



Curriculum of the Master degree programme

“Forest Sciences”

Code: 066 425

**University of Natural Resources
and Life Sciences, Vienna**

Center for International Relations

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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<p style="text-align: center;">Curriculum of the Master degree programme “Forest Sciences” At the University of Natural Resources and Life Sciences, Vienna</p>

As at October 1st, 2010

§ 1 Description of qualification

General aim of the degree programme

In accordance with the general BOKU model, the degree in Forest Sciences aims to provide graduates with knowledge in all areas of forestry work.

Concentrating on the principal of sustainability, graduates should be able to take responsibility and produce independent conceptual plans for all functions of the forest, such as the use, protection, welfare and recovery functions, and to conserve natural resources as much as possible.

Field of activity

The area of forestry comprises independent tasks and individual responsibility within and outside the forest, related to managing the entire forest ecosystem. Graduates competent in the subject area require a broad range of knowledge with practical experience, as well as the corresponding skills based on the synergy of ecological, economic, technical and sociological sciences.

Requirements

In relation to the demands of forestry, foresters should acquire an engineering education. The professional training is based on the integration of science, technology, socio-economics and law. The declared aim and integrated component of the degree course is the acquisition of analytical and interconnected thought-processes with the ability to solve problems within forestry, with its long production times and interactions with the landscape, and protection from natural disasters with their unpredictable effects on humans and the environment.

Specific educational aim

In addition to a complete basic knowledge of scientific methods, graduates of the Master degree in Forest Sciences also require specific knowledge of biological and technical production, including relevant subjects within economics and management, as well as at least one foreign language, for their various careers. Management, marketing, leadership, team skills, management ability, and mobility are educational aims with a view to the future. The Master degree serves to consolidate and complete the previous training in the relevant Bachelor degree programme (or equivalent). Graduates will be qualified for higher employment positions as well as advanced research opportunities.

Employment opportunities

Responsible management and planning of state-owned and private forests of various sizes. Total responsibility for decision-making committees within the forestry and environment authorities, agencies, associations and conservation organisations and the ability to work a leading management role and as an independent planner for alpine torrent catchment area and avalanche control agencies, co-operation and partial independent work 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 (ZT-Gesetz etc), as well as employment in the wood industry, wood trade or as a forestry journalist etc.

§ 2 Format of the Master degree programme

The duration of the Master degree is fixed at 4 semesters and is made up of 120 ECTS. Of the total ECTS, 81 ECTS (54 weekly semester hours, Semesterstunden, SST) are modules chosen from an approved list provided by the University, 2 ECTS (2 SST) represent a seminar for Master degree students (Master's Thesis Seminar) and 7 ECTS are free elective courses. (Master degree thesis = 30 ECTS).

§ 3 Admission to the Master degree

Graduates of the Bachelor degree in Forestry from the University of Natural Resources and Life Sciences, Vienna, will be admitted to the Master degree programme.

Graduates of other Bachelor degrees who wish to take the Master degree in Forest Sciences must be able to demonstrate a fundamental, equivalent knowledge of the central subjects taught within the Bachelor degree in Forestry.

§ 4 Academic qualification

In accordance with the classification of engineering degrees, graduates of the Master degree will be awarded the academic qualification "Graduate Engineer" (*Diplom-Ingenieur(in)*), shortened to "Dipl.-Ing." or "DI".

§ 5 Types of courses

Courses within this degree are:

Lectures (VO): Courses in which portions of an academic discipline and the methods involved are didactically presented.

Practical exercises (UE or PR): Practical exercises are courses which have a factual connection to the relevant lecture and serve to teach specific practical abilities and skills.

Proseminars (PS): Courses which assist in the preparation of scientific work, where participants are expected to give an oral presentation and/or provide written work preferably in one of the main languages of the scientific literature.

Seminars (SE): Courses which assist in the preparation of scientific work, where participants are expected to give an oral presentation and/or provide written work preferably in one of the main languages of the scientific literature.

Excursions (EX): Courses which contribute to the illustration and consolidation of the course material.

Combined courses: all courses listed above from (1) to (5) can also be combined. For such courses, the regulations given should be used for the relevant sections.

Interdisciplinary project studies (IP): Courses which assist in the preparation of scientific work including data collection and discussion, where participants are expected to carry out data collection and analysis and provide an oral presentation and/or written work.

