1 and Report 2. This analysis was also necessary due to harmonization with the study programs of other countries. This was the initial basis for work on this Task.

It is proposed that the module of Agroforestry should be a part of the master's study program. Through the teaching-learning process the student should acquire the knowledge ability to apply at different cognitive levels.

Since it is intended for students of agriculture, a certain number of teaching hours will be devoted to the acquisition of basic knowledge about forests and forestry.

It is necessary to process the most common agroforestry practices in Montenegro, as well as the more widely applied practices in the region.

In the part of agroforestry practices in the world, a review should also be given to the use of modern technologies, to improve students' digital skills in using and maintaining digital databases, performing analysis, and modelling for existing and newly designed agroforestry practices.

The most applicable form of agroforestry practices in Montenegro is Silvopastoralism. Due to geographical and climatic characteristics of Montenegro, which is predominantly a land of livestock production. In Montenegro exist some forms of silvopastoralism, as about 60% of the territory is covered by forests. Also, forests are found in mosaics at higher altitudes, where pastures and natural meadows predominate. Animal husbandry in the summer months is mainly based on the use of these pastures. In these areas, forest areas are also used for livestock grazing, protecting from sunlight, wind, rain, etc. Therefore, in Montenegro there is silvopastoralism in this form. Hence the importance of including this area of agroforestry in the Modul.

That is why it is necessary to dedicate 3-4 weeks to this way of agroforestry practices.

Acquainting students with agroforestry practices and agroforestry as a discipline is not only for the purpose of harmonizing with the study programs of other countries, but also as the basis and necessity of a modern intersectoral approach.

3. PROPOSAL OF NEW CURRICULA

3.1. The basic concept of the new curricula

Based on the specificity of agroforestry practices in Montenegro, as well as the existing syllabuses of Agroforestry at other universities, the basic concept of the new curriculum was created.

The basic concept of the new curriculum is in following parts:

- Introductory part related to the general concept of agroforestry, practice in the world and in Montenegro
- Second part: economic, ecological aspects, legal framework and new trends in agroforestry
- A part related to basic information about forests and forestry, Shelterbelts, fast-growing plantations, etc
- Silvopastoral practices
- Other activities and products (beekeeping, hunting, medicinal plants, forest fruits, mushrooms etc.)

Learning objectives and aims are: To get information of the main concepts of agroforestry, types and ways of applying agroforestry systems, economic and ecological effects of agroforestry practices, functions of forests, etc.

Learning outcomes: After successfully completing the module, students will be able to:

- Classify agroforestry systems, give examples of different agroforestry practices and explain their importance for the diversification of agricultural production and environmental protection.
- Integrate knowledge of agriculture and forestry into comprehensive knowledge in order to better use resources
- Implement agroforestry systems in accordance with environmental conditions and the existing legal framework
- Describe the role of agroforestry systems in mitigating the effects of climate change
- Know the types and effects of protective forest belts
- Design shelterbelts and select woody species most suitable for given conditions and desired effects
- Use non-timber forest products in a sustainable manner
- Apply silvopastoral practices

Teaching and learning activity/methods: Lectures, theoretical and practical exercises, consultations and other teaching content.

Practical part: Practical teaching and creation of a case study/elaborate for the implementation of the agroforestry practice system in different conditions, analysis of environmental conditions, proposed solution, planning and design of the proposed solution. Case study presentation and discussion.

For easier learning and monitoring of classes the following literature is recommended:

- P.K.Ramachandran Nair. (1993): An Introduction to Agroforestry. Kluwer Academic Publishers (in cooperation with ICRAF). 1-496
- Riguero Rodriguez A., McAdam J., Mosquera Losada M.R. (2009): Agroforestry in Europe. Current State and Future Prospects. Advances in Agroforestry. Springer
- Medarević, M., (2008): Planiranje gazdovanja šumama; šumarski fakultet Beograd 1-401
- Lukić S. (2019): Šumski zaštitni pojasevi praktikum. Univerzitet u Beogradu Šumarski fakultet
- Gabriel, S. (2018): Silvopasture: A Guide to Managing Grazing Animals, Forage Crops, and Trees in a Temperate Farm Ecosystem, Chelsea green publishing, London, 1-294
- Marković, M., Marković, B., Dubljević, R., Radonjić, D., Đokić, M., Mirecki, S., Jovović, Z. i Mirecki, N. (2017): Poljoprivreda planinskih područja. Priručnik za proizvođače. Univerzitet Crne Gore, Biotehnički fakultet, Podgorica.

