

**MASTER ACADEMIC STUDIES
FORESTRY AND NATURAL RESOURCES MANAGEMENT**

INTRODUCTIONARY TABLE

Title of study course:	Forestry and Natural Resources Management
Institution where the course is provided:	University of Belgrade-Faculty of Forestry
Educational –science/educational –artistic field:	Technical-technological sciences
Scientific, professional or artistic fields:	Biotechnological sciences
Type of study:	Master academic studies
Study volume in ESPB points:	120
Title of diploma:	Master of Forestry and natural Resources Management
Length of studies:	2 years
Year in which realization of study program started:	
Year in which realization of study program started (if the study program is new):	2020
Number of students who study according to this program:	0
Planned number of students who will enroll this study program:	10
Date when the program was accepted by appropriate entity (specify which one):	30.10.2019 Senat of University, University of Belgrade
Language of study program:	English
Year in which study program was accredited:	
Web site with information about study program:	www.sfb.bg.ac.rs

Structure of Study Program

Title of study program:

Forestry and Natural Resources Management – Master academic studies

Aim of s Forestry and Natural Resources Management master academic studies is that students through theoretical and practical teaching gain knowledge and skills to be completely capable for multipurpose field of managing forests and natural resources.

Outcome of study process is skilled master expert with adopted knowledge, skills and competencies necessary for work in praxis. Study course, also, provides prerequisites for continuing education on doctoral studies.

Professional title after finished studies: professional i.e. academic title is : Master of Forestry and Natural Resources Management.

Prerequisites for enrollment of study course are finished basic academic studies (240 ESPB) in the field of Forestry or related fields, as specified in the Statute of Faculty of Forestry, Act about enrolment and ranking of candidates on Master academic studies and by Open competition itself. Quotas for enrolment on elective modules and conditions will be defined in Open competition and according to mentioned Act.

Length of studies if four semesters, i.e. two years – 120 ESPB. Study course is organized as integral program, where teachers from all four courses of Faculty of Forestry in Belgrade take part: Forestry, Landscape Architecture, Wood Technology and Ecological Engineering in protection of Soil and Water Resources. Teaching process is organized through unique module- Forestry and Natural Resources Management. Study course contains 4 obligatory subjects, 7 groups of elective subjects (36 offered elective subjects in total), professional practice, field trips, study and research work and master thesis. Every elective group contains the list of elective subjects from which student chooses 1 subject.

Subject types satisfy demanded structure by accreditation standards. Types of active teaching in study course are: lectures, practicals, other types of teaching (laboratory practicals, professional practice etc.), as well as study research work. During school year, averagely 690 hours of active teaching is achieved, in which lectures and practicals participate with 67.5%.

Goal of Study Program

The goal of the master academic study program „Forestry and Natural Resources Management“ is to educate students for the profession of master engineer of Forestry and natural resources management, i.e. to enable students to acquire competencies, which will contribute to the development of forestry and natural management activity in Serbia, connected with sustainable economical and global development. The most important role of this study program is to contribute to the development of high education in Serbia, i.e. to increase the share of the highly educated personel, which is the generator of the development of every country. This study program is intended to everybody who want to build professional career in the field of Forestry and natural resources management, especially to forest engineers and personel who is employed on appropriate jobs and wish to specialize in certain forestry and natural resources management field, or they need 300 ESPB point for promotion in career. Since the curriculum is being conducted in English language, this program is intended also to students who want to build the career outside of Serbia.

The goal of this study program is in accordance to basic goals of the higher education institution and is realized through: transfer of scientific and professional knowledge to students, continual modernization of study program curriculums, their comparison to curriculums of study programs of appropriate foreign high education institutions, development of science, providing of scientific and professional offspring, forming of critical mass of creative young people who will constantly adopt new knowledge, whose introduction to educational process significantly increases share of highly educated people, which will contribute to international openness of higher education system, as well as better positioning of forestry profession in society. Also, the goal of this study program is to qualify engineers of forestry and related professions for carrying out highly specialized jobs in forestry and natural resources management in domain of economy and services, and to contribute to improvement of present state of forests with their professional work and

Goal of realization of this study program is education of personnel for clear and unequivocally formed profession of master engineer of forestry and natural resources management, who is capable to execute jobs in public and private sector in domains: establishing of forests and silviculture; reclamations of degraded forest stands and sites; utilization of forests and forest resource; protection of forest ecosystems and species from damaging biotic and abiotic factors; management of forests and protected areas; management of hunting grounds and fishing areas; production of plant nursery material; marketing and trade of wood and non-wood forest products; hunting-, fishing-, rural- and ecotourism; river basin management; primary wood processing industry; environment protection; academic and educational institutions.

