Interdisciplinary Master in Human-Animal Interactions

University of Veterinary Medicine, Vienna

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Content

1. General provisions

1.1. Legal basis

The legal basis for this master's programme is the University Act 2002 (UG 2002).

1.2. Qualification profile

1.2.1. General qualifications

Vetmeduni offers a competitive, internationally recognized English-language research-oriented master's programme that enables students to work in basic and applied research in an academic environment. Furthermore, students are able to work for ministerial or official areas in the relevant natural/medical/veterinary science and humanity disciplines as well as in the private sector environment.
The interdisciplinary master's programme primarily takes into account the scientific research questions of following disciplines (A-Z ordered): Animal Husbandry, Animal Welfare, Behavioural and Cognitive Biology, Comparative Medicine, Ethics, Neuroscience, Philosophy, Psychology as well as Scientific Theory.

The programme is competency-oriented and supports research-based and evidence-based development and expansion of the relevant skills.
Graduates are capable of describing, investigating, analysing, and shaping human-animal relationships on a scientific basis, in an ethically reflected manner and in different academic and societal contexts.
The curriculum not only provides a well-founded overview of the latest methods and related skills, it also provides the ability to critically reflect on and reason against the background of the changing roles of animals in society and the associated challenges in the area of Human-Animal Interaction (HAI).
Students are involved in team-oriented and independent research in ongoing projects of the involved disciplines. This deepens the competence for independent project formulations, for writing of scientific and/or philosophical papers and for participation in the public scientific discourse.
At the end of the master's programme, graduates are able to independently plan, carry out experimental and philosophical-ethical works in the field of HAI and to evaluate, publish and present them according to scientific criteria.

1.2.2. Professional fields

Graduates of the master's programme can work primarily in the following areas:

- Research and/or teaching at universities and other post-secondary educational institutions
- Research institutions in the pharmaceutical and biomedical industry
- NGOs or public institutions with a focus on animal welfare and protection or animal assisted therapy
- Non-university research institutions
- Public and private sector institutions (e.g. ministries, authorities, commissions)
- Managerial functions in facilities with animal husbandry
- Expert activity and science journalism

1.2.3. Qualification profile

Personal skills

- Respect for humans, animals and the environment
- Competent knowledge transfer and effective communication
- Interdisciplinary, analytical, solution-oriented and efficient way of working
- Sense of responsibility, factual behaviour
- Correct assessment of decision-making ability
- Cooperation and team skills
- Awareness of own professional competence and limits
- Understanding of the need for life-long learning

Professional skills

- Comprehensive knowledge and skills about interdisciplinary approaches and a variety of methods for research and interaction in the field of HAI
- Extensive knowledge of the importance of human and animal behaviour for the shaping of the interaction and the associated ethical problems
- Critical assessment of knowledge of methods for measuring attitudes, interactions and their result
- Relevant methodological knowledge (advanced statistics, test planning) and skills (observation, training and test) to independently carry out experiments and to interpret, present and publish the results
- Knowledge to appropriately assess the suitability of animal and human studies from a scientific point of view
- Understanding of the philosophical approaches to HAI and the ability to recognize philosophical questions in existing debates
- Competence to understand and discuss the key issues and content of ethical arguments used in HAI
- Insight into particularly urgent and challenging discussions in HAI that society is currently facing

Scientific skills

- Scientific and critical thinking and problem-solving skills
- Scientific literature: search, analysis, summary
- Ability to present and discuss the own research in an interdisciplinary environment
- Knowledge of the development of scientific studies

Social skills

- Dealing with humans, animals and nature in an ethically reflected way
- Respect for collegiality and equal treatment
- Knowledge of (inter)national guidelines, standards, norms and laws

1.3. Internationality and language

The master's programme is structured according to international standards. The recognition of adequate study achievements is guaranteed by the application of the European Credit Transfer System (ECTS).

The working language of the master's programme is English, whereby certain electives may be taught in German. It is therefore necessary for students to demonstrate

English-language skills at the B2 level of the Common European Framework of Reference for Languages.

Elective courses, working in research projects and the master's thesis can also take place at other domestic or foreign, post-secondary educational institutions or recognised research institutions.

1.4. Outline, scope and duration of the master's programme

The master's programme comprises a total of four semesters with courses (compulsory and elective subjects including exams), master's thesis and examination total of 120 ECTS credits.