3.2. Plan of lessons by weeks

1st week: *Introductory remarks - Agroforestry as a system for ecologically acceptable and multifunctional use of natural resources. History, reasons for its origin, biological, ecological and economic advantages.*

According to FAO definition Agroforestry is land-use systems and technologies where trees and shrubs are deliberately used on the same land-management units as agricultural crops and/or animals, in some form of spatial arrangement or temporal sequence. Introductory part explain Agroforestry as a dynamic, ecologically based, natural resource management system that, through the integration of trees on farms and in the agricultural landscape, diversifies and sustains production for increased social, economic and environmental benefits for land users at all levels. In particular, agroforestry is crucial to smallholder farmers and other rural people because it can enhance their food supply, income and health.

2nd week: *Classification of agroforestry systems. Agroforestry practices in the world, in SE Europe and in Montenegro*

Main types of agroforestry systems used in SE Europe and Montenegro should be explained with examples. There are three main types of agroforestry systems:

Agrisilvicultural systems are a combination of crops and trees, such as shelterbelts, plantations, alley cropping or homegardens.

Silvopastoral systems combine forestry and grazing of domesticated animals on pastures, rangelands or on-farm.

The three elements, namely trees, animals and crops, can be integrated in what are called agrosilvopastoral systems and are illustrated by homegardens involving animals as well as scattered trees on croplands used for grazing after harvests.

3rd week: *Legislative and strategic framework in the field of agroforestry*

It is very important to introduce the legal framework and some restrictions related to the application of agroforestry practices. In this part, the forest laws, the hunting law, the agricultural land law, the nature protection law, as well as numerous regulations and other sub-law acts should be processed.

In this part, a review should also be given to strategic and planning documents that may be important for the application of agroforestry practices. It is necessary to know the possibilities of subsidizing some activities, damage prevention and the like.

4th week: *Ecological and economic aspects of agroforestry practices*

In agroforestry systems there are both ecological and economical interactions between the different components. Agroforestry systems are multifunctional systems that can provide a wide range of economic, sociocultural, and environmental benefits.

5th week: Contemporary trends in agroforestry. Creation and use of digital databases

Agroforestry is at the crossroads of tradition and modernity. Some new disciplines such as climate-smart agriculture and agroecology, both incorporate a wide range of practices, and among them is agroforestry. Some practices are on integrating trees in agricultural systems. These systems all represent a commitment to bringing sustainable development principles to agricultural production. As trees are a fundamental component of many ecosystems, their integration in various farming practices doesn't come as a surprise.

Part of this lesson are also basics of use of modern technologies and digital databases in agroforestry practices.

6th week: *Characteristics of the forests of Montenegro. Basic categories of forest functions, their importance and evaluation; Characteristics of tree and shrub species used for shelterbelts*

Agroforestry integrates multiple natural components. This diversity of disciplines is certainly a strength, but its complexity also represents a challenge. Basic knowledge about forests and the main functions of forests is necessary so that students of agriculture can better understand the essence of agroforestry. In this part, students will also learn the basic types of trees that can be used to create shelterbelts.

7th week: *Shelterbelts (Protective forest belts)*

Shelterbelts - Protective forest belts affect the entire complex of environmental conditions - by reducing the wind speed, they affect the humidity of the soil and air, as well as the spread of pollutants. The reduction of wind speed behind the belt results in numerous benefits for agricultural production. Although shelterbelts represent one of the less applied practices of agroforestry in Montenegro, they have the potential for application in Montenegro to control degradation and to provide numerous ecosystem services.

8th week: *Fast-growing plantations, biomass as an energy source*

After successfully completing this topic, students will be able to identify the possibility of using and growing biomass as an energy source. Fast growing trees on agricultural sites so called "short rotation coppice" or „short rotation forestry“ enables reliable and commercially attractive production of large wood volumes within a few years. Additionally those plantations are ecologically beneficial and effectively contribute to CO₂ reduction. Therefore, the European commission estimates an additional demand of 7-12 million ha perennial energy crops such as plantation wood, to achieve the 2030 climate and energy targets.

9th week: *Silvopastoralism - definition, history and examples of different practices in the world*

This chapter is an introduction to the concept of silvopastoralism, it gives an explanation of the system itself, its specificities and the advantages it can have in modern animal husbandry with all existing challenges such as climate changes. It also offers explanations of the various silvopastoralism practices that exist around the world and the conditions under which these systems have developed and adapted. It is important to familiarize students with the definition and basic terms from this field. Also, it is important to familiarize them with the

possible types of silvopastoral systems. Discuss some examples of silvopastoral systems in the world and compare them with systems in the Balkans. Then, with the development of silvopastoralism in the world and in the region.