Aims of Study Program

The aims of master academic study program Forestry and Natural Resources Management are in accordance with basic tasks and aims of the academic institution on which the program is conducted: forming of fundamental and applicative knowledge (through lectures), acquiring capabilities, skills and attitudes (through field trips and professional practice). All knowledge, capabilities and skills, to which students get through realization of this study academic program, provide necessary competencies of master engineers diverse jobs in fields of forestry and natural resources management.

The aims of the study program are:

- Providing of wide and balanced student's knowledge about all components of complex ecosystem which presents forest, important for work on professional jobs from various fields of forestry and natural resources management, as well as the basis for upgrading professional disciplines and knowledge, which enables further education through doctoral studies;
- Developing the array of students's practical knowledge which enables comprehension, assesment and interpretation of relevant information from the field of forestry and natural resources management;
- Perfecting of knowledge about functioning and usage of particular machines and tools which are integral and necessary part of forestry and natural resources management profession.

The aims of realization of the study program are clear and unequivocally defined and mean:

- Development of analytical, critical and self-critical thinking and approach intended for solving problems in the field of forestry and natural resources management, development of creative skills and mastering of specific practical skills necessary for professional work;
- Mastering of application of modern methods and analytical equipment and software in praxis;
- Qualifying of students to participate in individual and team work through theoretical and practical teaching, which comprises production of seminars, presentations, searching through electronic databases and production of master thesis.

Importance of realization of the aims of the study program results from the importance of forestry as an important industry for Serbia, taking into account the forest cover in Serbia of about 30%. The aims of the study course are completely in accordance with forestry and natural resources utilization requirements, as well as demands of labor market, economic development and qualification frame. Also, one of very important aims of the study program is to qualify candidates for work on solving complex problems dealing with forest ecosystems, as basic natural resource important for global development of society.

Competences of graduated students

Common and subject-specific competences of master students: by finishing this program student acquires common on subject-specific competencies, which are in function of quality carrying out of professional activity. Students acquire following **common competencies**:

- Skill of collecting, assesing and interpretation of relevant information;
- Capability to form scientifically based arguments and judgements taking into account scientific, social and ethical values;
- Capability to understand tasks in the field of forestry and natural resources management;
- Capability to formulate problem in the field of forestry and natural resources management;

- Capability to apply acquired knowledge in praxis;
- Capability of doing team work and exchanging ideas and informations with members of professional team;
- Holding by codes of professional ethic;
- Qualification for further academic specialization;
- Dispose with basic skills of using computer software and databases in the field of forestry and natural resources management.

Students acquire **following subject-specific competencies:**

- Built knowledge in various fields of forestry and natural resources management;
- Built knowledge in forestry and natural resources management analytics;
- Practical experimental skills and methods in the field forestry and natural resources management;
- Capability of practical applications of gained knowledge in the field of field forestry and natural resources management;
- Collaboration and information exchange with the other members of professional team from the field of biotechnics and related sciences;
- Capability to perceive problem, and to propose and realize appropriate solution.

Description of study outcomes: Candidates acquire capability to work in the following areas in the field of forestry and natural resources management: establishment of forest, silviculture and forest regeneration; advancing and reclamation of degraded forest areas and sites; protection of forests and forest species from damaging biotic and abiotic factors; production of nursery material; management of state and private forests; production of forest management programs, projects and plans; management of hunting grounds; game breeding and protection; professional advisory jobs in private forests; organisation of hunting ground and production of hunting plans; management of fishing areas; utilization of woody and non woody forest products; building of forest road and other means of transport; management of protected areas; monitoring and conservation of endangered and protected woody plant species; management and supervision in environment protection; organization of production in forestry; marketing connected to woody and non-woody forest production; production of ecological studies; production of spatial plans; hunting-, fishing-, rural- and ecotourism; river basin management; technology of wood products; scientific, academic and educational work.

Graduated master engineers of forestry and natural resources management can find employment in: forest enterprises; public corporations and municipal assemblies; supervising state services nurseries and glasshouses; institutions and services of nature and environment protection; national parks and other protected areas; project organizations; hunting and fishing organizations; river basin management organizations; tourist organizations; enterprises of primary wood processing and other forest products; Scientific institutes and organizations; faculties and secondary school of forestry and related disciplines.

