

Universität für Bodenkultur Wien



University of Natural Resources and Life Sciences, Vienna

# Curriculum

for the Master Programme in

# Forest Sciences

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For legal purposes, only the version of the curriculum that has been published in the official journal (Mitteilungsblatt) is binding and valid - this English translation is for information purposes only.

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## **Curriculum of the Master Degree Programme**

### **“Forest Sciences”**

At the University of Natural Resources and Life Sciences, Vienna

*As at October 1<sup>st</sup>, 2017*

## **§ 1 QUALIFICATION PROFILE**

The Master programme in Forest Sciences is a degree programme which serves to deepen and extend students' pre-vocational academic education, building on the basis provided by a Bachelor degree programme (§ 51 [2] item 5 of the Universities Act UG 2002, Federal Law Gazette BGBl I no. 81/2009). The programme fulfils the requirements of Directive 2005/36/EC on the recognition of professional qualifications, article 11, letter e.

### **1a) Knowledge and Personal and Professional Skills**

Graduates of the Master programme Forestry have acquired knowledge and skills in order to fulfill executive functions related to multifaceted fields of forest ecosystems in businesses and administration (utility function, protection, welfare function and recreation in terms of the current forest law, ecosystem services in terms of the Millennium Ecosystem Assessment). The professional competences are especially related to the production and sustainable usage of the raw material timber as well as the management of the complex habitat forest and its functions for climate, conservation of biodiversity, protection of natural resources such as air, water and soil, the protection against natural hazards as well as for leisure and recreational activities. Furthermore, graduates are equipped with skills in order to analyze interdependencies within the system forest and in context with other systems that are impacted. Graduates can develop solutions taking ecological, economic and technical aspects into consideration. This requires joined-up thinking, which is especially trained during students' education via the integration of competences taken from the three pillars “Natural Sciences”, “Engineering Sciences” as well as “Economic, Social and Legal Sciences”. Graduates of the Master programme Forestry are equipped with a broad basic knowledge in the fields of natural sciences, engineering sciences, economics and social sciences and are ready to apply this gained knowledge in various fields of work. They possess knowledge about scientific methods and a special expertise for questions relating to organic and technical production as well as questions dealing with economic and business-related interdependencies, governmental tasks in the field of forestry and corporate management of forests. Graduates have acquired communication and leadership qualification and are aware of the importance of lifelong learning, mobility and internationality for the successful accomplishment of occupational activities. Graduates are qualified for leading positions in administration and economy as well as for continuative research tasks.

### **1b) Professional Qualifications**

Based on the interdisciplinary character of the Master programme Forestry, a wide variety of fields of activities and areas of occupation are available for graduates. These range from conventional business management in the field of forestry to administration on a national level as well as silvicultural counseling, wood and pulp industry, consulting on a national and international level and the field of research.

Fields of activity may include:

- responsible management and planning of public and private forests or associations;
- responsible perception of leadership and specialist function in the fields of forestry, nature conservation and environmental authorities, special interest groups and lobbies, organizations and NGOs related to forestry;
- responsible management and independent planning for alpine torrent catchment area and avalanche control agencies;
- management and/or specialised activities in forestry research, education and development;
- Independent execution of the duties of an engineering consultant, the duties of a manager of a technical office or forestry business in accordance with other legal regulations (e.g. according to the Civil Technician Act);
- Activities in planning agencies and consulting firms in the field of nature protection, especially of forest ecosystems;
- Managing and/or specialised activities in the wood and pulp industry, wood trade or as a forestry journalist etc.;
- Business management of production companies, public utilities or in the service industries in connection to wood and forestry such as in the fields of energy from biomass, tourism or conservation area management.

## § 2 ADMISSION REQUIREMENTS

Graduates of the Bachelor programme in **Forestry (033 225)** offered by BOKU University of Natural Resources and Life Sciences, or professionally equivalent Bachelor programmes of accredited national and international universities are eligible for admission with no further requirements.

