



Universität für Bodenkultur Wien
BOKU University

Curriculum

for the Master's Programme in

International Master in Horticultural Sciences

Programme classification no. 066 454

Effective date October 1st, 2026

TABLE OF CONTENTS

PREAMBLE	3
§ 1 QUALIFICATION PROFILE	3
§ 2 ADMISSION REQUIREMENTS	4
§ 3 PROGRAMME STRUCTURE	5
§ 4 COMPULSORY COURSES	7
§ 5 ELECTIVE COURSES	7
§ 6 FREE ELECTIVES	9
§ 7 MASTER’S THESIS	9
§ 8 COMPLETION OF THE MASTER’S PROGRAMME	9
§ 9 ACADEMIC DEGREE	9
§ 10 EXAMINATION REGULATIONS	10
§ 11 TRANSITIONAL PROVISIONS	11
§ 12 EFFECTIVE DATE	11
ANNEX A TYPES OF COURSES.....	12

PREAMBLE

The international master's programme “**International Master in Horticultural Sciences**” (**IMaHS**) is conducted and offered by five European universities in collaboration – each providing high quality specialization in an individual specific field:

- BOKU University (BOKU; Universität für Bodenkultur Wien, Austria),
- Alma Mater Studiorum - University of Bologna (UNIBO; Università di Bologna, Italy)
- Free University of Bozen-Bolzano (UNIBZ; Freie Universität Bozen, Italy).
- Humboldt University of Berlin (HUB; Humboldt-Universität zu Berlin, Germany),
- Hungarian University of Agriculture and Life Sciences (MATE; Magyar Agrár- és Élettudományi Egyetem, Hungary).

§ 1 QUALIFICATION PROFILE

The master's programme “International Master in Horticultural Sciences” (IMaHS) is a joint 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 programme will have gained technological, socio-economic and life-sciences expertise and competence focused on cultivation, control, management of highly value creating and minor horticultural crops. This expertise will enable them to develop inter-disciplinary solutions in the contexts of research, horticultural entrepreneurship and public domain. It will enable them to work for an increase of life standard and quality of life both in developing and developed countries. As well, the innovation and requirements for permanent improvement of processes, products and technologies are addressed.

Graduates will have gained the ability to understand, apply and evaluate actual techniques in a) biochemistry and molecular physiology of plants in horticultural biotechnology, b) environmental and ecological aspects of horticulture, c) design of experiments for studying environmental, technological and human impacts on the quantity and quality of horticultural crops, d) methodology of analyzing of horticultural plant-propagation, production systems and postharvest-management.

They will have developed the highly skilled ability to understand and reproduce scientific research in horticultural crop production, management and applications as well as knowledge-transfer in the fields of horticulture - from designing a research plan, data analysis up to presentation of results and discussion to develop competence for future professional and scientific activities.

1b) Professional qualifications

The objective is to train and educate students on a high level in research-based knowledge and academic skills. All levels from plant-stands to genes are covered. Fields of expertise from bio-

technology to sustainability and organic strategies are represented. The focus for students will be on theoretical studying to gain and improve academic qualifications and skills.

Graduates of the programme are qualified to start and develop future career profiles in: research and development (R&D); in the horticultural and related business and industries; horticultural nursery management; training, guidance and teaching; public administration and agricultural chambers as well as green technologies.

§ 2 ADMISSION REQUIREMENTS

Graduates of the following bachelor's programmes offered by BOKU University are eligible for admission with no further requirements on:

1. BSc Agricultural Sciences
2. BSc Environment and Bio-Resources Management
3. BSc Landscape Architecture and Landscape Planning

Graduates of agricultural, horticultural and biological bachelor's programmes offered by the partner universities within the consortium are also eligible for admission with no further requirements.

