

Note:

The following curriculum is a consolidated version. It is legally non-binding and for informational purposes only.

The legally binding versions are found in the University of Innsbruck Bulletins (in German).

Original version published in the University of Innsbruck Bulletin of 29 April 2008, Issue 39, No. 268

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Complete Version from October 1 2019
Curriculum for the
Master's Programme Ecology and Biodiversity
at the Faculty of Biology of the University of Innsbruck

§ 1 Classification of the study programme

According to §54 para. 1 Universities Act 2002 the Master's Degree Programme Ecology and Biodiversity belongs to the group of studies in the Natural Sciences.

§ 2 Qualification profile

- (1) Graduates of the Master's Programme Ecology and Biodiversity have the necessary knowledge as well as the required skills and competences to find methodologically sound answers to subject-specific questions related to research in ecology and to apply them in practice.
- (2) Graduates are able to scientifically evaluate and further develop areas of ecology and to apply their acquired knowledge in an interdisciplinary way.
- (3) Graduates have the competence to independently develop and increase their knowledge and understanding in the field of research in ecology and biodiversity.
- (4) Graduates are able to find scientifically sound solutions to problems based on theories and methods. This competence enables them to deal with pertinent problems of their respective professional fields backed by science and oriented towards practice. Possible professional fields:
 - research but also in practically orientated fields, e.g. as evaluators or consultants for environmental policy, administration and economy,
 - managerial positions and scientific jobs in private and public businesses (municipalities, provinces, public administration authorities) and institutions, e.g. in the area of ecological risk management, nature and environmental protection, bio monitoring, agricultural research, molecular-ecological laboratories,
 - consultants and experts for private and public businesses,
 - research and teaching at universities and at other national and international research institutions.
- (5) The Master's Programme Ecology and Biodiversity provides an in-depth scientific training based on pertinent bachelor programmes. The master programme also prepares for a doctoral study programme.

§ 3 Scope and duration

The Master's Programme Ecology and Biodiversity comprises 120 ECTS-Credits. This corresponds to a duration of the studies of four semesters. One ECTS-Credit corresponds to a workload of 25 hours.

§ 4 Admission

- (1) Completion of a relevant University Bachelor Programme or a relevant Bachelor Programme at a university of applied science, or completion of other equivalent studies at an accredited Austrian or non-Austrian post-secondary educational institution is required for admission to the Master's Programme Ecology and Biodiversity.
- (2) A completed Bachelor Programme in Biology at the University of Innsbruck is in any case a relevant study programme. The rectorate decides based on the regulations specified in the Universities Act on the admission for graduates having completed other study programmes at approved Austrian or non-Austrian post-secondary education institutions and on the equivalence of the achievements.
- (3) In the event that equivalence has been established in principle but with certain qualifications missing for full equivalence, supplemental examinations may be required. These examinations must be completed during the Master's Programme.

§ 5 Types of courses and maximum number of students per course

- (1) Courses without continuous performance assessment:
Lectures (VO) are courses held in lecture format. They introduce the research areas, methods and schools of thought for a given subject. Maximum number of participants: 300
- (2) Courses with continuous performance assessment:
 1. **Introductory seminars (PS)** introduce students interactively to scientific literature through the treatment of selected issues. They convey knowledge and methods of academic work. Maximum number of participants: 15-20
 2. **Practical courses (UE)** focus on the practical treatment of concrete scientific tasks within an area. Maximum number of participants: 8 - 16.
 3. **Seminars (SE)** provide in-depth treatment of scientific topics through students' presentations and discussion thereof. Maximum number of participants: 10 - 30
 4. **Lectures with practical elements (VU)** focus on the practical treatment of concrete scientific tasks that are discussed during the lecture parts of the course. Maximum number of participants: 8 - 16
 5. **Excursions with practical elements (EU)** conducted outside the premises of the university, serve to demonstrate and deepen course contents through practical experience with concrete scientific tasks. Maximum number of participants: 14-20
 6. **Project studies (PJ)** promote scientific collaboration of two or more fields through the treatment of multidisciplinary topics and the use of various methods and techniques. Maximum number of participants: 10

§ 6 Procedure for the allotment of places in courses with a limited number of participants

The following criteria shall be applied for the allotment of places in courses with a limited number of participants:

1. Presence at the preliminary meeting (personal or represented by a proxy)
2. Students of the Master's Programme in Ecology and Biodiversity are to be given priority.
3. Number of semesters the students have been enrolled for the Master's Programme Ecology and Biodiversity; students who have been enrolled for a longer time are to be given priority.
4. By lot.

§ 7 Compulsory and Elective Modules

(1) The following compulsory modules covering altogether 35 ECTS-Credits must be passed:

1.	Compulsory Module: Selected Topics in Ecology	h	ECTS-Credits
a.	PS The Institute's Research Foci	1	1
b.	PS Ecological Colloquium	1	0.5
c.	SE Ecological Seminar on the Topic of the Master's Thesis	1	1
	Total	3	2.5
	Learning Outcomes: Students are able to identify and present relevant issues in Ecology.		
	Prerequisites: none		

2.	Compulsory Module: Ecological Project Study	h	ECTS-Credits
a.	VU Methods in the Advanced Research Project	3	4.5
b.	PJ Ecological Project Study	5	8
	Total	8	12.5
	Learning Outcomes: Students are able to formulate an interdisciplinary research issue, select suitable methods of investigation and analyse and evaluate the results in teams. Furthermore, they are able to explain the results and to critically discuss them.		
	Prerequisites: none		

3.	Compulsory Module: Instructions for Scientific Working	h	ECTS-Credits
a.	PS Instructions for Scientific Working	1	17.5
	Total	1	17.5
	Learning Outcomes: The students are able to formulate scientific questions for their Master's Thesis based on the state of knowledge. They can then develop hypotheses, test them with suitable methods and reflect the results in scientific discourse.		
	Prerequisites: none		

4.	Compulsory Module: Master's Thesis Defence	h	ECTS-Credits
	Final oral defence of the Master's Thesis before an examination board		2.5
	Total		2.5
	Learning Outcomes: Examination of the Master's Thesis in the overall context of the Master's Programme; with special focus on theoretical comprehension, methodical issues, communication of findings of the Master's Thesis and presentation skills.		
	Prerequisites: positive evaluation of all other compulsory and elective modules as well as the Master's Thesis.		

(2) Elective modules corresponding to 60 ECTS-Credits must be passed:

1.	Elective Module: Structure and Function of Mountain Ecosystems	h	ECTS-Credits
a.	VO Structure and Function of Alpine Ecosystems	2	3
b.	EU Structure and Function of Alpine Ecosystems	2	2
	Total	4	5
	Learning Outcomes: Students understand the structure and function of basic ecosystems in the mountains.		
	Prerequisites: none		

2.	Elective Module: Functional Ecology	h	ECTS-Credits
a.	VO Functional Ecology	2	3.5
b.	SE Functional Ecology	1	1.5
	Total	3	5
	Learning Outcomes: Students are able to analyse, assess and communicate functional ecological relationships at the scale of individuals to ecosystems.		
	Prerequisites: none		

3.	Elective Module: Biodiversity	h	ECTS-Credits
a.	VO Biodiversity	3	4.5
b.	UE Biodiversity	2	3
	Total	5	7.5
	Learning Outcomes: Students are familiar with local, regional and global patterns of biodiversity in terrestrial and aquatic habitats, their causes and significance and the impact of global change. They can apply their knowledge in practice.		
	Prerequisites: none		

4.	Elective Module: Global Change Ecology	h	ECTS-Credits
a.	VO Global Change Ecology	3	4.5
b.	PS Global Change Ecology	2	3
	Total	5	7.5
	Learning Outcomes: Students are able to interlink, evaluate and communicate backgrounds and current findings on global change and its interrelations with ecological processes.		
	Prerequisites: none		

5.	Elective Module: Landscape Ecology: Landscape Patterns and Processes	h	ECTS-Credits
a.	VU Landscape Ecology	3	4.5
b.	PJ Landscape Ecology	2	3
	Total	5	7.5
	Learning Outcomes: Students have advanced knowledge in the field of landscape ecology and can apply their knowledge in practice.		
	Prerequisites: none		

6.	Elective Module: Aquatic Microbial Ecology	h	ECTS-Credits
a.	VO Aquatic Microbial Ecology	2	3
b.	UE Aquatic Microbial Ecology	2	3
c.	SE Aquatic Microbial Ecology	1	1.5
	Total	5	7.5
	Learning Outcomes: Students have an understanding of the mechanisms of aquatic microbial ecology. They are able to independently analyse, evaluate and communicate results to gain insights into examination strategies of this discipline and can apply their knowledge in practice.		
	Prerequisites: none		

7.	Elective Module: Integrative Aquatic Ecology	h	ECTS-Credits
a.	VO Integrative Freshwater Ecology	2	3
b.	UE Integrative Freshwater Ecology	2	3
c.	SE Integrative Freshwater Ecology	1	1.5
	Total	5	7.5
	Learning Outcomes: Students have an understanding of ecosystematic processes in aquatic systems – especially interactions with the atmosphere and terrestrial habitats. They are able to apply suitable investigative methods to generate data and are able to independently evaluate and present their results.		
	Prerequisites: none		

8.	Elective Module: Evolutionary Ecology of Aquatic Organisms	h	ECTS-Credits
a.	VO Evolutionary Ecology of Aquatic Organisms	2	3
b.	EU Evolutionary Ecology of Aquatic Organisms	3	4.5
	Total	5	7.5
	Learning Outcomes: Students are able to put their basic theoretic knowledge in evolutionary ecology in practice in experimental research in aquatic ecology.		

	Prerequisites: none
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9.	Elective Module: Fish Ecology	h	ECTS-Credits
a.	VO Ecology of Fishes	1	2
b.	EU Ecology of Fishes	3	3
	Total	4	5
	Learning Outcomes: Students are familiar with the most important concepts and problems of fish ecology and can put their knowledge into practice.		
	Prerequisites: none		

10.	Elective Module: Ecology of Alpine Freshwaters	h	ECTS-Credits
a.	PS Ecology of Alpine Freshwaters	2	3
b.	EU Project Study in Ecology of Alpine Freshwaters	3	4.5
	Total	5	7.5
	Learning Outcomes: Students have an extensive overview of the ecological conditions and the variety of ways organisms acclimatize in alpine freshwaters. They understand their sensitivity to current risks like e.g. climate change.		
	Prerequisites: none		

11.	Elective Module: Alpine Terrestrial Animal Ecology	h	ECTS-Credits
a.	PS Current Topics in Alpine Terrestrial Animal Ecology	2	3
b.	PJ Practical Training in Alpine Terrestrial Animal Ecology	3	4.5
	Total	5	7.5
	Learning Outcomes: Students are able to analyse the biology, ecology and biodiversity of alpine habitats and their animals and to understand them in the context of biodiversity crisis and climate change.		
	Prerequisites: none		

12.	Elective Module: Soil Ecology	h	ECTS-Credits
a.	VO Soil Science	1	1.5
b.	VU Soil Microbiology and Soil Fauna	2	2.5
c.	EU Field Course on Soil Classification and Ecological Evaluation	1	1
	Total	4	5
	Learning Outcomes: Students understand biogeochemical processes and relationships in soils and are able to assess soils with regards to their different functions.		
	Prerequisites: none		

13.	Elective Module: Molecular Ecology: Genes in Time and Space	h	ECTS-Credits
a.	SE Current Topics in Molecular Ecology: Genes in Time and Space	1	1.5
b.	VO Molecular Ecology: Genes in Time and Space	1	1.5
c.	UE Molecular Ecology: Genes in Time and Space	3	4.5
	Total	5	7.5
Learning Outcomes: Students are able to analyse questions and hypothesis relating to molecular ecology, the theme of “genes in time and space” and to generate, test and use suitable methods in practice, to generate data, assess results and independently interpret and present them.			
Prerequisites: none			

14.	Elective Module: Molecular Ecology: Population and Nature Protection Genetics	h	ECTS-Credits
a.	SE Current Topics in Molecular Ecology: Population and Conservation Genetics	1	1.5
b.	VO Molecular Ecology: Population and Conservation Genetics	1	1.5
c.	UE Molecular Ecology: Population and Conservation Genetics	3	4.5
	Total	5	7.5
Learning Outcomes: Students are able to independently carry out population and conservation-genetic analysis corresponding to the current state of research in molecular ecology and to analyse, evaluate and communicate the generated data.			
Prerequisites: none			

15.	Elective Module: Molecular Ecology: Trophic Interactions	h	ECTS-Credits
a.	SE Current Topics Molecular Trophic Ecology	1	1.5
b.	VO Molecular Trophic Ecology	1	1.5
c.	UE Molecular Analysis of Trophic Interactions in Practice	3	4.5
	Total	5	7.5
Learning Outcomes: Students understand the methodical and conceptual basics of the molecular analysis of feeding relations, of molecular identification and of DNA Barcoding and have a command of diagnostic molecular working techniques. They are able to summarise and present as well as critically analyse subject-related original scientific publications.			
Prerequisites: none			

16.	Elective Module: Biometeorology: An Ecosystems Approach	h	ECTS-Credits
	VU Biometeorology	4	5
	Total	4	5
	Learning Outcomes: Students are able to understand and analyse complex ecological interaction between biosphere and atmosphere and are able to apply their knowledge in practice.		
	Prerequisites: none		

17.	Elective Module: Ecological Modelling	h	ECTS-Credits
	VU Ecological Modelling	5	5
	Total	5	5
	Learning Outcomes: Students are able to use ecological models in practice and to interpret the results.		
	Prerequisites: none		

18.	Elective Module: Landscape Ecology: Spatial Analysis and Evaluation	h	ECTS-Credits
a.	PJ Spatial Analysis and Assessment	2	3.5
b.	SE Advanced Landscape Ecology	1	1.5
	Total	3	5
	Learning Outcomes: Students are able to independently find solutions to complex questions of landscape ecology by means of modern methods of spatial analysis.		
	Prerequisites: none		

19.	Elective Module: Environmental and Biodiversity Problems in Freshwaters	h	ECTS-Credits
a.	VO Environmental and Biodiversity Problems in Freshwaters	1	2
b.	UE Environmental and Biodiversity Problems in Freshwaters	2	3
	Total	3	5
	Learning Outcomes: Students recognize environmental problems in stagnant water. They command specific methods for evaluating anthropogenic influences based on the EU water framework directive and retrospective analyses.		
	Prerequisites: none		

20.	Elective Module: Applied Ecology: Societal and Global Change Questions	h	ECTS-Credits
	EU Interdisciplinary Excursion	5	7.5
	Total	5	7.5
	Learning Outcomes: Students are familiar with basic theoretical and methodological concepts of man-environment-relationships and can apply their knowledge for finding answers to actual ecological problems in the outdoors.		
	Prerequisites: none		

21.	Elective Module: Use and Conservation of Mountain Ecosystems and Species	h	ECTS-Credits
a.	VO Use and Protection of Mountain Ecosystems and Species	2	3
b.	PS Use and Protection of Mountain Ecosystems	2	2
	Total	4	5
	Learning Outcomes: Students are familiar with the fundamentals of nature and water conservation in the Alps and the regional, national and international frameworks, relevant laws and guidelines and their practical application.		
	Prerequisites: none		

22.	Elective Module: Project Study: Nature and Water Protection in Practice	h	ECTS-Credits
a.	PJ Project Design and Implementation	2	2
b.	EU Environmental Planning	3	3
	Total	5	5
	Learning Outcomes: Students understand processes of nature and water protection and the application of EU-conservation guidelines and are able to put their knowledge in a concrete project in practice (from the idea to the implementation and the measurement of results).		
	Prerequisites: none		

23.	Elective Module: Ecological Control of Pests and Invasive Species	h	ECTS-Credits
a.	VO Biological Control	2	3
b.	VU Biology and Ecology of Pests and Invasive Species	2	3
c.	EU Ecological Control in Practice	1	1.5
	Total	5	7.5
	Learning Outcomes: Students are familiar with the biology and ecology of important animal and plant species, which act as pests and/or are invasive. Students understand the ecological relationships that are necessary for biological control of these species and are able to apply their knowledge in practice in the outdoors.		
	Prerequisites: none		

24.	Elective Module: Applied Ecology of Running Waters	h	ECTS-Credits
a.	VO Applied River Ecology	2	3
b.	UE Assessment of River Ecology Systems	3	4.5
	Total	5	7.5
	Learning Outcomes: Students are familiar with current concepts, methods and problems of modern applied ecology of running waters and are able to evaluate running waters in practice.		
	Prerequisites: none		

25.	Elective Module: Environment – Economy - Society	h	ECTS-Credits
	PJ Interdisciplinary System Analysis	4	5
	Total	4	5
	Learning Outcomes: Students are familiar with important socioenvironmental concepts and are able to apply them for problems relating to environment and society.		
	Prerequisites: none		

26.	Elective Module: Ecology and Society: Specific Competences	h	ECTS-Credits
a.	VO Environmental Law	2	3
b.	EU Environment and Land Use: Protected Areas	2	3
c.	PS Environment and Land Use: Risk Management	1	1.5
	Total	5	7.5
	Learning Outcomes: Students are able to recognize ecological problems from the perspective of legal conditions and to adhere to environmental and administrative requirements in practical implementation and to communicate them.		
	Prerequisites: none		

27.	Elective Module: Scientific Data Analysis	h	ECTS-Credits
	VU Data Analysis	3	5
	Total	3	5
	Learning Outcomes: Students are able to apply advanced statistical methods like multiple regression analysis, diversity analysis and different ordination methods in practice and to interpret the results gained.		
	Prerequisites: none		

28.	Elective Module: Philosophy of Science and Communication	h	ECTS-Credits
a.	PS Presentation	1	1
b.	PS Scientific Publishing	2	2.5
c.	SE Philosophy of Science, Ethics and Gender Research	1	1.5
	Total	4	5
	Learning Outcomes: Students are able to prepare scientific contents for oral and written presentations. They are familiar with international standards and conventions for structuring and designing of publications. They are familiar with the ethic norms and regulations of good scientific practice and are able to apply them properly. The students understand basic concepts of the philosophy of science and gender research and have dealt with this matter in a critical way.		
	Prerequisites: none		

29.	Elective Module: Selected Topics of Ecology I	h	ECTS-Credits
a.	VO Selected Topics of Ecology I	1	1.5
b.	SE Selected Topics of Ecology I	1	1
	Total	2	2.5
	Learning Outcomes: In this module – which is occasionally held by guest lecturers – students get an insight into sub-disciplines of ecology that are not covered by the elective modules 1 – 28 and can put their knowledge into practice.		
	Prerequisites: none		

30.	Elective Module: Selected Topics of Ecology II	h	ECTS-Credits
a.	VO Selected Topics of Ecology II	1	1.5
b.	UE Selected Topics of Ecology II	2	2
c.	SE Selected Topics of Ecology II	1	1.5
	Total	4	5
	Learning Outcomes: In this module – which is occasionally held by guest lecturers – students get an insight into subdisciplines of ecology that are not covered by the elective modules 1 – 29 and can put their knowledge into practice.		
	Prerequisites: none		

31.	Elective Module: Module from other Master Programmes of the Faculty of Biology	h	ECTS-Credits
	A module from another Master Programme of the Faculty of Biology of the University of Innsbruck can be passed.		5
	Total		5
	Learning Outcomes: The objectives defined by the respective module give the students insights into another field of biology and enable them to relate their ecological knowledge to other fields of biology.		
	Prerequisites: The prerequisites specified by the respective curricula must be met.		

32.	Elective Module: Interdisciplinary Skills	h	ECTS-Credits
	Courses corresponding to 7.5 ECTS-Credits and providing to availability of places can be freely chosen from the curricula of the Master and/or Diploma Programmes at the University of Innsbruck.		7.5
	Total		7.5
	Learning Outcomes: This module serves to expand the study programme and to acquire additional qualifications.		
	Prerequisites: The prerequisites specified by the respective curricula must be met.		

33.	Elective Module: Ecological Internship	h	ECTS-Credits
	Elective Module: Ecological Internship		7.5
	Total		7.5
	Learning Outcomes: Students are able to contrast the skills they have acquired in the course of their university studies with practices in the working world, apply their knowledge in unfamiliar contexts and put their skills to test in tasks that are related to their future professional careers. The ecologically relevant internship at a non-university institution has a duration of about 4 weeks (160 hours). Students have to submit a written report providing an overview of the tasks and responsibilities and the competences they have gained during the internship.		
	Prerequisites: none		

§ 8 Master's Thesis

- (1) In the Master's Programme in Ecology and Biodiversity a Master's Thesis corresponding 25 ECTS-Credits must be written. The Master's Thesis is a scientific paper that serves as proof of the ability to deal with a scientific topic independently and appropriately with regards to content and methodology.
- (2) Possible topics of the Master's Thesis include all questions related to increasing knowledge in the field of modern ecological research.
- (3) Students are entitled to write their Master's Thesis in English if their supervisor agrees to it.
- (4) It is possible for several students to work on one topic, if it is possible to separately evaluate the achievements of the individual students.

§ 9 Examination regulations

- (1) Modules are evaluated by module examinations. Module examinations are examinations that serve to prove the knowledge and skills acquired in a module. If all parts of a module examination have been positively evaluated, the respective module is passed.
- (2) The courses of the modules are evaluated by means of course examinations. Course examinations are
 1. examinations that serve to demonstrate the knowledge and skills gained in a single course and where the performance is assessed with a single exam at the end of the course. The course lecturer must communicate the examination method (written and/or oral) and the evaluation criteria before the start of the course.
 2. examinations on courses with continuous performance assessment, where the evaluation is based on the student's regular, written and/or oral contributions. The course lecturer must communicate the examination method (written and/or oral) and the evaluation criteria before the start of the course.
- (3) Elective module 33 (Ecological Internship) is evaluated by the Director of Studies based on a report written by the student and a confirmation of the institution of the duration, scope and type of work made. Positive evaluation reads "successfully completed", negative evaluation "unsuccessfully completed".
- (4) Assessment of compulsory module 4 (Master's Thesis Defence) is based on an oral exam before an examination board consisting of at least three examiners.

§ 10 Academic degree

Graduates of the Master's Programme Ecology and Biodiversity are awarded the academic degree of "Master of Science", abbreviated as "MSc".

§ 11 Coming into force

- (1) This curriculum comes into force on 1 October 2008.
- (2) The modification of the curriculum in the version of the University of Innsbruck bulletin of 8 June 2011, Issue 26, No. 458 comes into force on 1 October 2011 and is to be applied to all students.
- (3) The modification of the curriculum in the version of the University of Innsbruck bulletin of 6 May 2015, Issue 28, No. 388 comes into force on 1 October 2015 and is to be applied to all students.
- (4) The changes of the curriculum acc. to the version of the University of Innsbruck Bulletin of 28 June 2019, Issue 65, No. 576 come into effect on 1 October 2019 and are to be applied to all students.

§ 12 Transitional provisions

- (1) Positively passed elective modules according to the regulations of the curriculum for the Master's Programme Ecology and Biodiversity in the version of the University of Innsbruck bulletin of 29 April 2008, Issue 39, No. 268 with the modifications published in the University of Innsbruck bulletin of 8 June 2011, Issue 26, No. 458 count as elective modules for the curriculum in the version of the University of Innsbruck bulletin of 6 May 2015, Issue 28, No. 388 (in the following referred to as curriculum of 2015).
- (2) Elective modules of the curriculum of 2015 that have the same contents as a passed elective module of the curriculum 2008 may not be passed. A list of courses that may not be taken is published on the homepage of the Faculty of Biology.
- (3) An equivalence list for compulsory modules and their courses as well as for individual passed courses of elective modules is to be published by the Director of Studies.