10th week: *Production results in silvopastoral systems, management and economic aspects*

As silvopastoralism is a very specific system, the production results are also different compared to classic production systems, regardless of the type of animal in question. Here is an overview of how to manage these systems in different conditions in order to optimize profit. The goal is to ensure economic profit through minimal investments with maximum use of natural resources. In this Lecture unit it is planned to process examples from the establishment to the entire management (step by step) of a silvopastoral system. Also, the way converting existing forest into a silvopasture system. Also look at some production results that can be realized in such systems (production of meat, milk, eggs, honey, etc.). But also indispensable ecosystem services that are achieved by raising animals in these systems.

11th week: *Silvopastoral systems in Montenegro - state and opportunities for improvement*

This chapter deals with silvopastoral systems in Montenegro, comparing them with existing systems around the world. In Montenegro, there is a special type of grazing on forest pastures and grasslands bordered or intersected by forests or bushes. Different forms of silvopastoralism from the coast to the north of the country will be discussed here and the possibilities for improvement will be reviewed. Most of the meadows and pastures are lined or intersected by various trees or shrubs, which the cattle use during the grazing season for rest or protection from the sun, precipitation or wind. Such silvopastoral systems prevail in the northern region of the country. One of the silvopastoral practices is extensive goat farming in the southern and partly central part of Montenegro.

On the mountain pastures and in the forest areas are bred mostly autochthonous and local breeds of all species of domestic animals, but also more productive (imported) breeds and their mixes. Silvopastoral systems can support the protection of autochthonous and local livestock breeds in Montenegro.

12th week: *Api Forestry*

Api Forestry is also one of important practices in this system. Nectar from the flowers of forest vegetation and honeydew serve as food for honeybees, and trees provide suitable shelter for bee colonies. Beekeeping in forest areas therefore offers the possibility of simple and quick creation of additional value. Beekeeping is very important for providing pollination services. The importance and benefit of bees for pollination of plants, maintenance and improvement

of biodiversity many times exceeds the direct benefit of honey and other beekeeping products. The best area for combining beekeeping with forestry is in forest hilly areas, although it can be successfully practiced in all forest areas. In this Lecture, it is important to look at the new benefits obtained from bees (direct or indirect), as well as the management of beekeeping.

13th week: *Hunting and hunting economy*

Farming and use of game is certainly a segment that needs to be processed. The aim of this part of the module is to provide basic knowledge in the field of hunting, protection and use of game as well as legal regulations in this area. Students should be familiar with the basic characteristics of the hunting as a separate discipline as well as with the rules related to these activities. A special problem of silvopastoral practices and beekeeping in areas connected to forest complexes is possible damage from wild animals. That is why it is necessary to process measurements for the prevention of damage from game.

14th week: Non-timber forest products and legislation in that area

Non-timber forest products (NTFPs) are any product or service other than timber that is produced in forests. They include fruits and nuts, medicinal plants etc. Over the past two decades, governments, conservation and development agencies and non-government organisations have encouraged the marketing and sale of NTFPs as a way of boosting income for people in the rural areas.

Collecting wild fruits such as blueberries, wild herbs and mushrooms represents a significant additional source of income for the farmers of the northern part of Montenegro.