Graduates of the Bachelor programme **Wood and Fibre Technology (033 226)** are required to complete the following courses in order to complement their competences and skills:

Course Title	Course Number	Course Type	ECTS Credits
Forest management planning	733168	VU	3
Forest soils and mineral nutrition of forests	912114	VU	5
Silviculture I and Silviculture II	913102 913104	VU	7
Forest engineering	915186 915188	VU	6
Forest ecology	912116	VU	3

For graduates of Bachelor programmes completed at other universities, mastery of the following learning outcomes is required for admission:

(1) Knowledge of basic subjects for forestry:

Mathematics, statistics, physics, chemistry, botany, dendrology, geology, ecology, surveying, geo-information, technical drawing with CAD, business administration, economics, solid mechanics.

(2) Knowledge of central subjects of forestry:

Forest entomology, forest pathology, forest growth and yield, silviculture, forest soil studies, forest climatology, wildlife ecology, forest biometrics, forest engineering, soil bioengineering, forest management planning, forest economics, wood products markets, forest policy, forestry legislation.

When competences and skills of both areas can be assured via the positive completion of courses to an extent of 40 ECTS credit points each, a direct admission to the study programme takes place.

Furthermore, competences in English at a level of B2 (according to the Common European Framework of Reference for Languages by the Council of Europe) are recommended.

## **§ 3 PROGRAMME STRUCTURE**

### **3a) Duration, Total ECTS Credits and Structure**

The programme consists of courses and other requirements worth a total of 120 ECTS credits. This is equivalent to a duration of four semesters (a total of 3,000 60-minute credit hours). The programme is divided into

Compulsory courses:	48 ECTS credits
Master seminar:	2 ECTS credits
Master's Thesis:	30 ECTS credits
Elective courses:	30 ECTS credits
Free electives:	12 ECTS credits

Students are required to complete courses, which are related to the field of study, worth a total of 10 ECTS credits taught in a foreign language. These courses can be compulsory courses, elective courses, internships or free electives. Courses taken at international universities abroad are to be credited. General language courses (with the exception of specialised language courses) will not be considered. (General foreign language courses may be credited in the framework of free elective courses.)

### **3b) Three-Pillar Principle**

The three-pillar principle is one of the central identifying characteristics of both the Bachelor and Master programmes offered at the University of Natural Resources and Life Sciences,

Vienna. In the Master programmes, the sum of the compulsory and elective courses must be made up of at least

- 15% technology and engineering
- 15% natural sciences
- 15% economic and social sciences, law.

The Master's Thesis and free electives are excluded from the three-pillar rule.

### 3c) Limited Number of Participants in Courses

For courses with a limited number of participants the head of the Master course is authorised to first admit students enrolled in the Master programme (that means that students enrolled in a Bachelor study programme can only be admitted to the courses if further spaces are left on the course!) The admission of students enrolled in the Master study programme is conducted according to the following order of required courses by the students: compulsory course, elective course, free elective course.

## § 4 COMPULSORY COURSES

### Used Abbreviations:

ECTS = European Credit Transfer System points

WS = Winter Semester

SS = Summer Semester

### Notes:

- <sup>1)</sup> In English
- <sup>2)</sup> In English and German
- <sup>3)</sup> Courses not offered in the academic year 2017/18
- <sup>4)</sup> Courses only offered in even academic years
- <sup>5)</sup> Courses only offered in uneven academic years

The following compulsory courses worth a total of 48 ECTS credits, as well as the Master seminar (2 ECTS credits) are required to complete the Master programme:

Course Number	Compulsory Courses	Course Type	Semester	ECTS Credits
	Course Title			
733331	Controlling in forest enterprises	VS	WS	4.0
915303	Road network planning	VS	SS	5.0
916303	Routines in forest protection	VO	SS	2.0
913328	Mountain forest silviculture	VO	SS	2.0
915314	Harvesting systems	VS	SS	3.0
736315	Legal background to practical problems in forestry	VO	WS	2.5
733302	Strategic management and management of diversification	SE	SS	3.0
891330	Technology of wood processing	VO	WS	1.0