For graduates of other bachelor's programmes, mastery of the following learning outcomes is required for admission:

- Horticultural and agricultural plant-production (minimum 12 ECTS credits)
- Plant-health-management (plant protection) (minimum 6 ECTS credits)
- Horticultural/agricultural management, business and social sciences (minimum 6 ECTS credits)
- Life sciences (minimum 12 ECTS credits)
- Science of human nutrition or landscape or garden design (minimum 3 ECTS credits)

Preferably graduates from programmes such as "Horticulture", "Agriculture / Crop production", "Landscaping", "Biology / Botany" or "Human nutrition" are regarded qualified for the master's programme "International Master in Horticultural Sciences".

Admission criteria also comprise English Language Skills at the Level B2-C1 of the Common European Framework of References for Languages (CEFR).

The following documents are accepted:

a. A language certificate that is not older than three years at the time of application and which results in the English language level B2-C1 according to the Common European Framework of Reference for Languages (CEFR). In any case, suitable language certificates are:

- TOEFL iBT (incl. Home Edition) – minimum score 95 points
- IELTS Academic 7.0 (paper/computer based, at a test centre)
- Cambridge Advanced English – minimum score 180 points/Grade C
- Cambridge Proficiency English
- TOEIC – minimum score 885 points

b. Completion of the general university entrance qualification (Reifeprüfung) in English as a subject (written or oral) at a school in Austria or Germany.

c. Completion of a bachelor's degree programme of at least three years or a master's degree programme of at least two years, which was taught entirely in English, in an EU/EEA Member

State, Australia, Canada, New Zealand, Singapore, South Africa, Switzerland, the United Kingdom of Great Britain and Northern Ireland or the United States.

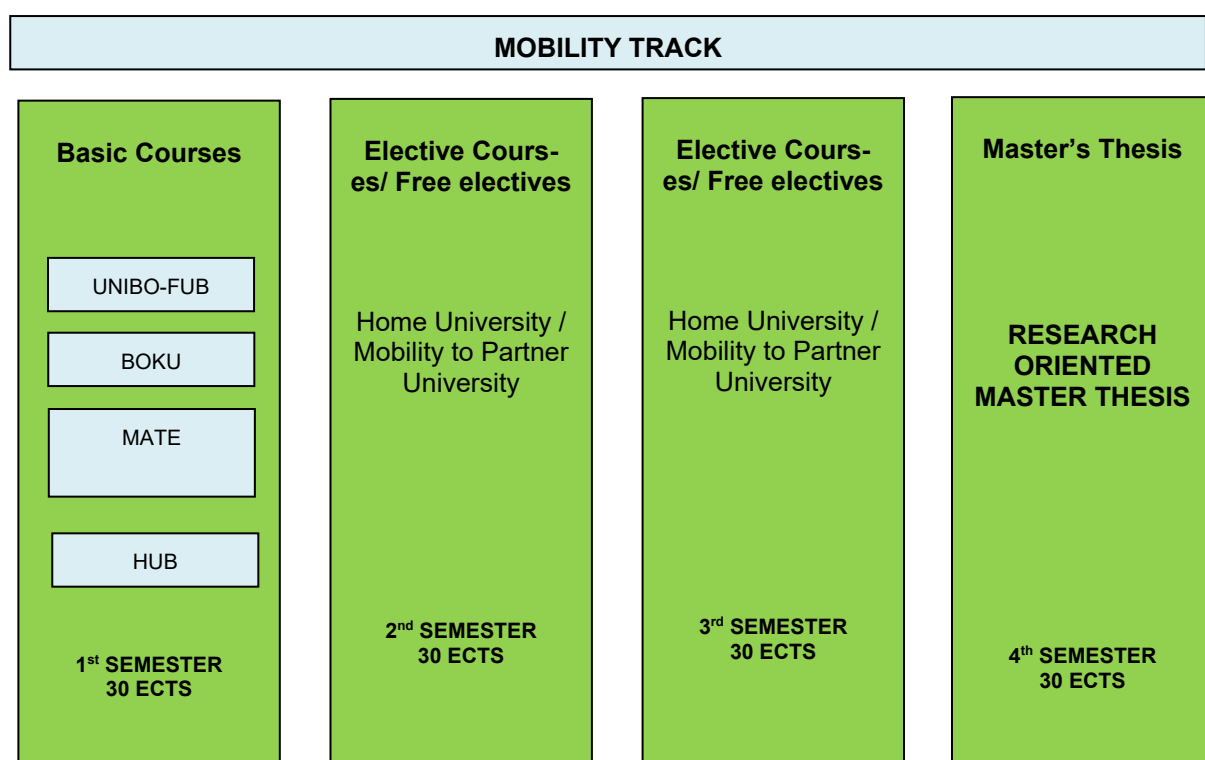
An official confirmation that the entire course of study has been completed in English must be submitted with the stamp and signature of the educational institution. Proof of English-language courses, exchange semesters or study visits to an English-speaking country is not sufficient.