The European Credit Transfer and Accumulation System (ECTS) serves to simplify the inter-university and inter-European accreditation of academic performance. Every course is allocated ECTS credits based on the scope of academic work required from students (both related to courses and self-study). Internships and master's thesis are also allocated ECTS credits. An ECTS credit is equivalent to 25 hours of work and is based on the average workload required in order to achieve the anticipated academic objectives.

ECTS credits are awarded to mandatory courses (including examinations), electives, internships, the master's thesis and the master's examination as follows:

Mandatory courses	**Electives**	**Master's thesis and master's examination**	**Total**
ECTS credits			
80	10	30	120

The scope of lectures and other courses is defined in semester hours (SWS) and ECTS credits. Based on a semester extending for a period of 15 weeks, one semester hour is equivalent to 15 academic hours each of 45 minutes in duration.

1.5. Prerequisite for the admission to the master's programme

Admission to the master's programme "Interdisciplinary Master in Human-Animal Interactions" requires the completion of a subject-related bachelor programme at a university, a university of applied sciences, or another equivalent degree from a recognized domestic or foreign post-secondary educational institution to the extent of at least 180 ECTS credits.

From a technical point of view, all studies at Vetmeduni as well as all studies in the area of human and natural sciences are eligible.
It is required that applicants whose mother tongue is not English must demonstrate knowledge of the English language according to at least reference level B2 of the Common European Framework of Reference for Languages. Some elective courses may be offered only in German.

2. Teaching and lecturing formats

2.1. Teaching formats

2.1.1. Courses not based on continuous assessment

Lectures (VO) serve to convey basic concepts and the basic systematics of an area/discipline, to show the scientific or philosophical background, to explain complicated facts, to explain the genesis of research positions, approaches or theories, to create cross-connections and to show the practical relevance.

2.1.2. Courses based on continuous assessment

Conversatoriums (KV) serve to acquire knowledge through suitable and competently conducted discussions, as well as to train the ability to solve problems. Conversatoriums are courses with continuous assessment, in which special emphasis is placed on continuous student cooperation and active participation during the course.

Seminars (SE) are used for scientific discussion. In seminars, the active participation of the students is requested, whereby in small groups, above all, the ability to apply the knowledge to analyse and solve problems is learned. Verbal and/or written contributions are required from the participants. Seminars are courses with continuous assessment.

Exercises (UE) serve to acquire practical skills and special skills with regard to professional and academic careers. Exercises are courses with continuous assessment.

Internships (PR) are the processing of a small sub-area of a scientific question under guidance and supervision, and serve the application-oriented scientific training with regard to one or more specialized areas.

Journal Clubs (JC) are used to present, discuss and interpret current research literature, studies, master's and/or PhD theses. In addition, the speakers receive feedback on the didactic processing of the topics. Students acquire the ability to independently analyse and present scientific results from third parties, especially in connection with own research in the areas mentioned above.

Interdisciplinary project work (IP) uses approaches, ways of thinking and methods from various disciplines and combines theoretical and practical objectives.

Combined courses

Combined courses combine the definitions of the respective types of courses involved, but the elements are integrated, which results in an added didactic value.

Lecture with Conversatorium (VK)
Lecture with Conversatorium and Seminar (VT)
Lecture with Seminar (VS)
Lecture with Exercise (VU)

2.2. Course attendance limits

The group size for curricula courses based on continual assessment is limited to 20 students (maximum group size = 20). If necessary, this limit may be marginally exceeded.

3. The master's programme

Content and qualifications of the programme is conveyed through modules. A module is a teaching and learning unit, which is characterized by input and output qualifications, content, teaching and learning forms, the standard workload and the performance assessment. The modules are completed in the form of one or more courses with related content.

3.1. Description of the modules

Module 1: Foundations of Human-Animal Interactions: Human Perspectives
The focus is on the "OneHealth" concept with the shared environment and comparable lifestyle of humans and their pets, in particular comparative aspects for all diseases with involvement of the immune system, such as infections, allergies or cancer. Within the scope of the module, students will gain knowledge (i) about differences and similarities between humans and animals with regard to their physiology, (ii) about the pathophysiological mechanisms of the most important diseases and (iii) about the basic knowledge of therapeutic and preventive measures for the treatment and improvement of human and veterinary health. Furthermore, students gain knowledge about the psychological basis of the differences in the human-animal relationship and their importance for the well-being of humans and animals. They also acquire the ability to critically evaluate studies on human-animal interactions including study design and methods.