913329	Silviculture and harvest operations	VU	SS	3.0
733330	Forest valuation	VO	SS	2.0
913330	Genetics and biodiversity	VO	WS	2.0
912327	Forest ecosystem dynamics	VS	WS	4.0
732324	Forest policy	SE	WS	4.0
912329	Water, nutrients and pollutants in forest ecosystems	VS	WS	4.0
832303	Wildlife ecology in protective and selectively harvested forest stands	VO	SS	1.5
914325	Forest condition monitoring and tools for forest condition prognoses	VS	WS	3.0
910301 730301	Master's thesis seminar <sup>2</sup>	SE	WS or SS	2.0

For courses with a limited number of participants the head of the Master course is authorised to first admit students enrolled in the Master programme (that means that students enrolled in a Bachelor study programme can only be admitted to the courses if further spaces are left on the course!) The admission of students enrolled in the Master study programme is conducted according to the following order of required courses by the students: compulsory course, elective course, free elective course.

## § 5 ELECTIVE COURSES

Elective courses worth a total of 30 ECTS credits are required to complete the Master programme. There are 2 options to achieve this.

### 5a) Option 1

The successful completion of courses to an extent of at least 30 ECTS credit points from the 3 pillars is required. Thereby, courses from every pillar have to be completed successfully to an extent of at least 6 ECTS.

Course Number	Pillar 1: Natural Sciences	Semester	Course Type	ECTS Credits
	Course Title			
916319	Afforestation and forest protection near the timberline	SS	VX	3.0
913316	Silvicultural strategies for balancing multiple stakeholder interests in mountain forests	SS	VS	3.0
912337	Biodiversity and conservation of mountain forests <sup>1</sup>	SS	VS	2.0
912301	Biogeochemistry of forest ecosystems <sup>5</sup>	WS	VS	3.0
916305	Biological and biotechnical control of pests and integrated plant protection	WS	VU	3.0
832307	Biology of Austrian wildlife species	WS	VO	2.0
832332	Conservation biology	WS	VO	1.0
912338	Current advances in ecology and soil science <sup>1</sup>	WS	SE	3.0

916306	Methods in the use of genetic markers and their applications <sup>1, 4</sup>	WS	VU	3.0
913335	DNA analysis at population level <sup>1, 3</sup>	SS	VU	2.0
916307	Experimental forest entomology	SS	UX	3.0
912302	Experimental methods in forest ecology <sup>2</sup>	SS	VS	3.0
916318	Experimental phytopathology	WS	VU	3.0
916309	Genetics aspects in entomology <sup>1</sup>	WS	VU	3.0
913308	Genetics and breeding of forest tree species	SS	VU	3.0
832339	Habitat suitability and biotope management	WS	VS	4.5
871348	Watershed management	SS	PJ	6.0
913315	Integrated landscape management	WS	VS	6.0
832338	Multidisciplinary field trip in wildlife ecology	SS	EX	1.0
832341	Hunting and game management - exercises	WS or SS	UE	1.5
913331	Climate change and forest management <sup>1</sup>	WS	VS	2.0
913318	Management of deciduous forests	WS	VU	1.5
916302	Molecular ecology in entomology <sup>5</sup>	SS	SE	1.5
913336	Multifunctional management of mountain forests	SS	VU	3.0
832342	Natural resources management in mountainous areas III - wildlife problems <sup>1</sup>	SS	VS	2.0
916327	Aspects of nature conservation in forest protection	WS	VO	1.0
834300	Nature conservation in practice	SS	SE	4.5
833300	Animal species of conservation concern and their habitat demands	SS	VO	2.0
916328	Ecological measures in forest protection	WS	VX	4.5
912309	Methods in ecosystem dynamics <sup>4</sup>	SS	VS	6.0
913337	Ecosystem modelling	WS	VS	3.0
916311	Analytical methods in pathophysiology	SS	VU	3.0
832301	Wildlife management issues in protected areas in Central Europe	WS	VO	1.5
916312	Advanced forest entomology & pathology <sup>3</sup>	SS	VU	3.0
913304	Advanced forest genetics with special emphasis on conservation biology	SS	VS	3.0
913323	Management of protective forests	SS	VX	3.0
912306	Exercises in vegetation dynamics <sup>4</sup>	SS	UX	3.0
912304	Methods of forest site classification and forest site mapping	WS	VU	3.0
914301	Long-term forest experiments and forest condition forecasts	SS	VS	3.0
912313	Forests and water <sup>1</sup>	WS	VS	3.0
913319	Silvicultural strategies for secondary conifer forests	SS	VS	2.0
913320	Experimental designs in silviculture	SS	VS	1.5
911348	Forest soil biology <sup>1</sup>	WS	VU	3.0
916313	Diagnosis of biotic and abiotic damage of forest trees	SS	VU	3.0
832343	Integrated management of forest and game ungulates	SS	VS	4.5



