Hochschule Geisenheim University

Universität für Bodenkultur Wien

University of Natural Resources and Life Sciences, Vienna

Curriculum

for the Master Programme in

Viticulture, Oenology and Wine Economics

Programme Classification No. 066 498

Effective Date: October 1st, 2020

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.

CONTENTS

Contact

Center for International Relations
University of Natural Resources and Life Sciences, Vienna
Peter Jordan Str. 82a, 1190 Vienna
Austria, Europe
Phone: (+43-1)-47654-2600
Fax: (+43-1)-47654-2606
e-mail: international@boku.ac.at
http://www.boku.ac.at/international.html

Published and printed with support of ERASMUS–OM-funds *Issued in October, 2020*

Curriculum of the Master Degree Programme
"Viticulture, Oenology and Wine Economics"
At the University of Natural Resources and Life Sciences, Vienna

As at October 1st, 2020

§ 1 QUALIFICATION PROFILE

The Master programme in Viticulture, Oenology and Wine Economics 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 study programme is established as a joint degree programme based on an agreement between the University of Natural Resources and Life Sciences, Vienna and Geisenheim University (§ 51 para. 2 clause 27 University Law 2002 Federal Law Gazette 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

The vocationally-oriented Master study programme Viticulture, Oenology and Wine Economics imparts application-related knowledge and skills in the three core areas viticulture, oenology and wine economics. The study programme is shaped to provide quality-oriented, economic and sustainable grapevine cultivation, grape processing and wine marketing. Graduates are equipped with the ability to solve subject-specific problems based on a profound professional competence in the fields of engineering and economic sciences.

1b) Professional Qualifications

Based on their scientific education and training, graduates are active in the following fields:

- Operations and business managers of wineries, wine cellars and wine-trading companies
- Consulting firms
- Quality management and testing laboratories
- Education and research institutions
- Academic career at universities
- Higher service in public administration

Graduates possess the qualifications of oenologists according to the definition of the International Organisation of Vine and Wine (OIV). Graduates of the Master study programme Viticulture, Oenology and Wine Economics have acquired the competences necessary to execute the four defined professions defined in the resolutions of the OIV. They are enabled to execute all tasks related to the following phases (resolution ECO 11-492):

- Grape production (phase I)
- Grape processing and wine making (phase II)
- Production monitoring (phase III)
- Marketing and adapting the products to the market requirements (phase IV)

§ 2 ADMISSION REQUIREMENTS

Graduates of the following Bachelor programmes offered by BOKU University of Natural Resources and Life Sciences are eligible for admission with no further requirements:

- Agricultural Sciences with compulsory courses of the specialisation Oenology (33 ECTS credits) and practical professional studies in Viticulture and Oenology (3 ECTS credits)
- Viticulture, Oenology and Wine Economics

Graduates of the following Bachelor programmes offered by Geisenheim University are eligible for admission with no further requirements:

- Viticulture & Oenology
- International Wine Economics

For graduates of Bachelor programmes completed at other universities, mastery of the following learning outcomes with a total of 60 ECTS credits - including a minimum of 30 ECTS credits in the fields of viticulture and oenology - is required for admission:

- Knowledge in the natural sciences:
  Physics, chemistry, statistics, botany, microbiology, basics in soil science and ecology
- Knowledge in viticulture and agricultural sciences:
  Agricultural engineering, crop production, plant protection, viticulture and practical professional oenology studies
- Knowledge in enology:
  Cellar techniques and grape processing
- Knowledge in agricultural economy:
  Farm business management and wine market theories

The selection committee of the international Master programme Viticulture, Oenology and Wine Economics evaluates the applicants' proposals based on § 2 and provides recommendations. These recommendations are then passed on to the study departments at which the student will complete the first semester. There the final decision on admission is made.

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.