Seminars for degree candidates (DS): Courses dedicated to the scientific discussion and presentation of the work required for the thesis/dissertation.

For courses (which are inherently exam-based) where attendance is compulsory, the course lecturer should make it known, before the beginning of the course, when attendance is required. (Scope of compulsory attendance: UE, SE, PS, IP, DS = 100%, VU, VP, VS, VSX etc. = 30-70%).

All courses can also be held outdoors or at companies, as required.

§ 6 Compulsory courses¹

Used abbreviations:

SST = weekly semester hours

ECTS = European Credit Transfer System points

WS = Winter Semester

SS = Summer Semester

The following courses with a total of 26 SST (38 ECTS) are compulsory (subdivided into three modules of 8 SST [12 ECTS] each and a seminar for Master degree students assigned 2 SST [2 ECTS]).

<i>Number</i>	<i>Type</i>	<i>Name</i>	<i>Semester</i>	<i>SST</i>	<i>ECTS</i>
Module Forest Ecosystems Analysis					
912.308	VS	Forest Ecosystem Dynamics I	WS	3.0	4.5
913.325	VO	Genetics and Biodiversity	WS	2.0	3.0
912.310	VS	Water, Nutrients and Pollutants in Forest	WS	3.0	4.5
Module Forest Resources Management					
916.303	VO	Routines in Forest Protection	SS	2.0	3.0
914.325	VS	Forest Condition Monitoring and Tools for Forest Condition Prognoses	WS	2.0	3.0
913.307	VY	Silviculture and Harvest Operations	SS	4.0	6.0
Module Management and Politics					
732.313	SE	Seminar Forest Policy	WS	3.0	4.5
733.313	VU	Forest Valuation	SS	2.0	3.0
733.304	VS	Economics of Multiple Use Forestry	SS	1.0	1.5
733.302	SE	Management of Diversification	SS	2.0	3.0

¹ A more detailed description of all courses, including objective of the course, course contents, name of lecturer, prerequisites, recommended reading, teaching methods, assessment methods and language of instruction, is found in the BOKUonline: <https://online.boku.ac.at/>

SE	Master Thesis Seminar ²	WS or SS	2.0	2.0
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§ 7 Elective Modules

Used abbreviations:

SST = weekly semester hours

ECTS = European Credit Transfer System points

WS = Winter Semester

SS = Summer Semester

At least five of the following modules have to be successfully completed. A module is complete when a student passes course examinations assigned at least 6 SST (9 ECTS). It is compulsory for these examination passes to include all those courses which are not marked with (*). Courses marked with (*) are elective.

<i>Number</i>	<i>Type</i>	<i>Name</i>	<i>Semester</i>	<i>SST</i>	<i>ECTS</i>
Module Forest Politics					
732.300	SE	Seminar on International Forest Politics	SS	2.0	3.0
732.301	SE	Analysis of Politics	SS	2.0	3.0
732.307	VS	Participation and Conflict Resolution	SS	2.0	3.0
Module Communication and Public Relations					
732.304	VO	Principles of Communication Science	SS	2.0	3.0
732.311	VU	Public Relations: Fundamental Rules and Conception	WS	2.0	3.0
732.312	VU	Media Policy	SS	2.0	3.0
Module Forest, Hunting and Environmental History					
732.305	VS	Environmental History	WS	2.0	3.0
732.314	VX	Forest History	WS	2.0	3.0
732.315	VX	History of Hunting	WS	2.0	3.0
Module Forestry Enterprise Management					
733.306	VS	Controlling in Forest Enterprises (x)	WS	3.0	4.5
733.310	VU	Operational Analysis	SS	3.0	4.5

² The Master Thesis Seminar is completed at the institute at which the thesis is supervised. Please contact your thesis supervisor for further information.