Admission is granted to prospective students who meet the admission criteria and admission at one of the Parties is automatically accepted at all other parties.

§ 3 PROGRAMME STRUCTURE

Registration for the first semester of the master’s programme “International Master in Horticultural Sciences“ can be done at any of the partner universities:

- BOKU University (BOKU)
- University of Bologna (UNIBO) / Free University of Bozen-Bolzano (FUB)
- Humboldt University Berlin (HUB)
- Hungarian University of Agriculture and Life Sciences (MATE)



Each student has to study at least at 2 different universities, each semester comprising at least 30 ECTS credits.

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 the duration of four semesters (a total of 3,000 60-minute credit hours). The programme is conducted entirely in English language.

Based upon the specialized topic chosen by the student, the amount of compulsory (for partners: basic) and elective (for partners: pool) courses can differ between the University partners. The total amount of compulsory, elective and free elective courses at BOKU University are as following:

Compulsory courses:	30 ECTS credits (including Master's thesis seminar of at least 2 ECTS)
Master's thesis:	30 ECTS credits (not including the Master's thesis seminar)
Elective courses:	42 ECTS credits
Free electives:	18 ECTS credits

The first semester of the master's programme "International Master in Horticultural Sciences" comprises compulsory courses, which aim to provide the essential knowledge needed by all students to successfully face the topics offered in the following semesters. The elective courses consists of topics with modules (so-called "topic areas"), which are offered in the form of several courses with different characters (different at the partner universities) – in lectures, lecture and tutorial, seminar or project (in total 90 ECTS credits including 18 ECTS credits for free elective courses). The comparability of all courses offered at the different universities is assured based on the learning outcomes.

The master's thesis is 30 ECTS credits and can be conducted at any of the IMaHS partner universities. It is supervised by a competent professional person at the chosen university within the IMaHS network. A co-supervision by a second competent professional person at a different partner university is compulsory. The topic of the master's thesis has to be selected from one of the fields of horticulture present, respectively addressed, in the curriculum. Ideally, the thesis creates significant scientific new value or knowledge.

The ECTS acquired for courses offered at the partner university will count towards the 120 ECTS required to complete the study programme. They can either be acknowledged as elective courses or free electives. During the mobility at least 30 ECTS have to be completed at the partner institution; the compulsory co-supervision of the master's thesis worth 10 ECTS credits can be counted towards the required 30 ECTS credits.

3b) Three-pillar principle

The three-pillar principle is the central identifying characteristics of both the bachelor's and master's programmes offered at BOKU University. In the master's 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) Joint programme / Double Degree

Students in the master's programme "International Master in Horticultural Sciences" have free choice of mobility among the partners, with a minimum of one mobility-activity during the master's programme.

If Humboldt University Berlin (HUB) or Hungarian University of Agriculture and Life Sciences (MATE) is chosen as host university for the compulsory mobility semester (at least 30 ECTS) and the co-supervision of the master's thesis, students can earn a double degree qualification. When the requirements in §8 resp. §10 are fulfilled, students can be awarded a master's degree from both universities (BOKU University and HUB or BOKU University and MATE).

