

Announcement

Academic year 2020/2021 – issued on 18 December 2020 – number 55

Any designations of functions are neutral in gender.

Curricula

55 Curriculum for the master’s programme in Environmental Systems: Processes - Pollution - Solutions (2021 version)

At its meeting on 18 December 2020 (minor modification 2 April 2024), the Senate approved the Curriculum for the master’s programme in Environmental System: Processes - Pollution - Solutions specified below, which was resolved on 16 November 2020 by the Curriculum Committee, a body holding decision-making power, and established in accordance with section 25, para. 8, no. 3 and para. 10 of the 2002 Universities Act.

The legal basis is the 2002 Universities Act and the section of the Statutes of the University of Vienna governing university studies as amended from time to time.

§ 1 Objectives and qualification profile

(1) The English-language master’s programme in Environmental Systems: Processes - Pollution - Solutions at the University of Vienna aims at educating future decision-makers in the fields of science, economy, public administration and in international organisations. Graduates are able to identify and analyse environmental challenges and problems from a natural sciences perspective and approach them in an interdisciplinary way.

The degree programme addresses the scientific principles underlying the relationship between humans, ecology and the environment, focusing on system analysis. For this purpose, graduates acquire extensive competences in the relevant fields of the natural sciences. The Curriculum has an international orientation and courses are held in English.

(2) Beyond a bachelor’s qualification, graduates of the master’s programme in Environmental Science are qualified to analyse complex issues regarding the interaction between humans, ecology and the environment and to develop solution strategies. They are able to address environmental problems from an interdisciplinary perspective and relate complex environmental processes to the underlying fundamental processes. They have acquired the necessary competences to assume responsibility as innovative and flexible executive staff in the society, economy and science.

§ 2 Duration and scope

(1) The workload for the master's programme in Environmental Systems: Processes - Pollution - Solutions comprises 120 ECTS credits. This is equivalent to a degree programme duration of four semesters.

(2) The programme is deemed completed if 90 ECTS credits as defined in the provisions on compulsory modules, 25 ECTS credits as defined in the provisions on the master's thesis and 5 ECTS credits as defined in the provisions on the master's examination have been obtained.

§ 3 Entry requirements

(1) To be admitted to the master's programme in Environmental Systems: Processes - Pollution - Solutions students must have completed an eligible bachelor's programme or an eligible bachelor's programme at a university of applied sciences or an equivalent degree programme at a recognised Austrian or foreign post-secondary educational institution.

(2) The bachelor's programmes in Earth Sciences or Biology or Chemistry or Physics or Meteorology or Geography (specialisation in physical geography) at the University of Vienna are certainly eligible.

(3) If the qualification is basically equivalent and only certain supplementary qualifications are required to recognise equivalence, additional courses and examinations corresponding to no more than 30 ECTS credits may be prescribed for full equivalence, which must be taken during the course of the master's programme.

(4) The master's programme is held in English. Therefore, students must have English language proficiency corresponding to level B2 (Common European Framework of Reference for Languages). For admission to the programme, applicants must be selected in a selection procedure. Further regulations about the selection procedure will be specified in provisions by the Rectorate of the University of Vienna published in the University Gazette.

§ 4 Academic degree

Graduates of the master's programme in Environmental Systems: Processes - Pollution - Solutions are awarded the degree "Master of Science", abbreviated as MSc. Where the academic degree is stated this must be after the name.

§ 5 Structure – Modules with allocated ECTS credits

(1) Overview

The master's programme in Environmental Systems: Processes - Pollutions - Solutions at the University of Vienna is structured as follows: The programme consists of five compulsory modules comprising 90 ECTS credits. Students can individually select courses in the modules MES3 and MES 5.

The degree programme is completed with a master's thesis comprising 25 ECTS credits and a public defence comprising 5 ECTS credits.

MES 1: Introduction to Environmental Science	15 ECTS credits
MES 2: Introduction to Environmental Chemistry	15 ECTS credits
MES 3: Environmental System Laboratories	30 ECTS credits

MES 4: Individual Research Projects	10 ECTS credits
MES 5: Individual Specialisation	20 ECTS credits
Master's Thesis	25 ECTS credits
Public Defence	5 ECTS credits

(2) Module descriptions

MES-1	Introduction to Environmental Science (compulsory module)	15 ECTS credits
Prerequisites	none	
Module outcomes	Students know the fundamentals of ecological and biogeochemical approaches in environmental science and are able to carry out and communicate statistical analyses of study results.	
Module structure	VO Introduction to Ecology (5 ECTS credits, 3 SSt.), npi (non-continuous assessment) VO Introduction to Statistics (3 ECTS credits, 2 SSt.), npi (non-continuous assessment) UE Introduction to Statistics (2 ECTS credits, 1 SSt.), pi (continuous assessment) KU Introduction to System Laboratories (2 ECTS credits, 1 SSt.), pi (continuous assessment) SE Scientific Writing (3 ECTS credits, 2 SSt.), pi (continuous assessment)	
Proof of performance	Passing of all courses (15 ECTS credits)	
Language	English	

MES-2	Introduction to Environmental Chemistry (compulsory module)	15 ECTS credits
Prerequisites	none	
Module outcomes	Graduates of this module have profound knowledge of environmental and geochemical processes and mechanisms that play a key role in environmental systems. They know methods of analytical environmental chemistry.	
Module structure	VU Introduction to Environmental Chemistry (15 ECTS credits, 8 SSt.), pi (continuous assessment)	
Proof of performance	Passing of the course (15 ECTS credits)	
Language	English	

MES-3	Environmental Systems Laboratories (compulsory module)	30 ECTS credits
Prerequisites	none	
Module outcomes	Students have profound practical knowledge of subject areas in the field of environmental science.	

Module structure	Subject to availability, students choose courses comprising 30 ECTS credits from different areas of specialisation in the field of environmental science. Subject to availability, students have to choose three areas of specialisation and complete at least 10 ECTS credits per specialisation. The responsible directorate of studies (SPL) provides a list of areas of specialisation available for selection.
Proof of performance	Passing of all courses (30 ECTS credits)
Language	English

MES-4	Individual Research Project (compulsory module)	10 ECTS credits
Prerequisites	none	
Module outcomes	Students are able to plan and implement a small research project in the context of current research that prepares them for their master's thesis and includes all necessary steps. Students conduct literature analysis, formulate testable hypotheses, apply analytical and statistical methods to address new issues, structure the experimental approaches and laboratory work, present and interpret results and write a report in the form of a short publication.	
Module structure	UE Individual Research Project (10 ECTS credits, 6 SSt.), pi (continuous assessment)	
Proof of performance	Passing of the course (10 ECTS credits)	
Language	English	

MES-5	Individual Specialisation (compulsory module)	20 ECTS credits
Prerequisites	none	
Module outcomes	Students acquire profound knowledge of the subject area in which they write their master's thesis. They know the key concepts, theories and hypotheses in this area and are able to interpret and discuss the results of individual research in this broad context.	

Module structure	<p>Subject to availability, students choose courses with continuous assessment (pi) and/or courses with non-continuous assessment (npi) comprising at least 20 ECTS credits in total.</p> <p>Students choose courses that usefully complement the subject area of their master's thesis and that enable an individual specialisation in conjunction with the subject area of the master's thesis. Particular emphasis should be placed on the acquisition of digital competences. It is recommended that students acquire additional competences during a stay abroad (e.g. Erasmus+, partner universities) as part of the individual specialisation.</p> <p>The selection has to be approved by the directorate of studies in advance. The directorate of studies has to approve the completion of courses, provided that the module outcomes are achieved.</p>
Proof of performance	Passing of all courses (20 ECTS credits)
Language	English

§ 6 Master's thesis

(1) The master's thesis serves to demonstrate the student's ability to achieve adequate standards of content and methodology when independently addressing academic topics. The assignment for the master's thesis must be chosen in a way that the student can reasonably be expected to complete it within six months.

(2) The topic of the master's thesis must be taken from one of the compulsory modules. If a different topic is selected or if there is uncertainty regarding allocation of the selected topic, the competent body responsible for study matters should decide on whether or not it is admissible.

(3) The master's thesis comprises 25 ECTS credits.

§ 7 Master's examination

(1) To be admitted to a master's examination the student must have successfully passed all required modules and examinations and the master's thesis must have been positively assessed.

(2) The master's examination is a public defence. This form of examination consists of a defence and an examination on the academic disciplines related to the master's thesis. Grading will be conducted as stipulated in the Statutes of the University of Vienna.

(3) The master's examination comprises 5 ECTS credits.

§ 8 Mobility during the master's programme

The competent body responsible for study matters is responsible for the recognition of academic achievements completed abroad.

§ 9 Course classification

(1) All courses with non-continuous assessment (npi) have to be offered as one of the following types of courses:

Lectures (*Vorlesungen, VO*) serve the purpose of presenting topics, subjects and methods of the degree programme in Environmental Science while critically taking different academic opinions into account. The course is completed with an oral or written examination.

(2) All courses with continuous assessment (pi) have to be offered as one of the following types of courses:

Lectures including exercises (*Vorlesung verbunden mit Übung, VU*) are courses with continuous assessment (pi) that contain lecture and exercise parts. The exercise parts are held parallel to the lecture and primarily address the practical relevance and application of the contents presented in the lecture. They thus serve to improve understanding and competences.