Candidates who finish this program acquire academic title **Master of Forestry and Natural Resources Management.**

Table 1. Course schedule by semesters and years of study

No.	Course code	Course title	Semester	Number of classes	ECTS	Course type
FIRST YEAR						
1.	SM0001	Research Design	1	8	10	required
2.	SM0002	Forest Resources	1	7	10	required
3.	SM0003	Applied Forestry	1	7	10	required
4.	SM0004	Natural Resources Management	2	7	10	required
5.	SM0015	Medicinal Plants Production	2	5	5	elective
	SM0016	Forest Soil Science	2	5	5	elective
	SM0017	Hunting management	2	5	5	elective
	SM0018	Forest Inventory	2	5	5	elective
	SM0019	Modern Instrumental Methods of Analysis	2	5	5	elective
	SM0020	Digital Modeling and Visualization	2	5	5	elective
	SM0021	Soil and Water Conservation	2	5	5	elective
6.	SM0022	Anatomical and Physiological Traits of Woody Plants	2	5	5	elective
	SM0024	Wildlife Management	2	5	5	elective
	SM0025	Environmental Chemistry	2	5	5	elective
	SM0026	Management of Protected Areas	2	5	5	elective
	SM0027	Soil Degradation and Climate Changes	2	5	5	elective
7.	SM0028	Conservation of Forest Genetic Resources	2	5	5	elective
	SM0029	Dendrology	2	5	5	elective
	SM0030	Wildlife Management and Conservation	2	5	5	elective
	SM0031	Entrepreneurship and Management in Forestry	2	5	5	elective
	SM0032	Wood Drying	2	5	5	elective
	SM0033	Pests of Woody Plants	2	5	5	elective
	SM0034	Agroforestry Systems	2	5	5	elective
8.	SM0005	Field Trip	2	8	5	required
Total number of active teaching classes				52		
Totally ECTS					60	
SECOND YEAR						
9.	SM0035	Climate Adaptive Forest Establishment	3	5	5	elective

	SM0036	Silviculture	3	5	5	elective
	SM0037	Sustainable Forest Utilization	3	5	5	elective
	SM0038	Furniture Design	3	5	5	elective
	SM0039	Sustainable Land Management	3	5	5	elective
10.	SM0040	Forest Plantations	3	5	5	elective
	SM0041	Forest Growth and Yield	3	5	5	elective
	SM0042	Wood-Based Composite Panels	3	5	5	elective
	SM0043	Sustainable Utilization of Water Resources in the Protected Areas	3	5	5	elective
11.	SM0045	Forest Protection	3	5	5	elective
	SM0046	Bioeconomy in Forestry	3	5	5	elective
	SM0047	Applied Ecoclimatology in Silviculture	3	5	5	elective
	SM0048	River Basin Management	3	5	5	elective
12.	SM0049	Forest Mycology				elective
	SM0050	Forest Machinery	3	5	5	elective
	SM0051	Forest Management Planning	3	5	5	elective
	SM0052	Decision Making in Soil and Water Resources	3	5	5	elective
13.	SM0006	Professional Practice	3	10	5	required
14.	SM0007	Master Thesis Subject	4	20	25	required
15.	SM0008	Master Thesis	4	10	10	required
Total number of active teaching classes				40		
Totally ECTS					60	

Table 2. Course syllabus

Table 3. List of teachers who participate in the implementation of the study program

No	Surname, Middle letter, Name	Title
1.	Babić P. Violeta	Lecturer
2.	Belanović-Simić B. Snežana	Full professor
3.	Beloica R. Jelena	Lecturer
4.	Vulević Z. Tijana	Lecturer
5.	Gačić P. Dragan	Associate professor
6.	Glavendekić M. Milka	Full professor
7.	Danilović N. Milorad	Full professor
8.	Devetaković R. Jovana	Lecturer
9.	Đukić D. Vesna	Associate professor
10.	Ivetić K. Vladan	Associate professor
11.	Jakšić R. Smiljana	Lecturer
12.	Jović S. Biljana	Lecturer
13.	Jokanović D. Dušan	Lecturer
14.	Keča M. Ljiljana	Associate professor
15.	Košanin D. Olivera	Associate professor
16.	Lavadinović M. Vukan	Lecturer
17.	Lukić S. Sara	Associate professor
18.	Marić M. Nenad	Lecturer
19.	Marković M. Čedomir	Full professor
20.	Matić. T. Jelena	Full professor
21.	Milanović D. Slobodan	Associate professor
22.	Milenković Ivan	Lecturer
23.	Milić R. Goran	Associate professor
24.	Nedeljković S. Jelena	Lecturer
25.	Nikolić Jokanović M. Vesna	Lecturer
26.	Nonić Z. Marina	Lecturer
27.	Pantić S. Damajan	Full professor
28.	Perović R. Marko	Associate professor
29.	Petrović M. Nenad	Lecturer
30.	Popović M. Mlađan	Associate professor
31.	Rančić P. Milica	Associate professor
32.	Ristić U. Ratko	Full professor
33.	Stajić S. Branko	Associate professor
34.	Todosijević M. Mirjana	Associate professor
35.	Tomićević-Dubljević T. Jelena	Full professor
36.	Šijačić-Nikolić T. Mirjana	Full professor
37.	Šljukić S. Biljana	Lecturer