§ 4 COMPULSORY COURSES

Compulsory courses (for partners: basic courses) worth a total of 30 ECTS credits are required to complete the master's programme:

Compulsory Courses (Basic Courses) - BOKU University (home university)

1. Plant Physiology and Chemistry	Course type	ECTS credits
Course title		
Biology and physiology of the grapevine	VS	3
Basics of plant, stress and storage physiology in horticulture	VS	3
2. Breeding and Biotechnology	Course type	ECTS credits
Course title		
Plant biotechnology	VO	3
Advanced insights and molecular methods in plant protection	VO	3
3. Plant Pathology and Protection	Course type	ECTS credits
Course title		
Ecological plant protection	VU	3
Global change and pest management	VO	3
4. Production Process Design and Quality Management	Course type	ECTS credits
Course title		
Horticultural products as a source of functional food: physiological and nutritional aspects	VS	3
Aspects of product quality in plant production	VX	4
5. Horticultural Economy/Horticultural Systems – Management and Resources	Course type	ECTS credits
Course title		
Presenting at a scientific conference	SE	3
Master's thesis seminar	SE	2

§ 5 ELECTIVE COURSES

42 ECTS credits of pool courses in the five topic areas are required to complete the master's programme. A minimum of 12 ECTS credits have to be chosen from the topic area "Production Process Design and Quality Management", the remaining 30 ECTS credits can be chosen freely from the topic areas, according to the student's academic interest.

Elective Courses (Pool Courses) at BOKU University

1. Plant Physiology and Chemistry	Course type	ECTS credits
-----------------------------------	-------------	--------------

Course title		
Physiology of crop nutrition	VO	4
Physiology of crop nutrition – laboratory exercises	UE	3
Biology and physiology of the grapevine-exercises	UE	3
Plant based aspects of abiotic stress responses in grapevine	VS	3
Methods in horticultural crop physiology	SX	3
Plant and environment	VO	3
Water relations of plants	VO	3
Ecology and population biology of plants in agro-ecosystems	VX	5
Plant sensing, response and adaptation to the environment	SE	2
2. Breeding and Biotechnology	Course type	ECTS credits
Course title		
Traditional and molecular aspects of grapevine breeding and selection	VS	3
Genetic control of secondary metabolites in perennial crop plants	VS	3
Plant breeding – principles and methods	VO	3
Plant breeding – principles and methods – practical exercises	UX	3
Genetically modified organisms in the environment	SE	2
Safety aspects of plant biotechnology	VO	3
3. Plant Pathology and Protection	Course type	ECTS credits
Course title		
Laboratory diagnosis of plant damages	UE	3
Plant virology and bacteriology	VU	3
Plant nematology	VU	1,5
Microbial plant protection	VO	3
Soil protection	VO	3
Soil pollution and remediation	VU	3
4. Production Process Design and Quality Management (min. 12 ECTS)	Course type	ECTS credits
Course title		
Special vegetable growing	VS	3
Vegetable growing – field trip	EX	0,5
Medicinal and aromatic plants	VO	3
Production of medicinal and aromatic plants	US	3
Irrigation design	VU	3
Floriculture	VS	3
Project in horticulture	PJ	4
Organic fruit production and organic viticulture	VX	3
World wines and viticulture	VS	3
Organic horticulture (vegetables and ornamentals)	VX	3
Root traits and rhizosphere processes for sustainable soil management	VO	3
5. Horticultural Economy/Horticultural Systems – Management and Resources	Course type	ECTS credits
Course title		
System analysis and scenario technique – methods and practices	SE	5
E-business in the agriculture and food value chain	SE	3
European regulatory framework for organic production	VO	3
Global networking	SE	6
Soil fertility and soil ecology in organic agriculture	VU	3
Planting design and horticultural ecosystem management	PJ	3

Getting to the point: Key messages and abstract writing in science	SE	2
Viticulture and pomology journal club	VS	3
Ethics in organic agriculture	SE	3
Sustainable land use in developing countries	VO	3

§ 6 FREE ELECTIVES

Free electives worth a total of 18 ECTS credits are required to complete the master's 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

Master's theses are academic papers in the Master's studies that serve to demonstrate the ability to work on academic topics independently and in a way that is justifiable in terms of content and methodology (§ 51 para 2 sub-para 8 UG 2002). The study regulations for the Master's thesis can be found in the statutes of BOKU University.