Module 2: Foundations of Human-Animal Interactions: Animal Perspectives
In this module, students gain a fundamental insight into the evolution, individual development, function and physiological (neuronal and hormonal) mechanisms of perceptual, behavioural and cognitive processes in animals. In addition, they learn about specific, life-relevant problems related to selected animal species and their individual and social skills. They acquire the ability to mobilize their knowledge in animal behaviour to other areas of biology (with an emphasis on cognition and animal welfare) in the context of human-animal interaction. They will acquire the competence to understand the relationship between genetics, the environment, development and the effects of domestication on behaviour, cognition and welfare. They will also acquire basic knowledge of species-specific behaviour based on functional behavioural systems, and develop the ability to identify the most important behavioural problems and how to derive standards required for keeping and interacting with animals based on their species-specific behaviour.

Module 3: Foundations of Human-Animal Interactions: Ethical and Societal Perspectives
This module introduces ethical and societal perspectives on HAI. Students get to know key terminology and main concepts in animal ethics as well as a selection of theories that are central to the debate on the ethical treatment of animals, like Singer's utilitarian

animal liberation, Tom Regan's deontological argument for animal rights, Clare Palmer's relational theory and others such as Cora Diamond's Wittgensteinian account or Lori Gruen's entangled empathy. These philosophical foundations of the moral status of animals are then linked to more applied questions, e.g. in veterinary practice, farming, animal experimentation, or concerning companion animals, animals in the wild and so on. With this, students gain knowledge of current (interdisciplinary) academic and societal debates concerning human animal relations, to which their own research later on in the master's programme can relate and add.

Module 4: Human-Animal Interactions in practice
This module integrates human and animal perspectives by focusing on actual human-animal interactions, the resulting relationships, and emerging challenges from an interdisciplinary and inter-specific perspective. The students gain profound knowledge of concepts that seek to explain human-animal relationships (HARs), of various characteristics of HARs, the factors shaping their quality, and their effects on human and animal behaviour and welfare, in order to evaluate them in their specific context. Further, students gain insights into the main debates that deal with the challenges that emerge from human-animal interactions and learn to critically reflect on these issues from different scientific and societal perspectives, discuss them ethically informed and develop science-based solutions. This includes the evaluation of the use of animals for different purposes and major production and husbandry systems regarding animal welfare, ecology, and economy.

Module 5: Research Methods of Human-Animal Interactions
This module aims to provide a general and interdisciplinary introduction into scientific and philosophical methods with a focus on methods used in the studies of HAI. After acquiring more general insights in terms of the theory of knowledge, the kind of knowledge which qualifies as scientific, the scientific methods, feasible strategies to gain valid knowledge and conceptions of progress in science, the students will learn the difference between theory and hypothesis, explanatory vs. confirmatory studies, explanation vs. understanding, and inductive vs. deductive reasoning. Students will understand different methods of scientific inquiry, the value of abstraction and simplification, the need for empirical evidence and the contrast to purely rational approaches. They will acquire the competence of distinguishing different kinds of research types (descriptive, discovery, hypothesis-driven, engineering) and research designs (correlational, experimental), learn the elements of a good study design, learn to distinguish variables, parameters and factors. More specifically, this module provides a comprehensive overview about the methods that are utilized in ethology, animal cognition research, neurobiology, comparative medicine and psychology, animal welfare science, and philosophy. Special focus will be put on the main methods used by the teachers of this module in their current research. Furthermore, the course will provide first insights into statistical data analyses, how reliability and validity of research is achieved, and how to prepare scientific presentations (talks, posters and written reports). Finally, students will be given a first approximation to philosophical methods, learn the basics of philosophical analysis and argumentation, as well as the main tools required for putting together a philosophical paper. Students will learn to argue carefully and thoroughly, to structure ideas in a logical and coherent manner, and to write clearly, precisely, and compellingly. An important focus will be on how scientific methods can gain meaning by including philosophical thinking and vice versa, and how this all fits into the principle of Good Scientific Practice.

Module 6: Research Project I

In Research Project I, small groups of students are involved in current research projects of the participating research groups. First, students get an introduction to the various research projects that are currently running and are available to host students. Each project is presented and explained in detail, before the students are assigned to the respective projects. In the scientific projects, the small groups develop a research question, hypotheses and predictions related to the assigned project under the guidance and supervision of the scientific project staff (Principal Investigators and PhDs), and design the appropriate methods to test their predictions. In case of philosophical projects, the students will devise a philosophical question that fits their interests, and engage in a first approximation to it by mapping the different positions and most important literature in the relevant debates. All students will then write a Research Project Proposal that will also be presented in form of a Scientific Poster as well as an Oral Presentation in front of the entire cohort and subjected to an evaluation. The generation of Research Project Proposals enables the students to apply in practice the scientific working and presentation methods introduced in the Research Methods Module, while at the same time acquiring additional knowledge for the preparation of their own master's thesis proposal.

Module 7: Interdisciplinary Journal Clubs and Thesis Seminar in Human-Animal Interaction

This module aims to provide the students with a deeper insight into current publications and studies in the field of human-animal interactions, with knowledge on criteria of quality in scientific publications and the ability to critically reflect and evaluate them from an interdisciplinary perspective. Students will have the possibility to discuss about recent concepts, studies and publications with researchers from the different disciplines, and train their ability to take and integrate different perspectives. Further, the module aims to train students to present a scientific and/or philosophical projects clearly and convincingly and to discuss their own ideas critically with other researchers and colleagues.

Module 8: Research Project II

In this module, students design their own research project under the guidance and supervision of senior scientists by identifying and developing a research problem relevant to the area of interest. The project aims to deepen as well as broaden the aptitude towards scientific or philosophical research as well as the theoretical and methodological knowledge. The work includes literature search, planning and execution of the project, critical analyses of relevant scientific or philosophical literature as well as the student's own results. In philosophical projects the students identify main and sub-questions of philosophical relevance and build up their own philosophical argumentation with reference to current debates as well as established theories in animal ethics and animal philosophy. During their philosophical and scientific projects, the students gain an understanding of the ethical issues associated with their research, and practice research ethics and responsible conduct in research. Students are expected to participate in relevant seminars and other regular activities of the research group. They are involved in current research projects of the participating research groups, work collaboratively and interdisciplinarily with their supervisor(s) and other

researchers in the team, learn to apply problem solving skills to constructively address research setbacks. At the same time, they learn how to work autonomously in an effective manner, in setting and meeting deadlines. By participating in relevant seminars and other regular activities in the research group, the students learn to communicate confidently and constructively with colleagues and faculty, explain their research to others in the field and to broader audiences through research presentations and team meetings. Finally, they learn to report their research findings in written forms (poster, report, paper), to use appropriate terminology in scientific English, and to write in a clear, concise and non-speculative manner.

Module 9: Electives

In order to give students the opportunity to identify other innovative, future-oriented subject areas and to illuminate them more during the study programme, elective subjects are envisaged in the amount of 10 ECTS credits. Electives are offered as a part of existing courses at the Vetmeduni or other national or international universities in accordance with the master's thesis supervisor and the person responsible for the curriculum.

Module 10: IMHAI Symposium

IMHAI students have the opportunity to present their scientific concepts and methods for their master's thesis as well as their first results in poster form. For advanced students it offers an opportunity to rehearse their lecture for the Defence. In any case, the students learn to process their concept correctly, logically and clearly, as well as to acquire and develop didactic skills. During this symposium, the students also get to know the projects of all other IMHAI students. In addition, international speakers in the respective main subject areas may be invited to the symposium, so that IMHAI students can interact with recognized experts and create an opportunity for networking.