Exercises (*Übungen, UE*) serve the acquisition and practical application of methods relevant for ecological research. Students are usually required to complete specific tasks. Students are supervised in small groups. Exercise instructors are mainly tasked with guiding and monitoring students' work.

Seminars (*Seminare, SE*) serve to induce academic debate. Through participation in seminars, students gain insights into current research subjects and familiarise themselves with recent academic literature. In addition, students present literature they have read in the form of presentations and learn to independently discuss the presented publications.

Practical courses (*Praktika, PR*) serve the detailed introduction to research practice. Through participation in ongoing research projects and/or supervisor-guided own small research projects, students familiarise themselves with the different steps in academic research projects from the formulation of a hypothesis to the interpretation of results. Usually, participants have to submit a written report. This report must be written in compliance with the principles of good academic practice.

Practical laboratory courses (*Laborpraktika, LP*) allow students to practice the acquired knowledge and skills in practical assignments and by carrying out experiments or analyses. The activities are guided and supervised by teaching staff, e.g. in the laboratory. Practical laboratory courses may also be held in periods when there are no classes.

Field trips (*Exkursionen, EX*) allow students to acquire and deepen subject-specific knowledge in the field. Usually, participants have to submit a written report. Field trips may also be held in periods when there are no classes.

Courses (*Kurse, KU*) aim at the discussion of key topics of environmental science in lectures and in dialogue with the students.

§ 10 Courses with a limited number of participants and registration procedure

(1) The following general limits on the number of students apply in the following courses:

VO, VU, SE, KU: no general limits on the number of students

PR, UE: 20

VU, UE, PR in the modules MES 3 and MES 5: 12

EX: 12

LP: 8

For courses allocated to other degree programmes, the limits on the number of students specified in the relevant curricula apply.

(2) Modalities concerning the registration for courses and examinations as well as the allocation of places in courses are governed by the stipulations in the Statutes of the University of Vienna.

(3) If necessary, the limits on the number of students may be exceeded.

§ 11 Examination regulations

(1) Proof of performance in courses

The lecturer of a course is responsible for making the necessary announcements according to the stipulations in the Statutes.

(2) Examination content

The examination content relevant to preparing and holding examinations must be in line with the required number of ECTS credits. This also applies to module examinations.

(3) Examination procedure

The examination procedure is subject to the stipulations in the Statutes of the University of Vienna.

(4) No double recognition and no dual use

Courses taken and examinations passed in the three-year bachelor's programme, which constitute entry requirements for the master's programme, cannot be recognised again in the master's programme. Courses taken and examinations passed from another compulsory or elective module of the degree programme cannot be recognised within another module within the same degree programme. This also applies to recognition procedures.

(5) Examination results must be allocated to the relevant module by the stated ECTS figure and must not be allocated to different proofs of performance.

§ 12 Entry into force

This Curriculum will enter into force upon announcement in the University Gazette of the University of Vienna as of 1 October 2021.

§ 13 Transitional provisions

(1) This Curriculum applies to all students who commence their degree programme as of the winter semester of 2021.

(2) If, at a later stage of the degree programme, courses are no longer offered which were compulsory under the original curricula, the competent body responsible for study matters decides ex officio (equivalence regulation) or at the request of the student which courses and examinations have to be completed instead.

(3) Students who have started the master's programme in Environmental Science before this date may voluntarily accept the provisions of this Curriculum by simple confirmation.

(4) Students who started the master's programme in Environmental Science which entered into force prior to this Curriculum (University Gazette of 22 September 2010, 41st edition, no. 269) are entitled to complete their degree programme by 30 November 2023.

(5) The competent body responsible for study matters specified in the organisational regulations is entitled to determine in general or on a case-by-case basis which of the courses taken and examinations passed will be recognised for this Curriculum.

On behalf of the Senate:
The Chair of the Curriculum Committee K r a m m e r

Appendix

Recommended path through the master's programme:

It is recommended that students complete a semester abroad in the 3rd semester.

1st semester (30 ECTS credits)

MES 1: Introduction to Environmental Science	15 ECTS credits
MES 2: Introduction to Environmental Chemistry	15 ECTS credits

2nd semester (30 ECTS credits)

MES 3: Environmental Systems Laboratories	30 ECTS credits
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3rd semester (30 ECTS credits)

MES 4: Individual Research Projects	10 ECTS credits
MES 5: Individual Specialisation	20 ECTS credits

4th semester (30 ECTS credits)

Master's Thesis	25 ECTS credits
Public Defence	5 ECTS credits