Fulfilment of the content-related admission requirements is examined by the joint selection committee on submission of the application of a graduate applicant. The final decision is made by the rectorate of the BOKU on conclusion of the examination of the formal admission requirements by the study services. The study programme is not subject to admissions restrictions. The selection of students is effected in compliance with transparent award criteria (nomination of the applicants). Initial admission for the Joint Degree Programme is at BOKU.
Admission to BOKU is accepted by the HGU.

§ 3 PROGRAMME STRUCTURE

(1) 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. The programme is divided into

Compulsory courses:	54 ECTS credits
Master's Thesis:	30 ECTS credits
Elective courses:	24 ECTS credits
Free electives:	12 ECTS credits
Foreign language-taught courses*):	10 ECTS credits

*) see section 3

(2) The study programme is established as a joint degree programme based on an agreement between the University of Natural Resources and Life Sciences, Vienna and Geisenheim University. Students spend at least one semester at the University of Natural Resources and Life Sciences, Vienna and at least one semester at Geisenheim University. The complete compulsory courses, elective courses and/or free elective courses to an extent of at least 30 ECTS points at each of the two universities. It is optional to complete the remaining 30 ECTS points for compulsory courses, electives and/or free elective courses at a third university (for example, in the framework of a semester abroad). The Master's Thesis is jointly supervised by supervisors from the University of Natural Resources and Life Sciences, Vienna and Geisenheim University.

(3) 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. Furthermore a Master's Thesis compiled in English is given credit for. 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.)

(4) Programme Structure:

Compulsory Courses (54 ECTS credits)
9 modules consisting of 6 ECTS credits each

Elective Courses (24 ECTS credits)
4 modules consisting of 6 ECTS credits each

Free Electives (12 ECTS credits)
From all courses offered at recognised universities in Austria and abroad

Master's Thesis (30 ECTS credits)
jointly supervised by supervisors from the University of Natural Resources and Life Sciences, Vienna and Geisenheim University

(5) The courses of each module are held in the same semester (winter or summer term) in one academic year.

(6) 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. 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
WS = Winter Semester
SS = Summer Semester

Notes:
[1]) In English
[2]) In English and German

*) Courses are offered by the University of Natural Resources and Life Sciences, Vienna
**) Courses are offered by Geisenheim University

The Master programme consists of 9 compulsory modules with 6 ECTS credits each (total worth 54 ECTS credits).

Course Number	Master's Thesis Seminar: Scientific Writing and Presentation in Viniculture	Course Type	Semester	ECTS Credits
	Course Title			
958334	**Viticultural and pomology journal club[1] *)**	**VS**	**WS**	**3.0**
	Presentation of scientific works - hands on[1] **)	**VS**	**WS**	**3.0**

Learning Outcomes:

The students

- can formulate scientific hypotheses
- know the approach to test scientific hypotheses
- have access and experience to work with scientific publications
- can evaluate scientific publications and discuss them in groups
- can present and interpret experimental results in a scientific way
- can summarize and present scientific work

Course Number	Grapevine Yield Physiology (WS)	Course Type	Sem ester	ECTS Credits
	Course Title			
958348	**Biology and physiology of the grapevine[1] *)**	VS	WS	3.0
958344	**Biology and physiology of the grapevine - exercises[1] *)**	UE	WS	3.0

Learning Outcomes:

The students

- know genetically divergent vine species and varieties and their specific adaptation mechanisms to stress
- have knowledge on the anatomy and morphology of grapevines and understand the growth cycle and its physiological background
- understand the reaction mechanisms of grapevines and their physiology on environmental factors
- have knowledge on the physiology of plant hormones and their effect on growth and grapevine yield
- learn the applied aspects of yield physiology based on classic and current research activities and literature
- have knowledge on the physiological, molecular-genetic and biochemical aspects of berry ripening
- have knowledge on the grapevine's water supply, nutrient uptake, translocation and deposition in the berry
- understand the carbohydrate translocation in the grapevine under the influence of environmental factors and cultivation management