816338	Water resources planning and management <sup>1</sup>	WS	VO	3.0
832335	Wildlife ecology and management of habitats (biotopes)	WS or SS	VO	3.0
912340	Ecology of roots and mycorrhizae I <sup>2</sup>	WS	VS	3.0
912341	Ecology of roots and mycorrhizae II <sup>2</sup>	WS	US	3.0

Course Number	Pillar 2: Technology and Engineering	Semester	Course Type	ECTS Credits
	Course Title			
816350	Runoff formation in torrential headwater basins	WS	VS	2.0
857306	Applied photogrammetry	WS	VU	4.5
875321	Design of protection works	WS	VU	4.0
913302	Decision support systems <sup>1</sup>	WS	VS	3.0
871332	Disaster management <sup>1</sup>	WS	VO	2.0
915332	Supply of wood fuels	WS	VS	3.0
915331	Ergonomics and job design	SS	VS	4.5
893311	Renewable energy resources <sup>1</sup>	WS	VX	3.0
857308	Geodata for GIS-application in Austria	SS	VU	3.0
857300	Geo-data management <sup>1</sup>	WS	VU	3.0
871340	Introduction to natural hazard management	WS	VO	2.0
891335	Wood quality	SS	VO	2.0
874330	Soil bioengineering techniques	SS	VO	2.0
816336	Integrated flood risk management <sup>1</sup>	WS	VO	3.0
816314	Planning and design of small hydro power plants	WS	VO	2.0
857315	Land administration	WS	VO	2.0
915326	Life cycle assessment of renewable resources	SS	VU	4.0
734351	Logistics in forestry and timber industry	SS	US	3.0
915333	Modelling of harvesting operations <sup>5</sup>	SS	VS	1.5
857304	Remote sensing and image processing <sup>1</sup>	SS	VU	6.0
873310	Fundamentals of geotechnical engineering	WS	VU	4.0
915315	Systems engineering in harvesting	WS	VS	3.0
891331	Technology of wood processing	WS	UE	2.0
734329	Logistic systems	SS	VS	6.0
891301	Wood industries and products <sup>1</sup>	SS	VS	3.0

Course Number	Pillar 3: Economic and Social Sciences, Law	Semester	Course Type	ECTS Credits
	Course Title			
855323	Spatial planning in alpine areas	SS	VO	2.0
853319	Applied leisure and recreation planning	SS	VS	3.0
736312	Applied environmental impact assessment	WS	VO	2.0
733336	Operational analysis	SS	SE	4.5

733304	Economics of multiple use forestry <sup>1, 4</sup>	SS	VS	1.5
853322	Recreation infrastructure planning	SS	VS	4.5
733303	Forest resource economics <sup>1</sup>	WS	VS	4.5
732314	Forest history	WS	VX	3.0
910310	Forest estates and services	WS	VO	1.0
732322	Principles of communication science	SS	VO	2.0
732311	Public relations - fundamental rules and conception	WS	VU	3.0
736313	Air pollution control	WS	VO	2.0
732337	Innovations for sustainable forest management <sup>1</sup>	WS	VS	4.0
732315	History of hunting	WS	VX	3.0
732323	Small scale forestry	SS	VX	2.0
735332	Marketing strategies	WS	VO	2.0
735327	Market research and market analysis	SS	VU	3.0
732312	Media policy	SS	VU	3.0
913301	Methods for silvicultural planning and decision making	WS	VS	3.0
732321	Mountain forest policy <sup>1</sup>	WS	VS	4.5
913311	Multiple criteria decision making in natural resource management <sup>1</sup>	WS	VS	3.0
853316	Natura 2000 - examples from practice, implementation and management	WS	UE	1.5
736316	Natural danger law	WS	VO	2.0
732307	Participation and conflict resolution	SS	VS	3.0
855309	Tourism and leisure planning	WS	VU	3.0
732305	Environmental history	WS	VS	3.0
736304	Environmental law	WS	VO	3.0

## 5b) Option 2

The successful completion of courses to an extent of at least 30 ECTS credit points from one of the 5 advanced studies is required. The advanced studies are listed in the final documents.

- Nature Conservation in the Forest
- Multifunctional Forest Cultivation
- Forest Ecosystem Analysis
- Timber Production and Logistics
- Protection Forest

Course Number	Nature Conservation in the Forest	Semester	Course Type	ECTS Credits
	Course Title			
912337	Biodiversity and conservation of mountain forests <sup>1</sup>	SS	VS	2.0
832332	Conservation biology	WS	VO	1.0
732311	Public relations - fundamental rules and conception	WS	VU	3.0
913315	Integrated landscape management	WS	VS	6.0

832338	Multidisciplinary field trip in wildlife ecology	SS	EX	1.0
913336	Multifunctional management of mountain forests	SS	VU	3.0
853316	Natura 2000 - examples from practice, implementation and management	WS	UE	1.5
916327	Aspects of nature conservation in forest protection	WS	VO	1.0
834300	Nature conservation in practice	SS	SE	4.5
833300	Animal species of conservation concern and their habitat demands	SS	VO	2.0
916328	Ecological measures in forest protection	WS	VX	4.5
832301	Wildlife management issues in protected areas in Central Europe	WS	VO	1.5
916312	Advanced forest entomology & pathology <sup>3</sup>	SS	VU	3.0
736304	Environmental law	WS	VO	3.0
911348	Forest soil biology <sup>1</sup>	WS	VU	3.0
832343	Integrated management of forest and game ungulates	SS	VS	4.5

Learning outcomes: students of the advanced study programme “Nature Conservation in the Forest” are in the position to design, evaluate and manage forest ecosystem within the scope of nature conservation. Furthermore, they are equipped with knowledge in order to investigate and evaluate nature conservation-related basic principles, questions related to bio-, habitat and resource diversity as well as the implementation of preventive forest protection measurements and the protection of biological diversity. They are competent in the development of nature conservation concepts and strategies for their application, and in the legal principles and public relations of conservation areas.

Course Number	Multifunctional Forest Cultivation	Semester	Course Type	ECTS Credits
	Course Title			
913316	Silvicultural strategies for balancing multiple stakeholder interests in mountain forests	SS	VS	3.0
733336	Operational analysis	SS	SE	4.5
733304	Economics of multiple use forestry <sup>1, 4</sup>	SS	VS	1.5
910310	Forest estates and services	WS	VO	1.0
871340	Introduction to natural hazard management	WS	VO	2.0
732337	Innovations for sustainable forest management <sup>1</sup>	WS	VS	4.0
913315	Integrated landscape management	WS	VS	6.0
732323	Small scale forestry	SS	VX	2.0
735332	Marketing strategies	WS	VO	2.0
913311	Multiple criteria decision making in natural resource management <sup>1</sup>	WS	VS	3.0
913336	Multifunctional management of mountain forests	SS	VU	3.0
732307	Participation and conflict resolution	SS	VS	3.0
912313	Forests and water <sup>1</sup>	WS	VS	3.0
832343	Integrated management of forest and game ungulates	SS	VS	4.5

Learning outcomes: students are familiar with knowledge of essential ecological, economic and social interdependencies and control options related to the extent to and quality of the various ecosystem benefits of forests. Students have the expertise to analyze and interpret multidimensional planning aims as well as for the implementation of specific instruments for analysis, planning and decision preparation as well as evaluation of a multifunctional forest management. Students are equipped with competences related to the assessment and the balance of various utilization interests as well as the implementation of respective cultivation concepts.

Course Number	Forest Ecosystem Analysis	Semester	Course Type	ECTS Credits
	Course Title			
912301	Biogeochemistry of forest ecosystems <sup>3</sup>	WS	VS	3.0
912338	Current advances in ecology and soil science <sup>1</sup>	WS	SE	3.0
912302	Experimental methods in forest ecology <sup>2</sup>	SS	VS	3.0
912309	Methods in ecosystem dynamics <sup>4</sup>	SS	VS	6.0
913337	Ecosystem modelling	WS	VS	3.0
916311	Analytical methods in pathophysiology	SS	VU	3.0
857304	Remote sensing and image processing <sup>1</sup>	SS	VU	6.0
912306	Exercises in vegetation dynamics <sup>4</sup>	SS	UX	3.0
912304	Methods of forest site classification and forest site mapping	WS	VU	3.0
913320	Experimental designs in silviculture	SS	VS	1.5
916313	Diagnosis of biotic and abiotic damage of forest trees	SS	VU	3.0
912340	Ecology of roots and mycorrhizae I <sup>2</sup>	WS	VS	3.0
912341	Ecology of roots and mycorrhizae II <sup>2</sup>	WS	US	3.0

Learning outcomes: After the successful completion of the advanced study programme “Forest Ecosystem Analysis” the students are familiar with the basics and methods to analyze forest ecosystems. This enables them to acquire solutions for a sustainable forest management. The focus deepens the knowledge of regional and temporal data analyses and modeling of material cycles and the vegetation dynamics as well as on the interrelations between the individual components of forest ecosystems. The students are equipped with the competences to implement specific analytical methods in order to professionally assess and forecast interference factors.

Course Number	Timber Production and Logistics	Semester	Course Type	ECTS Credits
	Course Title			
915332	Supply of wood fuels	WS	VS	3.0
915331	Ergonomics and job design	SS	VS	4.5
891335	Wood quality	SS	VO	3.0
913318	Management of deciduous forests	WS	VU	1.5

915326	Life cycle assessment of renewable resources	SS	VU	4.0
734351	Logistics in forestry and timber industry	SS	US	3.0
735332	Marketing strategies	WS	VO	2.0
915333	Modelling of harvesting operations <sup>5</sup>	SS	VS	1.5
916328	Ecological measures in forest protection	WS	VX	4.5
891331	Technology of wood processing	WS	UE	2.0
734329	Logistic systems	SS	VS	6.0
913319	Silvicultural strategies for secondary conifer forests	SS	VS	2.0
891301	Wood industries and products <sup>1</sup>	SS	VS	3.0

Learning outcomes: After the successful completion of the advanced study programme “Timber Production and Logistics” students have gained knowledge and skills that qualify them to work in leading positions in the field of the value creation chain timber. These competences include aspects ranging from forest locations all the way to interfaces with subsequent processes for the material usage of timber in commerce and industry as well as the energetic use of silvicultural biomass. The advanced study programme deepens the knowledge and skills for sustainable production of timber and imparts knowledge that relates to content as well as methodological competences for an active involvement of interfaces between forestry, timber industries and energy economy.

Course Number	Protection Forest	Semester	Course Type	ECTS Credits
	Course Title			
816350	Runoff formation in torrential headwater basins	WS	VS	2.0
855323	Spatial planning in alpine areas	SS	VO	2.0
916319	Afforestation and forest protection near the timberline	SS	VX	3.0
871340	Introduction to natural hazard management	WS	VO	2.0
874330	Soil bioengineering techniques	SS	VO	2.0
871348	Watershed management	SS	PJ	6.0
913301	Methods for silvicultural planning and decision making	WS	VS	3.0
732321	Mountain forest policy <sup>1</sup>	WS	VS	4.5
913336	Multifunctional management of mountain forests	SS	VU	3.0
736316	Natural danger law	WS	VO	2.0
913323	Management of protective forests	SS	VX	3.0
832343	Integrated management of forest and game ungulates	SS	VS	4.5

Learning outcomes: After the successful completion of the advanced study programme “Protection Forest” students have gained knowledge and skills in order to analyze the protection functions of forests against nature hazards as well as the conceptions and evaluation of cultivation concepts and measures in order to guarantee the protection functions on various scales ranging from individual stocks to larger trading areas. The advanced study programme is put on gravity-related nature hazards (avalanches, rock slides, mudflows, landslides and erosion) as well as on the moderation of drainage peaks.

## **§ 6 FREE ELECTIVES**

Free electives worth a total of 12 ECTS credits are required to complete the Master programme. Free electives may be selected from all courses offered by all recognized universities in Austria and abroad. Free electives are intended to impart knowledge and skills in the student's own academic subject as well as in fields of general interest.

It is recommended to choose free electives from the offered list of elective courses (see § 5a).

## **§ 7 COMPULSORY INTERNSHIP**

For the Master programme Forestry no compulsory internship is required. It is, however, recommended to deepen those competences gained during the study programme in voluntary internships.

## **§ 8 MASTER'S THESIS**

A Master's Thesis is a paper on a scientific topic, to be written as part of the Master degree programme Forest Sciences (Exception see Charter of the University of Natural Resources and Life Sciences, Vienna, Part III – Teaching, § 30 para. 9). The thesis is worth a total of 30 ECTS credits. With their Master's Thesis, students demonstrate their ability to independently address a scientific topic, both thematically and methodologically (§ 51 [8] UG 2002 BGBl. I no. 81/2009).

The topic of a Master's Thesis shall be chosen in such a way that it is reasonable to expect a student to be able to complete it within six months. Multiple students may jointly address a topic, provided that the performance of individual students can be assessed (§ 81 [2] UG 2002 BGBl. I no. 81/2009).

The Master's Thesis shall be written in German or English. Languages other than German or English are permissible only if approved and confirmed by the thesis supervisor. The thesis defence must be held in German or English regardless of the language of the thesis.

## **§ 9 COMPLETION OF THE MASTER PROGRAMME**

The Master programme in Forest Sciences has been completed when the student has passed all required courses and received a positive grade on the Master's Thesis and defence examination.

## § 10 ACADEMIC DEGREE

Graduates of the Master programme in Forest Sciences are awarded the academic title Diplom-Ingenieur (m) or Diplom-Ingenieurin (f), abbreviated as Dipl.-Ing./ Dipl.-Ing.<sup>in</sup> or DI/DI<sup>in</sup>.

The academic title Dipl.-Ing./Dipl.-Ing.<sup>in</sup> or DI/DI<sup>in</sup>, if used, shall precede the bearer's name (§ 88 [2] UG 2002 BGBl. I no. 81/2009).

## § 11 EXAMINATION REGULATIONS

(1) The Master programme in Forest Sciences has been completed successfully when the following requirements (corresponds to components in [7] below) have been met:

- positive completion of compulsory courses worth a total of 48 ECTS credits (§ 4);
- positive completion of elective courses worth a total of 30 ECTS credits (§ 5);
- positive completion of free electives worth a total of 12 ECTS credits (§ 6);
- a positive grade on the Master's Thesis worth a total of 30 ECTS credits, and the defence examination.

(2) Student evaluation takes the form of course and module examinations. Course examinations can be either written or oral, as determined by the course instructor, taking the ECTS credit value of the course into account. Any prerequisites for admission to examinations shall be listed in § 4 under the respective course/module.