3.2. Recommended arrangement of semesters and courses

1st Semester

Module / Courses	Course type	Semester hours	ECTS credits
Module 1 – Foundations of Human-Animal Interactions: Human Perspectives		**4**	**7**
One Health: Immune Resilience in a Changing World	VO	2,67	5
Psychological Fundaments of HAI and Animals Impacting Human Well-Being	VO	1,33	2
Module 2 – Foundations of Human-Animal Interactions: Animal Perspectives		**9,5**	**10**
The Animal's Perspective 1: How Animals Behave	VK	2	2
The Animal's Perspective 2: How Animals Feel	VT	2	2
The Animal's Perspective 3: How Animals Think	VO	3	3
The Animal's Perspective 4: Evolution, Behaviour and Cognition of Domesticated Species	VS	2,5	3
Module 3 – Foundations of Human-Animal Interactions: Ethical and Societal Perspectives		**3**	**5,5**
Introduction to Ethics and Human-Animal Studies I	VO	2	2
Introduction to Ethics and Human-Animal Studies II	UE	1	3,5
Module 4 – Human-Animal Interactions in Practice		**6**	**7,5**
Human-Animal Relationship in Practice – Variations, Causes and Effect	VS	2	2,5
Interdisciplinary course on human-animal interactions – influences, challenges and solutions	VS	4	5
Overall		**22,5**	**30**

2nd Semester

Module / Courses	Course type	Semester hours	ECTS credits
Module 5 – Research Methods in Human Animal Interaction		**15**	**20**
An Interdisciplinary Introduction to Scientific Methods	KV	1	1
General Methods of Life Sciences Including Statistics	VK	3	4
Current Methods in Comparative Medicine	UE	2	2
Current Methods in the Behavioural Sciences and Animal Welfare Sciences	VU	7	8
Philosophical Research Methods	SE	2	5
Module 6 – Research Project I		**4**	**8**
Research Project I	IP	4	8
Module 7 – Interdisciplinary Journal Club		**1**	**2**
Interdisciplinary Journal Club	SE	1	2
Overall		**20**	**30**

3rd / 4th Semester

Module Courses	Course type	Semester hours	ECTS credits
Module 8 – Research Project II		**9**	**13**
Research Project II	IP	9	13
Module 7 – Interdisciplinary Journal Club and Thesis Seminar in Human-Animal Interaction		**2**	**2**
Interdisciplinary Journal Club	SE	1	1
Thesis Seminar	SE	1	1
Electives			**10**
IMHAI Symposium	IP	**1**	**5**
Master Thesis			**27**
Master Examination			**3**
Overall		**12**	**60**

4. Examination regulations

The examination regulations of this master's programme are based on Articles 72 ff of the Austrian Universities Act *(UG 2002)* and the legal aspects of the statutes of the University of Veterinary Medicine, Vienna. The examiner is generally the lecturer whose course a student has attended.

The master's programme is considered to have been successfully completed when the following preconditions have been met:

- The successful completion of the modules prescribed in the curriculum
- The successful completion of elective courses sufficient to acquire the required number of ECTS credits
- The successful completion of the master's thesis
- The positive completion of the master's examination

Examination formats

Course examinations
Courses with non-continuous assessment
Courses taught via lectures are assessed with course examinations which serve to prove the knowledge and skills imparted by the individual course. The assessment is based on a single examination act at the end of the course. The examinations can be conducted in writing or orally.

Courses with continuous assessment
Continuous assessment courses are courses in which the grade is based on several written and/or oral assignments completed by the student during the course.

Module assessment
The assessment of the modules is carried out through assessments of the assigned courses.
The module is considered to have been successfully completed if all of the related courses have been successfully completed.
The grade is obtained by averaging the grades of the courses assigned to the module, whereby the grades are weighted with the ECTS credits scope of the courses.

Master's examination by commission
The prerequisite for admission to the master's examination is the positive completion of all modules and examinations described in the curriculum as well as the positive assessment of the master's thesis.
The master's examination consists of an oral exam with a defence held before an examination board.

5. Master's thesis

The master's thesis is a piece of work on a scientific and/or philosophical topic, which must be completed as part of the master's degree programme. With the master's thesis, students demonstrate that they are able to work on a scientific or philosophical question independently and methodologically justifiable.

The topic of the master's thesis is to be chosen in such a way that it is possible and reasonable to complete within six months.

The master's thesis is to be written in English, and style and criteria have to be in accordance with relevant academic journals of the respective discipline(s). Master's theses are a scientific piece of academic work the format and scope of which are defined in the guideline for the preparation of master's theses.
It is permissible to work in collaboration with several other students provided that the performance of each student can be evaluated separately. In accordance with section §73 (1) Austrian Universities Act (UG 2002), master's theses are graded as: very good (1), good (2), satisfactory (3), sufficient (4) or insufficient (5).