<i>Number</i>	<i>Type</i>	<i>Name</i>	<i>Semester</i>	<i>SST</i>	<i>ECTS</i>
Module Forest Economics					
733.303	VS	Forest Resource Economics	WS	3.0	4.5
735.327	VU	Market Research and Market Analysis	SS	2.0	3.0
735.328	SE	Marketing Strategies	WS	1.0	1.5
Module Logistics					
734.329	VS	Logistic Systems	SS	4.0	6.0
734.350	PS	Logistics in Forestry- and Timber Industry	SS	2.0	3.0
Module Forest Damage Diagnostics					
916.307	VU	Experimental Forest Entomology *	SS	2.0	3.0
916.311	VU	Analytical Methods in Patophysiology *	SS	2.0	3.0
916.312	VU	Advanced Forest Entomology & Pathology	SS	2.0	3.0
916.313	VU	Diagnosis of Biotic and Abiotic Damage of Forest	SS	2.0	3.0
916.318	VU	Experimental Phytopathology *	WS	2.0	3.0
Module Integrated Forest Protection					
912.303	VS	Human Impacts and Restoration of Forest Soils *	WS	2.0	3.0
916.305	VU	Biological and Biotechnical Control of Pests and Integrated Plant Protection *	WS	2.0	3.0
916.309	VU	Genetics Aspects in Entomology *	WS	2.0	3.0
916.310	VU	Ecological Measures in Forest Protection	WS	3.0	4.5
916.325	VX	Forest Protection in Afforestations and Protective Forests at High Altitudes *	SS	1.0	1.5
Module Forest Stand					
912.302	VS	Hydrological and Chemical Measuring and Monitoring Techniques in Forest Ecology *	SS	2.0	3.0
912.303	VS	Human Impacts and Restoration of Forest Soils *	WS	2.0	3.0
912.304	VU	Methods of Forest Site Classification and Forest Site Mapping	WS	2.0	3.0
912.305	VU	Forest Soil Biology *	WS	2.0	3.0
912.313	VS	Forests and Water	SS	2.0	3.0

<i>Number</i>	<i>Type</i>	<i>Name</i>	<i>Semester</i>	<i>SST</i>	<i>ECTS</i>
Module Dynamics					
912.301	VS	Biogeochemistry of Forest Ecosystems *	WS	2.0	3.0
912.306	UX	Excercises in Vegetation Dynamics *	SS	2.0	3.0
912.307	VS	Case Studies in Forest Ecosystem Dynamics *	SS	2.0	3.0
912.309	VS	Ecosystem Dynamics II	SS	4.0	6.0
Module Forest Condition Monitoring and Forest Growth					
914.300	VS	Advanced Sampling and Inventory Procedures	WS	2.0	3.0
914.301	VS	Long-term Forest Experiments and Forest Condition Forecasts	SS	2.0	3.0
914.307	SE	Inventory and Modelling in Forestry	SS	2.0	3.0
Module Genetic Diversity – an important element of biodiversity in the forest					
832.300	VO	Conservation Biology and Wildlife Diversity *	SS	1.0	1.5
913.304	VS	Advanced Forest Genetics with Special Emphasis on Conservation Biology	SS	2.0	3.0
913.308	VU	Genetics and Breeding of Forest Tree Species	SS	2.0	3.0
916.301	SE	Forest Genetics	WS	1.0	1.5
916.302	SE	Genetics and Biodiversity II *	SS	1.0	1.5
916.304	VS	Interaction of Pathogenic Organisms in the Ecosystem Forest: Genetics *	SS	1.0	1.5
916.306	VU	Methods in the Use of Genetic Markers and their Applications *	WS	2.0	3.0
Module Operation and Production Systems					
915.331	VS	Ergonomics and Job Design	SS	3.0	4.5
915.332	VS	Supply of Wood Fuels	SS	2.0	3.0
915.333	VS	Modelling of Harvesting Operations	SS	1.0	1.5
Module Forest Development Systems					
915.314	VS	Harvesting Systems (x)	SS	2.0	3.0
915.317	VS	Road Network Planning (x)	SS	4.0	6.0