15th week: Final exam

Anex I – Proposal of the created syllabus

<i>Naziv predmeta:</i>		Agrošumarstvo		
<i>Šifra predmeta</i>	<i>Status predmeta</i>	<i>Semestar</i>	<i>Broj ECTS kredita</i>	<i>Fond časova</i>
	-	-	6	3+1
Studijski programi za koje se organizuje: Master studije				
Uslovljenost drugim predmetima: Nema				
Ciljevi izučavanja predmeta: Upoznavanje sa osnovnim konceptima agrošumarstva, funkcijama šuma, vrstama i načinima primjena agrošumarskih sistema, ekonomskim i ekološkim efektima agrošumarskih praksi.				
Ishodi učenja: Nakon uspješno savladanog predmeta studenti će moći: <ul style="list-style-type: none"> • Klasifikovati agrošumske sisteme, dati primjere različitih agrošumarskih praksi i objasniti njihov značaj za diversifikaciju poljoprivredne proizvodnje i zaštite životne sredine • Integrisati znanja poljoprivrede i šumarstva u sveobuhvatno znanje u cilju boljeg korišćenja resursa • Implementirati agrošumarske sisteme u skladu sa uslovima životne sredine i postojećeg pravnog okvira • Opisati ulogu agrošumskih sistema za ublažavanje efekata klimatskih promjena • Poznavati vrste i efekte vjetrozaštitnih pojaseva • Projektovati vjetrozaštitne pojaseve i odabrati drvenaste vrste najprikladnije datim uslovima i željenim efektima • Koristiti nedrvne šumske proizvode na održiv način • Primijeniti silvopastoralne prakse 				
Ime i prezime nastavnika i saradnika:				
Metod nastave i savladanja gradiva: Predavanja, vježbe teoretske i praktične, konsultacije i ostali nastavni sadržaji.				
<i>Praktični dio:</i> Praktična nastava i izrada studije slučaja/ elaborata za implementaciju sistema prakse agrošumarstva u zadatim uslovima, analiza uslova sredine, predlog rešenja, planiranje i projektovanje predloženog rešenja. Prezentacija studije slučaja i diskusija				
Plan:				
Nedelje				
I	Uvodne napomene - Agrošumarstvo kao sistem za ekološki prihvatljivo i multifunkcionalno korišćenje prirodnih resursa. Istorijat, razlozi nastanka, biološke, ekološke i ekonomske prednosti.			
II	Klasifikacija agrošumarskih sistema. Agrošumarske prakse u svijetu i kod nas			
III	Zakonski i strateški okvir u oblasti agrošumarstva			
IV	Ekološki i ekonomski aspekti agrošumarskih praksi			
V	Savremeni trendovi u agrošumarstvu. Osnove kreiranja i upotrebe digitalnih baza podataka			
VI	Osnovne kategorije funkcija šuma, njihov značaj i vrednovanje; Namjena šuma; Karakteristike šuma Crne Gore. Vrste drveća i žbunja koje se koriste za vjetrozaštitne pojaseve			
VII	Vjetrozaštitni pojasevi			
VIII	Brzorastuće plantaže, biomasa kao energent – Kolokvijum I			
IX	Silvopastoralne prakse / Silvopastoralizam – definicija, istorija i primjeri različitih praksi u svijetu			
X	Silvopastoralne prakse / Proizvodni rezultati u silvopastoralnim sistemima menadžment i ekonomski aspekti			
XI	Silvopastoralne prakse / Silvopastoralni sistemi u Crnoj Gori – stanje i mogućnosti za unapređenje			
XII	Apišumarstvo			
XIII	Lovstvo i lovna privreda – Kolokvijum II			
XIV	Nedrvni šumski proizvodi i legislativa vezana za tu oblast,			
XV	Završni ispit			
Odgovornost studenata u toku semestra: pohađanje nastave i vježbi, rad kolokvijuma i testova, seminarskih radova i sl				

Konsultacije:					
OPTEREĆENJE STUDENATA					
<u>Nedjeljno</u>					
3 časa predavanja + 1 čas praktičnih vježbi					
Literatura:					
<ol style="list-style-type: none"> 1. P.K.Ramachandran Nair. (1993): An Introduction to Agroforestry. Kluwer Academic Publishers (in cooperation with ICRAF). 1-496 2. Rigüero Rodriguez A., McAdam J., Mosquera Losada M.R. (2009): Agroforestry in Europe. Current State and Future Prospects. Advances in Agroforestry. Springer 3. Medarević, M., (2008): Planiranje gazdovanja šumama; šumarski fakultet Beograd 1-401 4. Lukić S. (2019): Šumski zaštitni pojasevi praktikum. Univerzitet u Beogradu Šumarski fakultet 5. Gabriel, S. (2018): Silvopasture: A Guide to Managing Grazing Animals, Forage Crops, and Trees in a Temperate Farm Ecosystem, Chelsea green publishing, London, 1-294 6. Marković, M., Marković, B., Dubljević, R., Radonjić, D., Đokić, M., Mirecki, S., Jovović, Z. i Mirecki, N. (2017): Poljoprivreda planinskih područja. Priručnik za proizvođače. Univerzitet Crne Gore, Biotehnički fakultet, Podgorica. 					
Oblici provjere znanja i ocjenjivanje:					
dva kolokvijuma sa po 20 poena, seminarski rad do 5 poena, prisustvo i aktivnost tokom nastave do 5 poena i završni ispit sa 50 poena. Prelazna ocjena se dobija ako se sakupi kumulativno više od 50 poena					
<i>Ocjena</i>	<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>	<i>E</i>
Broj Poena	90-100	80-89	70-79	60-69	50-59

Module:		Agroforestry		
Code of Module	Type of Module	Semester	ECTS credits	Class found
	-	-	6	3+1

Study Course: Master study

Prerequisites; condition: No

Learning objectives; Aims: To get information of the main concepts of agroforestry, types and ways of applying agroforestry systems, economic and ecological effects of agroforestry practices, functions of forests, etc.