Course Number	Business Administration and Marketing (WS)	Course Type	Sem ester	ECTS Credits
	Course Title			
733335	**Wine business management *)**	VU	WS	3.0
735334	**International wine marketing *)**	VO	WS	3.0

Learning Outcomes:

The students

- understand the structural and production-related requirements for business administration in viticulture
- can apply business methods for decision making processes in the winesector
- understand the problems and mechanisms of international winetrade
- know options for the marketing mix for the export-oriented winebusiness

Course Number	Quality Managem ent (WS)	Course Type	Sem ester	ECTS Credits
	Course Title			
735335	**Quality and risk management in the wine industry *)**	VO	WS	3.0
754358	**Applied quality management in winemaking and in the testing laboratory *)**	VU	WS	3.0

Learning Outcomes:

The students

- know norms, regulations and legal frameworks of quality and risk management

- can apply selected quality and risk management tools and are familiar with basic principles of crisis management, the HACCP system and traceability
- can plan, perform and evaluate audits
- can illustrate processes, provide instructions and inspection protocols, are familiar with the requirements for inspection equipment and data integrity and data security
- are familiar with basic principles of quality assurance in laboratories, get to know simple strategies for data analysis and can evaluate the quality of results of analyses
- have an overview of the requirements regarding management systems and technical competence of accredited test laboratories

Course Number	**Wine Economic Policy and Wine law (SS)**	**Course Type**	**Sem ester**	**ECTS Credits**
	Course Title			
731390	**Economics and economic policy of the international wine sector *)**	**VO**	**SS**	**3.0**
736318	**National and international winelaw *)**	**VO**	**SS**	**3.0**

Learning Outcomes:

The students

- know the basic characteristics of national and international wine markets
- understand the decision making processes in national and European wine business policies
- know the legal framework conditions in the wine business
- can distinguish between legally permissible and impermissible methods of production, wine treatment methods and wine denominations

OR:

Course Number	**Selected Wine Markets from Around the World (WS)**	**Course Type**	**Sem ester**	**ECTS Credits**
	Course Title			
	Selected wine markets from around the world[2] **)	**VS/SE/EX**	**WS**	**6.0**

Learning Outcomes:

The students

- can describe the most important wine producers and consuming countries
- can define selected wine markets based on criteria
- can theoretically and empirically analyse the wine market developments
- can compare frame conditions in terms of wine law s and analyse their economic effect

Course Number	Risk Analysis in Viticulture (SS)	Course Type	Sem ester	ECTS Credits
	Course Title			
958345	**Risk analysis in viticulture *)**	**VS**	**SS**	**3.0**
958346	**Risk analysis in viticulture - exercise and seminar *)**	**US**	**SS**	**3.0**

Learning Outcomes:

The students

- have knowedge on the influence of climatic factors on the physiological processes of the grapevine as w ell as storage quality; they can assess the potential influence of climate change on viticulture
- can diagnose and assess abiotic and biotic stressors in vineyards
- know important, modern invasive and non-invasive ecophysiological and climatological methods of measurement and can apply these independently on the crop
- have a broad know ledge of winegrowing decision support-, culture regulation-, as w ell as stock assessment and quality rating systems and their use

OR:

Course Number	Process Strategies in Viticulture (SS)	Course Type	Sem ester	ECTS Credits
	Course Title			
	Process Strategies in Viticulture **)	**VU**	**SS**	**6.0**

Learning Outcomes:

The students

- have knowledge on the water supply of soil and plant
- have knowledge on specific cropping systems, methods of stock diagnostics, precision
- have knowledge on management, site assessment and terroir

Course Number	Grapevine Nutrition and Stress Management (SS)	Course Type	Sem ester	ECTS Credits
	Course Title			
951334	**Vine nutrition[1] *)**	**VO**	**SS**	**1.5**
958339	**Physiological diseases of grapevine[1] *)**	**VU**	**SS**	**1.5**
958340	**Plant based aspects of abiotic stress responses in grapevine[1] *)**	**VS**	**SS**	**3.0**