<i>Number</i>	<i>Type</i>	<i>Name</i>	<i>Semester</i>	<i>SST</i>	<i>ECTS</i>
Module Wood					
891.300	VO	Wood Quality	SS	2.0	3.0
891.301	VS	Forest Based Industries and Products	SS	2.0	3.0
891.302	VU	Wood Technology	WS	2.0	3.0
Module Innovative Silvicultural Concepts					
913.316	VS	Silvicultural Strategies for Balancing Multiple Stakeholder Interests in Mountain Forests *	SS	2.0	3.0
913317	VZ	Multifunctional Management of Mountain Forests	SS	2.5	3.7
913318	VZ	Management of Deciduous Forests	SS	1.0	1.5
913319	VS	Silvicultural Strategies for Secondary Conifer Forests	SS	1.5	2.3
913320	VS	Experimental Designs in Silviculture	SS	1.0	1.5
Module Planning and Decision Making in Forest Management					
913.301	VS	Methods for Silvicultural Planning and Decision	WS	2.0	3.0
913.302	VS	Decision Support Systems	WS	2.0	3.0
915.315	VS	Systems Engineering in Harvesting	WS	2.0	3.0
913321	VU	System Analysis	WS	2.0	2.0
Module Wildlife Management					
832.301	VO	Wildlife Management Issues in Protected Areas in Central Europe *	WS	1.0	1.5
832.303	VO	Wildlife Ecology in Protective and in Selectively Harvested Forest Stands *	SS	1.0	1.5
832.304	VS	Specific Wildlife Ecology II (Habitat Suitability and Biotop Management) *	WS	3.0	4.5
832.305	VS	Specific Wildlife Ecology III: Integrated Management of Forest and Game Ungulates*	SS	3.0	4.5
832.306	VY	Wildlife Management in Mountain Areas *	SS	2.0	3.0
Module Mountain Risk Engineering					
816.336	VO	Integrated Flood Risk Management	WS	2.0	3.0
871.304	VS	Hazard and Risk Management	SS	3.0	4.5
871.332	VO	Disaster Management	WS	1.5	2.0
<i>Number</i>	<i>Type</i>	<i>Name</i>	<i>Semester</i>	<i>SST</i>	<i>ECTS</i>

Module Geo-Informatics

857.300	VU	Geo-Data Management	SS	2.0	3.0
857.304	VU	Remote Sensing and Image Processing *	SS	4.0	6.0
857.306	VU	Applied Photogrammetry *	WS	3.0	4.5
857.308	VU	Geo Data for GIS Application in Austria *	WS	2.0	3.0
857.315	VS	Land Administration *	WS	1.5	2.25

Module Interdisciplinary Projects

913.300	IP	Interdisciplinary Case Studies	SS	6.0	9.0
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§ 8 Thesis for the Master degree

- (1) The thesis for the Master degree constitutes an integral part of the Master degree in Forest Sciences.
- (2) The subject of the Master degree thesis must be chosen from a discipline relevant to the Master degree.
- (3) The university lecturer who suggests the subject chosen for the Master degree thesis is obliged to supervise that student.
- (4) The Master degree thesis has to be submitted to the Dean of the University.
- (5) The Master degree thesis is assigned 30 ECTS credits.

§ 9 Graduation requirements

The final examination for the Master degree is taken in two parts.

The first part of the final examination for the Master degree comprises the modules detailed in § 6 to § 7 above and is completed with the positive assessment of these courses. The second part of the final examination for the Master degree is an oral examination held before a committee and includes: the examination of the subject chosen for the Master degree thesis and the examination of one further subject which is considered to be the specialisation of the degree. This second subject is chosen by the Dean of the University, in discussion with the student.

Registration for the second part of the final examination requires the following:

- the successful completion of individual examinations, according to §6 to §7
- the successful completion of 7 weekly semester hours (SST) of free elective courses
- positive assessment of the Master degree thesis

§ 10 Transitional regulations

(1) Regular students, who are permitted to follow a certain degree programme according to the basics of the UniStG from 1.10.1999, may continue to follow this degree programme.

From the effective date of the new degree programmes for Bachelor and Master degrees, these students are permitted to complete their degree within the legal duration period, with the addition of one extra semester, according to §80 b (2) UniStG. If the degree is not completed within this period, then the student will be required to follow the Bachelor degree programme for the remainder of his/her studies (admittance to the Masters degree is only possible upon successful graduation from the Bachelor degree, see also §3).

(2) For regular students who began their degree, on the basis of the UniStG, before the effective date of the new degree programme and who are studying according to the degree regulations and §80 paragraph 2-4 UniStG, there are no changes with respect to the transitional regulations.

(3) For students who are continuing their degree according to the previous degree programme, there is a regulation (equivalence list) from the Degree Commission (Studienkommission) which lists all previous modules that are equivalent to the modules of the new Master degree programme. For students who decide to follow the Master degree programme, successfully completed exams for the old degree programme will be accepted according to the equivalence list of the new Master degree programme.