Learning outcomes: After successfully completing the module, students will be able to:

- Classify agroforestry systems, give examples of different agroforestry practices and explain their importance for the diversification of agricultural production and environmental protection.
- Integrate knowledge of agriculture and forestry into comprehensive knowledge in order to better use resources
- Implement agroforestry systems in accordance with environmental conditions and the existing legal framework
- Describe the role of agroforestry systems in mitigating the effects of climate change
- Know the types and effects of wind protection belts
- Design windbreaks shelterbelts and select woody species most suitable for given conditions and desired effects
- Use non-timber forest products in a sustainable manner
- Apply silvopastoral practices

Name and surname of lecturer and teacher assistant:

Teaching and learning activity/methods: Lectures, theoretical and practical exercises, consultations and other teaching content. *Practical part:* Practical teaching and creation of a case study/elaborate for the implementation of the agroforestry practice system in different conditions, analysis of environmental conditions, proposed solution, planning and design of the proposed solution. Case study presentation and discussion

Plan:

Weeks	
I	Introductory remarks - Agroforestry as a system for ecologically acceptable and multifunctional use of natural resources. History, reasons for its origin, biological, ecological and economic advantages.
II	Classification of agroforestry systems. Agroforestry practices in the world, SE Europe and in Montenegro
III	Legislative and strategic framework in the field of agroforestry
IV	Ecological and economic aspects of agroforestry practices
V	Contemporary trends in agroforestry. Creation and use of digital databases
VI	Characteristics of the forests of Montenegro. Basic categories of forest functions, their importance and evaluation; Characteristics of tree and shrub species used for windbreaks shelterbelts
VII	Shelterbelts (Forest protection belts)
VIII	Fast-growing plantations, biomass as an energy source - Colloquium I
IX	Silvopastoralism - definition, history and examples of different practices in the world
X	Production results in silvopastoral systems, management and economic aspects
XI	Silvopastoral systems in Montenegro - state and opportunities for improvement
XII	Api Forestry
XIII	Hunting and hunting economy – Colloquium II
XIV	Non-timber forest products and legislation in that area
XV	Final exam

Responsibilities of students during the semester: attending lectures and exercises, colloquiums and tests, seminar papers, etc

Consultations:

STUDENTS WORKLOAD

<u>Weekly</u>	
3 hours of lectures + 1 hour of practical exercises	

Literature:

1. P.K.Ramachandran Nair. (1993): An Introduction to Agroforestry. Kluwer Academic Publishers (in cooperation with ICRAF). 1-496
2. Rigüero Rodríguez A., McAdam J., Mosquera Losada M.R. (2009): Agroforestry in Europe. Current State and Future Prospects. Advances in Agroforestry. Springer
3. Medarević, M., (2008): *Planiranje gazdovanja šumama; šumarski fakultet Beograd 1-401*
4. Lukić S. (2019): Šumski zaštitni pojasevi praktikum. Univerzitet u Beogradu Šumarski fakultet
5. Gabriel, S. (2018): Silvopasture: A Guide to Managing Grazing Animals, Forage Crops, and Trees in a Temperate Farm Ecosystem, Chelsea green publishing, London, 1-294
6. Marković, M., Marković, B., Dubljević, R., Radonjić, D., Đokić, M., Mirecki, S., Jovović, Z. i Mirecki, N. (2017): Poljoprivreda planinskih područja. Priručnik za proizvođače. Univerzitet Crne Gore, Biotehnički fakultet, Podgorica.

Assesment:

two colloquiums with 20 points each, a seminar paper up to 5 points, attendance and activity during class up to 5 points and a final exam with 50 points. A passing grade is obtained if more than 50 points are accumulated cumulatively

Mark	A	B	C	D	E
Points	90-100	80-89	70-79	60-69	50-59

Special indication for the Module:

Name and surname of the lecturers who prepared the data: Milić Čurović, Dušica Radonjić, Milena Đokić

Note: