

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 21 June 2010, Issue 34, No. 319

Modification published in the University of Innsbruck Bulletin of 6 May 2015, Issue 29, No. 389

Complete Version from 1 October 2015

Curriculum for the **Master's Programme Zoology** 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 Programme Zoology belongs to the group of studies in the Natural Sciences.

§ 2 Qualification profile

- (1) Graduates of the Master's Programme Zoology 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 zoology and to apply them in practice.
- (2) Graduates are able to scientifically evaluate and further develop areas of zoology 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 zoology.
- (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 and teaching in all disciplines of biology and related fields,
 - basic and applied research in biology and bio-medicine,
 - scientific and planning work in private businesses,
 - scientific and professional coordinative work in public institutions and in public administration,
 - work as consultants,
 - all other types of work in the area bordering to other disciplines, e.g. journalism, didactics) in combination with respective additional qualifications.
- (5) The Master's Programme Zoology 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 Zoology 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 Zoology.
- (2) A completed Bachelor Programme 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 Zoology are to be given priority.
3. Number of semesters the students have been enrolled for the Master's Programme in Zoology (or other equivalent Master Programmes of the Faculty of Biology); 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 25 ECTS-Credits must be passed:

1.	Compulsory Module: Selected Topics in Zoology	h	ECTS-Credits
a.	VO Selected Topics in Zoology	3	4.5
b.	PS Selected Topics in Zoology	2	3
	Total	5	7.5
	Objective: Students are able to understand current methods, techniques and approaches towards research in modern zoology.		
	Prerequisites: none		

2.	Compulsory Module: Instructions for Scientific Working	h	ECTS-Credits
	PS Instructions for Scientific Working	1	15
	Total	1	15
	Objective: Students are able to formulate scientific questions based on the latest scientific findings for their Master's Thesis. They are able to develop hypothesis, test them with suitable methods and reflect on the results in scientific discourse.		
	Prerequisites: none		

3.	Compulsory Module: Master's Thesis Defense	h	ECTS-Credits
	Final oral defense of the Master's Thesis before an examination board.		2.5
	Total		2.5
	Objective: 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 67.5 ECTS-Credits must be passed. At least three elective modules have to be passed from the elective modules 8 to 18.

Elective modules in the field of “Special Zoology”:

1.	Elective Module: Scientific Project Study - Zoology	h	ECTS-Credits
	PJ Scientific Project Study - Zoology	1	15
	Total	1	15
	Objective: Students are able to apply modern methods for current research issues and to analyse and evaluate the results.		
	Prerequisites: none		

2.	Elective Module: Anatomy and Systematics of Invertebrates	h	ECTS-Credits
	VU Anatomy and Systematics of Invertebrates	5	7.5
	Total	5	7.5
	Objective: Students have an overview of the diversity of invertebrates, the most varied animal species and can apply their knowledge in practice.		
	Prerequisites: none		

3.	Elective Module: Anatomy and Systematics of Vertebrates	h	ECTS-Credits
a.	VO Comparative Anatomy and Systematics of Vertebrates	2	3
b.	UE Comparative Anatomy of Vertebrates	3	4.5
	Total	5	7.5
	Objective: Students are able to understand the systematics, phylogeny and evolutionary development of the structures of vertebrates and can apply their knowledge in practice.		
	Prerequisites: none		

4.	Elective Module: Marine Biology I: Developmental Biology	h	ECTS-Credits
a.	SE Marine Biology – Developmental Biology	1	1.5
b.	EU Marine Biology – Developmental Biology	4	6
	Total	5	7.5
	Objective: Students are familiar with the most important taxa of the Mediterranean fauna and can identify and classify them. They are also able to conduct developmental biological experiments on marine invertebrates.		
	Prerequisites: none		

5.	Elective Module: Marine Biology II: Ecophysiology	h	ECTS-Credits
a.	SE Marine Biology - Ecophysiology	1	1.5
b.	EU Marine Biology - Ecophysiology	4	6
	Total	5	7.5
	Objective: Students are familiar with the basic characteristics of marine habitats and can analyse and discuss the physiological adaptation strategies of marine fauna.		
	Prerequisites: none		

6.	Elective Module: Zoological Field Trips	h	ECTS-Credits
a.	SE Zoological Field Trips - Seminar	1	1.5
b.	EU Zoological Field Trips	4	6
	Total	5	7.5
	Objective: Students are familiar with the fauna and their habitats in selected biogeographic regions and are able to understand biogeographical interrelations.		
	Prerequisites: none		