Learning Outcomes:

The students

- have knowledge on the nutrient supply of the grapevine and on the physiological transformation of macro and micro nutrients in the plant
- understand and analyse the connections of over- and undersupply on quality-determining parameters of the grapevine
- determine and recognize symptoms of nutrient imbalance in grapevines
- recognize the connections of physiological diseases on grapevines and analyse and assess the effects of management measures for viticulture
- recognize and understand the mechanisms of action of abiotic stressors on the physiological reactions of the grapevine and differentiate the effects on generative and vegetative plant parts
- compile and assess management measures and compare various systems of conventional and organic cultivation.

OR:

Course Number	Ecophysiology and Special Nutritional Issues of Grapevines (WS)	Course Type	Sem ester	ECTS Credits
	Course Title			
	Ecophysiology and Special Nutritional Issues of Grapevines **)	**VO/SE/UE**	**WS**	**6.0**

Learning Outcomes:

The students

- have theoretical know ledge on organic and yield-physiological aspects of perennial cultures
- have knowledge on special aspects of grapevine nutrition
- know research methods of ecophysiology and yield-physiology of perennial species
- know the basics of stress physiology
- have knowledge on the source-sink relationships

Course Number	Specific Oenology (WS)	Course Type	Sem ester	ECTS Credits
	Course Title			
	Specific Oenology **)	**VO/US**	**WS**	**6.0**

Learning Outcomes:

The students

- understand the complex relationships of all winemaking processes
- can apply specific winemaking procedures in a target-oriented manner
- can describe wine using special wine terminology and conduct a descriptive analysis of wines
- can recognize deficiencies, blemishes and diseases of wines

Course Number	Advanced Oenology (WS)	Course Type	Sem ester	ECTS Credits
	Course Title			
	Advanced Oenology[1] **)	**VS**	**WS**	**6.0**

Learning Outcomes:

Students know about

- the ongoing research activities in winemaking, oenology and microbiology
- their implementation in small, medium and large scale wine production
- current research topics in Enology; Wine making technology; Microbiology

§ 5 ELECTIVE COURSES

Elective courses worth a total of 24 ECTS credits are required to complete the Master programme. From the following modules, 4 modules consisting of 6 ECTS points each must be completed successfully:

Course Number	Molecular Breeding and Bioengineering in Viniculture (WS)	Course Type	Sem ester	ECTS Credits
	Course Title			
958347	**Genetic control of secondary metabolites in perennial crop plants[1] *)**	**VS**	**WS**	**3.0**
958341	**Traditional and molecular aspects of grapevine breeding and selection[1] *)**	**VS**	**WS**	**3.0**

Learning Outcomes:

The students

- gain knowledge on traditional and modern aspects of grapevine breeding and understand the basic mechanisms of primary and secondary metabolisms in perennial plants
- transfer knowledge of traditional breeding onto new breeding forms (such as gen transfer, marker analysis and molecular selection) and get to know these methods
- gain basic knowledge on the genome, transcriptome and metabolome of the grapevine
- gain knowledge on the genetic control of quality-relevant genes in the grape berry
- gain knowledge on bioengineering processes and their use for the grapevine and can assess these processes critically
- can interpret latest research results
- can quantify quality-relevant characteristics and use these in grapevine production

OR:

Course Number	Bioengineering and Genetic Engineering in Viniculture and Enology	Course Type	Sem ester	ECTS Credits
	Course Title			
	Bioengineering and Genetic Engineering in Viniculture and Oenology **)	**VS/PJ/UE**	**WS**	**6.0**

Learning Outcomes:

The students

- have knowledge on the scientific foundation on the characterization and construction of genetically modified micro-organisms and plants in comparison to classic breeding techniques
- have insight into the safe handling of genetically modified organisms, enzymes and agents from genetically modified organisms, the legal situation and the changes in the hitherto existing production procedures and final products
- have knowledge of the importance and application technology of enzymes in the food industry

Course Number	Wine Chemistry, Wine Analysis and Quality Assurance in Certified Wine Laboratories (WS)	Course Type	Sem ester	ECTS Credits
	Course Title			
752341	Quality control and analysis in winemaking *)	VO	WS	3.0
752342	Quality control and analysis in winemaking - practices *)	VU	WS	3.0

Learning Outcomes:

The students

- can describe the chemical composition and the nutrition-physiological importance of wine
- can explain the connections between chemical composition, production methods and quality of wine
- can assess the suitability of various physic-chemical, instrumental and sensory methods of analyses for wine
- can introduce methods of quality management at a wine-chemical laboratory
- can assess wine based on analytical parameters regarding quality, quality classification and marketability and correctly apply wine-chemical analyses by means of standard operation procedures

Course Number	Viticulture-Landscape-Nature Conservation-Tourism (SS)	Course Type	Sem ester	ECTS Credits
	Course Title			
853327	Nature conservation and cultural significance of vineyard landscapes *)	VS	SS	4.5
853328	Nature conservation and cultural significance of vineyard landscapes *)	EX	SS	1.5

Learning Outcomes:

The students

- know the special responsibility of viticulture for specific, rare and / or protected species under the European Law (animals and plants) as w ell as habitat types.
- understand the responsibility and possibilities of winegrowing businesses in the context of nature conservation and cultural landscapes.
- have a broad know ledge on wine growing-related recreation and tourism research and understand the importance of the cooperation with the tourist sector.
- know the importance of nature conservation with regards to wine-producing landscapes, habitat types and plant and animal species.
- know the legal foundation (national, international) for the protection of species and habitats and can differentiate between protection concepts and measuring concepts

Course Number	Phytomedicine in Viticulture (WS)	Course Type	Sem ester	ECTS Credits
	Course Title			
953329	**Chemistry and application of pesticides *)**	**VX**	**WS**	**3.0**
953334	**Plant pathology in viticulture *)**	**VU**	**WS**	**3.0**

Learning Outcomes:

The students

- know and understand the most important processes of grapevine pathogenesis
- know and understand the most important processes for the development of damage to plants due to animal pests
- know about the plant-based defense mechanisms
- know the biology of the essential diseases and pests in national and international vineyards
- know the basics of propagation and spread of pest populations
- can estimate and assess qualitative and quantitative damage by pathogenic organisms and animal pests
- have the professional know ledge to fight diseases and animal pests in conventional, integrated and organic wine growing
- have special know ledge on prognosis modelling in fruit and wine growing
- know the guidelines and legal requirements of integrated plant protection
- know integrated production systems for fruit and wine growing and their stock monitoring with regards to the occurrence of pests and beneficial animals

OR:

Course Number	Phytomedicine in Viticulture (WS)	Course Type	Sem ester	ECTS Credits
	Course Title			
	Phytomedicine in viticulture **)	**VS/PJ/UE**	**WS**	**6.0**

Learning Outcomes:

The students

- know the most important processes that play a role in the colonization and infection of grapevines by phyto-pathogenes and herbivore insects respectively
- are in the position to assess the connection between the development of resistances of the grapevine against pests as foundation for specific disease control measures
- know specific diseases and pests of European and non-European winegrowing areas
- have special know ledge on prognosis models
- can carry out phytomedical laboratory investigation for the diagnosis and the characterization of grapevine pests

Course Number	Viniculture Around the World and International Wines (SS)	Course Type	Semester	ECTS Credits
	Course Title			
958342	**World wines and viticulture[1] *)**	**VS**	**SS**	**3.0**
958343	**Field trip - viticulture and oenology *)**	**EX**	**SS**	**3.0**

Learning Outcomes:

The students

- have insights in national and international winegrowing areas
- understand the structural and production-related differences in selected wineries
- know the geographic and climatic conditions in selected wine producing countries
- can assess the effect of political structures and of marketing strategies on wine economy
- know regional and country-specific wines and their characteristics

Course Number	Biometry and Test Planning (WS)	Course Type	Sem ester	ECTS Credits
	Course Title			
851301	**Experimental design *)**	**VO**	**WS**	**3.0**
851302	**Experimental design - lab *)**	**UE**	**WS**	**3.0**

Learning Outcomes:

The students

- can develop a test planning
- can critically consider and assess experimental designs
- receive an overview on the methods of bioinformatics and the difficulties that arise from modern methods of analysis
- can select suitable methods for the analysis of experimental data
- can utilize modern statistics software

Course Number	Soil & Terroir in Viniculture (SS) The module is held by instructors at BOKU and HSGM	Course Type	Sem ester	ECTS Credits
	Course Title			
911337	**Soil and terroir in viticulture and oenology *) **)**	**VU**	**SS**	**2.0**
911341	**Biogeochemistry of soils[1] *)**	**VU**	**SS**	**3.0**
911338	**Soil and terroir in viticulture and oenology *)**	**EX**	**SS**	**1.0**

Learning Outcomes:

The students

- have a basic know ledge on the term terroir and its importance both for viniculture and oenology
- have theoretical know ledge and partial practical mastery of essential methods related to site, field soil and soil analysis in order to record and describe terroirs
- can differentiate the site characteristics with regards to landscape, climate and soil and assess the interrelations with terroir effects

Course Number	Organic Viticulture (SS)	Course Type	Sem ester	ECTS Credits
	Course Title			
	Organic viticulture **)	**VO/SX**	**SS**	**6.0**

Learning Outcomes:

The students

- know the cultivation differences of wine cultivation systems, international differences and developments as w ell as their history
- can legally classify cultivation systems
- possess special in-depth know ledge on cultivation requirements of organic viniculture (cultivation technique, soil management and fertilization, phytomedicine)
- know the guidelines on processing, declaration and monitoring of organically produced wines
- are enabled to assess organic viniculture from an economic point of view

Course Number	Special Grapevine Breeding, Grapevine Propagation and Cultivar Know ledge (SS)	Course Type	Sem ester	ECTS Credits
	Course Title			
	Special Grapevine Breeding, Grapevine Propagation and Cultivar Know ledge **)	**VU**	**SS**	**6.0**

Learning Outcomes:

The students

- have in-depth know ledge on grapevine breeding methods
- have knowledge on resistance breeding for scion and rootstock varieties
- know strategies of clone selection
- know the importance of genetic resources and possibilities of their conservation
- have legal know ledge on plant variety and seedling rights
- have in-depth know ledge of refining and propagation methods
- have knowledge on important international grape varieties, their appearance, characteristics, site requirements and spread

Course Number	Wine Sales and Logistics (WS)	Course Type	Sem ester	ECTS Credits
	Course Title			
	Wine Sales and Logistics[2] **)	**VO/SE/EX**	**WS**	**6.0**

Learning Outcomes:

The students

- can explain and develop alternative marketing and logistics strategies and concepts
- can conduct distribution controlling
- can analyse trade patterns
- can execute sales and logistics for wine

Course Number	Special Beverage Analysis	Course Type	Sem ester	ECTS Credits
	Course Title			
	Special Beverage Analysis **)	**VU**	**SS**	**6.0**

Learning Outcomes:

The students

- have knowledge on the analytics of primary and secondary ingredients of beverages
- know traditional and modern analytical methods and can assess them

Course Number	Applied Wine Market Research (SS)	Course Type	Sem ester	ECTS Credits
	Course Title			
	Applied Wine Market Research **)	**VU**	**SS**	**6.0**

Learning Outcomes:

The students

- can introduce empirical questions on wine markets in econometrical models
- can develop and apply empirical survey approaches for concrete questions
- can analyse and interpret collected data using econometrical and / or other statistical methods
- can analyse results of qualitative and quantitative research and derive action recommendations for the beverage industry from it

Course Number	Strategic Management in the Wine Industry (WS)	Course Type	Sem ester	ECTS Credits
	Course Title			
	Strategic Management in the Wine Industry **)	**US**	**WS**	**6.0**

Learning Outcomes:

The students

- can utilize methods for the analysis of the economic environment within the field of wine industry
- can use strategic instruments for corporate development
- know the methods for strategic positioning of a business in the field of viniculture
- can develop products and assortments in viniculture
- can develop a business plan and know the methods of controlling in a viniculture enterprise

Course Number	IT Systems in the Wine Industry (SS)	Course Type	Sem ester	ECTS Credits
	Course Title			
	IT Systems in the Wine Industry **)	**VU**	**SS**	**6.0**

Learning Outcomes:

The students

- can identify the providers and solutions of systems for viniculture currently on the market
- can distinguish the various IT systems for the wine industry
- can assess the intended purpose-dependent criteria in selection procedures of a suitable IT system
- can perform the development of product requirement specifications
- can clean data
- can estimate the migration and implementation processes regarding activities and expenditures
- can estimate future requirements related to IT systems in viniculture
- can perform basic bookings in selected IT systems and explain the related background

§ 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.

§ 7 MASTER'S THESIS

A Master's Thesis is a paper on a scientific topic, to be written as part of a Master degree programme (for exceptions please see the By Laws of the University of Natural Resources and Life Sciences, Vienna, part III- Teaching, § 30[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.

§ 8 COMPLETION OF THE MASTER PROGRAMME

The Master programme in Viticulture, Oenology and Wine Economics has been completed when the student has passed all required courses and received a positive grade on the Master's Thesis and defence examination.

§ 9 ACADEMIC DEGREE

Graduates of the Master programme in Viticulture, Oenology and Wine Economics are awarded the academic title Master of Science, abbreviated as MSc or M.Sc..

The academic title MSc (M.Sc), if used, shall follow the bearer's name (§ 88 [2] UG 2002 BGBl. I no. 81/2009).

§ 10 EXAMINATION REGULATIONS

(1) The Master programme in Viticulture, Oenology and Wine Economics has been completed successfully when the following requirements have been met:

- positive completion of compulsory courses worth a total of 54 ECTS credits (§ 4)
- positive completion of elective courses worth a total of 24 ECTS credits (§ 5)
- positive completion of free electives worth a total of 12 ECTS credits (§ 6)
- a positive grade on the Master's Thesis 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) Student evaluation in modules: Module evaluation is based on the grades given the students in the individual courses that make up the module. The total evaluation for the module is calculated as the average of the grades of all module courses, weighted by ECTS credits. Average values of .5 or lower are rounded to the better (numerically lower) grade; values of over .5 are rounded to the worse (numerically higher) grade. If deemed necessary, the Dean of Students may require a module examination at his/her discretion.

(4) 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.

(5) The Master's Thesis has to be composed in one of the three core areas viniculture, oenology or wine economics. It is jointly supervised by one supervisor at the University of Natural Resources and Life Sciences, Vienna and one supervisor at Geisenheim University. The student has to announce the Master's Thesis topic and the two supervisors at the University of Natural Resources and Life Sciences, Vienna and Geisenheim University in writing and before commencing.

(6) 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 (one from the University of Natural Resources and Life Sciences, Vienna and one from Geisenheim University) 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%

(7) 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).

§ 11 TRANSITIONAL PROVISIONS

Students who have not completed the formerly effective Master's curriculum in Viticulture, Oenology and Wine Economics 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.

§ 12 EFFECTIVE DATE

This curriculum shall take effect on October, 1st 2020.

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.

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.

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.

Lecture/Seminar (VS)
Lecture/Lab (VU)
Lecture/Field Trip (VX)
Seminar/Field Trip (SX)
Lab/Seminar (US)
Lab/Field Trip (UX)

ANNEX B MODULE PLAN