The master's thesis can be submitted for assessment after successful completion of the modules:

- Foundations of Human-Animal Interactions: Human Perspectives
- Foundations of Human-Animal Interactions: Animal Perspectives
- Foundations of Human-Animal Interactions: Ethical and Societal Perspectives
- Human-Animal Interactions in practice
- Research Methods in Human Animal Interaction
- Research Project I
- Research Project II
- Interdisciplinary Journal Club and Thesis Seminar in HAI
- IMHAI Symposium
- Electives

6. Graduation

Graduates of the Interdisciplinary master's programme in Human-Animal Interaction are awarded the academic degree "Master of Science" abbreviated with "MSc."

The completed master's programme "Interdisciplinary Master in Human-Animal Interaction" entitles graduates to take up a doctoral or PhD programme, and enables them to alternatively exercise a managerial role of the professional fields mentioned under 1.2

7. Entry into force

The curriculum comes into force on October 1, 2023.

8. Transitional provisions

Students who have not completed the “Interdisciplinary Master in Human-Animal Interactions” (“Bulletin of the University of Veterinary Medicine Vienna, Part 19, No. 46 from May 15 2012) as amended when this curriculum comes into force can switch to the new curriculum or can finish the programme by the end of summer semester 2023. For students who would like to change to the new curriculum instead, exams that have already been successfully completed are recognized according to the equivalence list.

Curriculum 2012	**Curriculum 2020**
Anatomy, Physiology and Genetics (300006, EM) **and** Comparative Pathophysiology and Pathology (300019, EM) **and** Comparative Nutrition and Dietetics (300029, SE)	M1 - One Health: acquiring resilience in a changing world (VO)
Anatomy, Physiology and Genetics (300006, EM)	M1 - Psychological fundaments of HAI and animals impacting human well-being (VO)
Introduction to Animal Behaviour (300002, EY)	M2 - The animal’s perspective 1: How animals behave (VK)
Motivation, Emotion and Personality in Animals (300012, EY) **and** Applied Ethology and Animal Welfare I: Basic Principles and Concepts (300003, EL)	M2 - The animal’s perspective 2: How animals feel (VT)
Introduction to Cognitive Biology (300001, EY)	M2 - The animal’s perspective 3: How animals think (VO)
Canine Evolution, Behaviour and Cognition (300013, EM) **and** Behaviour, Husbandry and Welfare of Farm Animals (300004, EL) **and** Behaviour, husbandry and welfare of companion animals including basic aspects of behavioural therapy (300014, EL)	M2 - The animal’s perspective 4: Evolution, behaviour and cognition of domesticated species (VS)
Introduction to Theoretical Philosophy and Philosophy of Science (300008, VO) **and** Introduction to Practical Philosophy (300009, EM)	M3 - Introduction to Ethics and Human-Animal Studies (VO)
Reading Course on Animal Ethics (300011, EZ)	M3 - Introduction to Ethics Human Animal Studies (UE)
Human-animal-relationship I: Biological and psychological fundamentals (300005 , EM) **and**	M4 - Human-animal relationship in practice – variations, causes and effects (VS)

Human-animal-relationship II: importance for animal and human welfare (300017, EM) **and** Handling of farm and companion animals (300018, EB)	
Introduction to Applied Ethics and its Methodologies (300010, EB) **and** Behaviour, Husbandry and Welfare of Farm Animals (300004, EL) **and** Current Debates in Applied Animal Ethics (300024, EZ)	M4 - Interdisciplinary course on human-animal interactions – influences, challenges and solutions (VS)
Into Science: Practical Course in Behavioural and Cognitive Sciences (300025, VI) **and** Project work: Applied Ethology and Animal welfare (300028, SI) **and** Applied Ethology and Animal Welfare II: Animal Welfare assessment (300015, ET) **and** Practical Course on Ethics and Human-Animal Studies (300031, IP)	M5 - An interdisciplinary introduction to scientific methods (KV) M5 - General methods of life sciences including statistics (VS) M5 - Current Methods in Comparative Medicine (UE) M5 - Current methods in the Behavioural Sciences and Animal Welfare Sciences (VU) M5 - Philosophical Research Methods (SE)