(3) The choice of examination method shall be based on the type of course: Lectures shall conclude with a written or oral examination, if continuous assessment of student performance is not applied. Seminars and project-based courses can be evaluated based on independently written papers, length and contents of which are determined by the course instructor. For all other course types, the examination type is at the instructor's discretion.

(4) The topic of the Master's Thesis shall be selected from one of the subjects of the Master programme. The student must inform the dean in writing prior to the commencement of the work on the Master's Thesis. Thereby, the student has to state the Master's Thesis topic as well as the name of the supervisor of the Master's Thesis.

(5) The completed Master's Thesis which has been assessed positively by the supervisor shall be publically presented by the student and defended in the form of an academic discussion (defence examination) after successful completion of all courses. The committee shall consist of a committee chair and two additional university lecturers with a *venia docendi* or equivalent qualification. The student's total performance (thesis and defence examination) will be assigned a comprehensive grade. Both thesis and defence examination must receive a passing grade for the student to complete the programme. The written evaluations stating the grounds for the thesis grade and the defence examination grade are included in calculating the comprehensive grade and are documented separately.

The comprehensive grade is calculated as follows:

- Master’s Thesis: 70%
- Defence examination (incl. presentation): 30%

(6) A comprehensive evaluation of the student’s performance on the entire programme shall be assigned. A comprehensive evaluation of “passed” means that each individual component of the programme was completed successfully. If individual components of the programme have not been successfully completed, the comprehensive evaluation is “failed”. A comprehensive evaluation of “passed with honours” is granted if the student has received no grade worse than a 2 (good) on all individual components, and if at least 50% of the individual components were graded with 1 (excellent).

## **§ 12 TRANSITIONAL PROVISIONS**

Students who have not completed the formerly effective Master’s curriculum in Forest Sciences (H 425) when this new Master’s curriculum comes into force are transferred to the currently valid one.

For students in the new Master’s curriculum already positively completed exams on courses from the old Master’s curriculum are acknowledged based on the equivalence list for the respective study programme.

## **§ 13 EFFECTIVE DATE**

This curriculum shall take effect on October 1<sup>st</sup>, 2017.



## **ANNEX A    TYPES OF COURSES**

The following types of courses are available:

### **Lecture (VO)**

Lectures are courses in which certain areas of a subject and the methods used in this area are imparted through didactic presentation.

### **Lab Course (UE)**

Lab courses are courses in which students are instructed in specific practical skills, based on theoretical knowledge.

### **Practical Course (PR)**

Practical courses are classes in which students deal with specific topics independently, based on previously acquired theoretical and practical knowledge.

### **Compulsory Internship Seminar (PP)**

The compulsory internship seminar is a class in which students deal independently with topics related to their internship placements, based on previously acquired theoretical and practical knowledge.

### **Seminar (SE)**

Seminars are courses in which students are required to work independently on the respective subject, deepen their knowledge of the topic and discuss relevant issues.

### **Field Trips (EX)**

Field trips are courses in which students have the opportunity to experience relevant fields of study in real-life practical application, to deepen their knowledge of the respective subject. Field trips can be taken to destinations both in Austria and abroad.

### **Master's Thesis Seminar (MA)**

Master's thesis seminars are seminars intended to provide students with academic support during the thesis writing process.

### **Project Course (PJ)**

Project courses are characterized by problem-based learning. Under instruction, students work (preferably in small groups) on case studies, applying appropriate scientific methods.

### ***Mixed-Type Courses:***

Mixed-type courses combine the characteristics of the courses named above (with the exception of project-type courses). Integration of different course-type elements improved the didactic value of these courses.

### **Lecture /Seminar (VS)**

### **Lecture/Lab (VU)**

### **Lecture/Field Trip (VX)**

### **Seminar/Field Trip (SX)**

### **Lab/Seminar (US)**

### **Lab/Field Trip (UX)**