7.	Elective Module: Biology of Selected Animal Groups	h	ECTS-Credits
a.	VO Selected Topics in Special Zoology	2	3
b.	VO Selected Topics in Special Zoology II	2	3
c.	PS Selected Topics in Special Zoology	1	1.5
	Total	5	7.5
	Objective: Students are able to understand the biology of selected animal groups and are able to evaluate the fundamentals of their life conditions and the relevant interrelations between animal species and their habitats.		
	Prerequisites: none		

Elective modules in the field of “Experimental and Molecular Zoology”:

8.	Elective Module: Evolution and Development	h	ECTS-Credits
a.	PS Evolution and Development	2	3
b.	UE Evolution and Development	3	4.5
	Total	5	7.5

	Objective: Students are able to understand the role of Developmental Biology in modern Evolution Theory and are able to apply their knowledge in practice.
	Prerequisites: none

9.	Elective Module: Ultrastructure of the Cell	h	ECTS-Credits
a.	VO Introduction to Electron Microscopy	1	1.5
b.	VU Transmissions Electron Microscopy	4	6
	Total	5	7.5
	Objective: Students understand the basics and special methods of transmission electron microscopy (TEM) including energy filtered transmission electron microscopy (EFTEM), electron energy loss spectroscopy (EELS) and electron spectroscopic imaging (ESI). They are able to independently prepare tissues by fixing, embedding, trimming and cutting. They are able to independently work with a transmission electron microscope and to interpret the results gained.		
	Prerequisites: none		

10.	Elective Module: Histology and Cytology	h	ECTS-Credits
a.	VU Working Methods in Histological Microscopy	2	3
b.	VU Methods in Histology and Scanning Electron Microscopy	3	4.5
	Total	5	7.5
	Objective: Students are able to employ histological and immunohistological methods in biological research and diagnostics. They are also familiar with theoretical and practical aspects of microscopy, including fluorescence and contrast methods.		
	Prerequisites: none		

11.	Elective Module: Stress Physiology	h	ECTS-Credits
a.	SE Stress Physiology	2	3
b.	UE Stress Physiology	3	4.5
	Total	5	7.5
	Objective: Students have a command of selected methods for proving environmental stress and can discuss and use them in practice. They know the principles of the effects of environmental stress on the physiology of organisms.		
	Prerequisites: none		

12.	Elective Module: Development and Flexibility of the Cardiovascular System	h	ECTS-Credits
a.	VO Development and Flexibility of the Cardiovascular System	2	3
b.	SE Development and Flexibility of the Cardiovascular System	1	1.5
c.	UE Development and Flexibility of the Cardiovascular System	2	3
	Total	5	7.5
	Objective: Students are familiar with the fundamentals of the developmental physiology and flexibility of the cardiovascular system and can discuss them. They are able to apply non-invasive methods on model organisms and humans.		
	Prerequisites: none		

13.	Elective Module: Molecular Physiology	h	ECTS-Credits
a.	VO Molecular Physiology	2	3
b.	SE Molecular Physiology	1	1.5
c.	UE Molecular Physiology	2	3
	Total	5	7.5
	Objective: Students are able to understand and discuss interrelations between molecular and physiological processes and are able to apply their knowledge in practice.		
	Prerequisites: none		

14.	Elective Module: Circadian Rhythm and Gene Activation	h	ECTS-Credits
a.	SE Circadian Rhythm and Gene Activation	2	3
b.	UE Circadian Rhythm and Gene Activation	3	4.5
	Total	5	7.5
	Objective: Students learn quantification methods for mRNA by using real-time polymerase chain reaction and get an insight into the way gene regulation with a special focus on circadian rhythm works. They are able to relate the results won in experiments to current literature and to evaluate them.		
	Prerequisites: none		

15.	Elective Module: Physiological Toxicology and Environmental Toxicology	h	ECTS-Credits
a.	VO Physiological Toxicology and Environmental Toxicology	2	3
b.	SE Physiological Toxicology and Environmental Toxicology	1	1.5
c.	UE Physiological Toxicology and Environmental Toxicology	2	3
	Total	5	7.5

	Objective: Students are able to understand the fundamentals of toxicological and ecotoxicological effects caused by pollution stress and can discuss them. They are able to put their knowledge into practice.
	Prerequisites: none

16.	Elective Module: Biocybenetics and Bionics	h	ECTS-Credits
a.	VO Biocybenetics and Bionics	2	3
b.	SE Biocybenetics and Bionics	1	1.5
c.	VU Biocybenetics and Bionics	2	3
	Total	5	7.5
	Objective: The students are able to understand and discuss basic biological control processes and to use the experimental examination and simulation with computer-aided methods.		
	Prerequisites: none		

17.	Elective Module: Gene Regulation in Early Embryonic Stages	h	ECTS-Credits
a.	PS Gene Regulation in Early Embryonic Stages	2	3
b.	UE Gene Regulation in Early Embryonic Stages	3	4.5
	Total	5	7.5
	Objective: Students are familiar with the principles of gene regulation and have a command of selected experimental and molecular methods to analyse gene regulation in early embryonic stages.		
	Prerequisites: none		

18.	Elective Module: Regeneration and Molecular Phylogeny	h	ECTS-Credits
a.	PS Regeneration and Molecular Phylogeny	2	3
b.	UE Regeneration and Molecular Phylogeny	3	4.5
	Total	5	7.5
	Objective: Students are able to make regeneration experiments with organisms the size of (sub)millimeters and to colour and analyse important organ systems. They also have a command of molecular working techniques for macromolecules and can evaluate the phylogenetic information in the trees of life.		
	Prerequisites: none		

Other elective modules:

19.	Elective Module: Selected Chapters of Zoology	h	ECTS-Credits
a.	VO Selected Chapters of Zoology	2	3
b.	SE Selected Chapters of Zoology	1	1.5
c.	UE Selected Chapters of Zoology	2	3
	Total	5	7.5
	Objective: With the courses offered in this module (partly held by guest lecturers) students get an insight into selected chapters of zoological sub-disciplines that are not covered by the elective modules 1-18.		
	Prerequisites: none		

20.	Elective Module: Philosophy of Science and Gender Research	h	ECTS-Credits
a.	SE Nature as a Political Subject	2	3
b.	VO Philosophy of Science and Ethics	2	3
c.	SE Philosophy of Science, Ethics and Gender Research	1	1.5
	Total	5	7.5
	Objective: In consideration of gender aspects, students are able to understand the peculiarities of biology in relation to the philosophy of science, its relationship with other disciplines and its history. Moreover, the students have a command of basic ethic terms and approaches, which enables them to independently reflect on ethical questions of research in biology and its application.		
	Prerequisites: none		

21.	Elective Module: Module from other Master's Programmes of the Faculty of Biology	h	ECTS-Credits
	A module from another Master's Programme of the Faculty of Biology of the University of Innsbruck can be passed.		7.5
	Total		7.5
	Objective: The objectives defined by the respective module give the students insights into another field of biology.		
	Prerequisites: The prerequisites specified by the respective curricula must be met.		

21.	Elective Module: Module from other Master's Programmes of the Faculty of Biology	h	ECTS-Credits
	A module from another Master's Programme of the Faculty of Biology of the University of Innsbruck can be passed.		7.5
	Total		7.5

	Objective: The objectives defined by the respective module give the students insights into another field of biology.
	Prerequisites: The prerequisites specified by the respective curricula must be met.

22.	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
	Objective: This module serves to expand the study programme and to acquire additional qualifications.		
	Prerequisites: The prerequisites specified by the respective curricula must be met.		

§ 8 Master's Thesis

- (1) Students of the Master's Programme Zoology have to write a Master's Thesis equaling to 27.5 ECTS credits. The Master's Thesis is a scientific piece of work which serves to prove the student's ability to autonomously cope with scientific questions using adequate scientific methods
- (2) Possible topics include all questions related to increasing knowledge in modern research in zoology.
- (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) Assessment of the compulsory module "Master's Thesis Defense" 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 Zoology are awarded the academic degree of "Master of Science", abbreviated as "MSc".

§ 11 Coming into Force

- (1) The curriculum for the Master's Programme Zoology comes into force on 1 October 2010.
- (2) The modification of the curriculum in the version of the University of Innsbruck Bulletin of 6 May 2015, Issue 29, No. 389 comes into force on 1 October 2015 and is 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 Zoology in the version of the University of Innsbruck Bulletin of 21 June 2010, Issue 34, No. 319 (in the following referred to as curriculum 2010) count as elective modules for the curriculum in the version of the University of Innsbruck Bulletin of 6 May 2015, Issue 29, No. 389 (in the following referred to as curriculum of 2015).
- (2) Elective modules of the curriculum 2015 that have the same contents as a passed elective module of the curriculum 2010 or contain a course according to the curriculum 2010 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.