The thesis is worth a total of 30 ECTS credits. 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 English. Languages other than English are permissible only if approved and confirmed by the thesis supervisors. The thesis defensio must be held in English regardless of the language of the thesis and the participation of the co-supervisor in person or via videoconference is strongly recommended.

The master's thesis is 30 ECTS credits and is supervised by a competent professional person at the chosen university within the IMaHS network. A co-supervision by a second competent professional person at a cooperating university is compulsory.

§ 8 COMPLETION OF THE MASTER'S PROGRAMME

The master's programme in "International Master in Horticultural Sciences" has been completed when the student has passed all required courses and received a positive grade on the master's thesis and defensio.

§ 9 ACADEMIC DEGREE

Graduates of the master's programme in "International Master in Horticultural Sciences" are awarded the academic degree "Master of Science", abbreviated as "MSc" by the first supervisor's home university.

The graduates who studied at BOKU University and Humboldt University Berlin (HUB) or at BOKU University and Hungarian University of Agriculture and Life Sciences (MATE) are awarded the academic degree „Master of Science“, abbreviated „MSc, by both universities.

The academic degree MSc shall follow the bearer’s name (§ 88 [2] UG 2002 BGBl. I no. 81/2009).

§ 10 EXAMINATION REGULATIONS

(1) Examination regulations of the university where the exam was taken are applicable.

(2) The master’s programme “International Master in Horticultural Sciences” has been completed successfully when the following requirements (corresponds to components in [8] below) have been met:

- positive completion of the compulsory courses worth a total of 30 ECTS credits (§ 4),
- positive completion of the elective courses worth a total of 42 ECTS credits (§ 5),
- positive completion of the free elective courses worth a total of 18 ECTS credits (§ 6),
- a positive grade on the master’s thesis and the defensio.

(3) 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.

(4) 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.

(5) 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 (SE) and project-based courses (PJ) 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.

(6) After the successful completion of all the courses and examinations required in the master’s programme, the completed master’s thesis, after it has been given a positive evaluation by the thesis supervisor and co-supervisor, shall be publically presented by the student and defended in the form of an academic discussion (defensio). The committee shall consist of a committee chair and two additional university teachers with a *venia docendi* or equivalent qualification. The student’s total performance (thesis and defensio) will be assigned a comprehensive grade. Both thesis and defensio must receive a passing grade for the student to complete the programme. The written evaluations stating the rationale for the thesis grade and the defensio grade are included in calculating the comprehensive grade and are documented separately.

The comprehensive grade is calculated as follows:

- Master’s thesis: 70%
- Defensio (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 their studies according to the previously valid curriculum for the Master’s Programme in International Master in Horticultural Sciences when this new curriculum comes into force will be switched to this new curriculum. In this case, already passed exams for courses in the previously valid curriculum will be recognized towards this new curriculum based on the list of equivalent courses.

§ 12 EFFECTIVE DATE

This curriculum shall take effect on October 1st, 2026.

ANNEX A TYPES OF COURSES

The following types of courses are available:

Courses without continuous assessments (NP)

Lecture (VO)

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

Courses with continuous assessments (PI)

Exercise course (UE)

Exercise 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 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 and seminar (VS)

Lecture and exercise (VU)

Lecture and field trip (VX)

Seminar and field trip (SX)

Exercise and seminar (US)

Exercise and field trip (UX)