Academic Regulations and Procedures for Students of the Master Program Infection Biology at the Universität zu Lübeck awarding the Degree "Master of Science"

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§ 1
Area of Application

These academic regulations and procedures of the master degree program "Infection Biology", together with the examination rules and regulations of the Universität zu Lübeck, apply to students in the bachelor and master degree programs (see Examination Rules and Regulations) at the Universität zu Lübeck.

§ 2
Program Objective

The aim of the Master in Infection Biology is to comprehensively prepare the students for scientific and applied research in the field of human and animal pathogens.
Worldwide, infections are the main causes of increased mortality and morbidity, confronting society with health policy challenges, which require the expertise of well-trained graduates for research and practice in basic science, clinical and pharmaceutical research and development, in teaching and training as well as in diagnostics, epidemiology and health policy. Since infectious diseases pose a global problem, qualified foreign applicants will especially be targeted for admission.
The lectures, seminars and internships/work placements offered, address the microbiology, immunology, cell biology, biochemistry, biophysics, clinical presentation (pathogenesis, diagnosis, treatment, prevention) and the epidemiology of infectious diseases and their pathogens (bacteria, viruses, parasites, fungi) in basic and intensified forms.
On the basis of pathogen-host interaction in infections, the students will gain comprehensive theoretical and practical training in dealing with biological systems. They will be able to use these skills not only to study infectious diseases but also in other biomedical research areas.

In addition to the scientific and technical skills, the students will also learn how to communicate science topics in the English language.
Furthermore, critically scrutinizing published scientific data, skills in documentation of own research data as well as the capability to present scientific content in an oral and written form is practiced. Students will also be trained both, to develop the capacity for independent scientific work and to acquire team skills.
The skills acquired through of lecture and seminars will be trained in various practical courses and internships by solving scientific problems and designing practical , feasible solutions for current scientific questions. In addition, the awareness of students will be sharpened with regard to ethical issues in bio-medical research. It is strongly encouraged that the students choose their research topics for both, internships as well as master thesis on an individual basis and also organize their research stays abroad or in industry by themselves.
At the end of the course, students should be able to use their knowledge and skills in academic or industrial environments in a competent, independent and successful way.

§ 3
Admission Requirements for the Master Program and Commencing Studies

(1) Admission requirements for the master degree program "Infection Biology" are as follows:

a) one of the following degrees:

aa) the completion of a bachelor degree program accredited under the accreditation guidelines of *The Standing Conference of the Ministers of Education and Cultural Affairs of the Länder (States) in the Federal Republic of Germany (KMK)* of a minimum of 180 credits (CP) in biology or human biology or the second state examination in human medicine,

bb) the completion of a domestic bachelor degree program of a minimum of 180 credits (CP) with a related academic profile, or

cc) the completion of a foreign bachelor degree program of a minimum of 180 credits (CP) with a related academic profile,

b) a practically-oriented bachelor thesis in life science or a related field that has been recorded in writing or equivalent work and

c) proof of a special qualification for the master degree program in accordance with paragraph 4 as well as the proof of sufficient knowledge of English (e.g. TOEFL).

(2) The Examination Board, in accordance with § 7 of the Examination Rules and Regulations, is responsible for admission; particularly the verification of the requirements as stated in paragraphs 3 – 5 and the evaluation of whether the profile of a degree program is related.

(3) For applicants under paragraph 1, a, aa, the special qualifications under paragraph 1 c are deemed proven, when the bachelor examination or the state examination has been completed with a grade point average of 2.3 or better. These applicants are generally admitted subject to the number of available places. If the number of applicants exceeds the number of places available, the places will be allocated according to the degree of qualification. The ranking of the applicant is then determined on the basis of the grade point average obtained in the bachelor examination. In cases of the same grade point average, the ranking will be determined by lottery.

(4) Applicants referred to in paragraph 1 a, bb and cc can be admitted on an individual, case by case basis by the Examination Board by means of the submitted transcripts, the bachelor thesis or other proven research-based experience.

(5) The provisions in paragraph 4 shall accordingly apply to applicants under paragraph 1 a, aa with a poorer grade point average than 2.3.

(6) Up to 50% of the available places in each academic year will be primarily awarded to applicants under paragraph 1 a, cc. The remaining places, including those for which no suitable applicants were found under paragraph 1 a, cc, will be preferentially awarded to applicants who fulfill the requirements according to paragraph 1 a, aa and then to applicants who fulfill the requirements under paragraph 1 a, bb or paragraph 5 in the ranking order of their qualifications.

(7) Admission will be denied if the candidate for the master examination or the diploma examination has failed an “Infection Biology” degree program or a related program at a university or equivalent school of higher learning within the scope of the Higher Education Act or if involved in a review process in said degree program.

(8) Admission into the degree program can only take place in the winter semester.

§ 4
Course-related Subject Examinations

Course-related subject examinations for the modules in the appendix to these academic regulations and procedures must be passed for the master examination. The execution of the subject examinations shall be regulated by the Examination Rules and Regulations.

§ 5
Language of Instruction

The language of instruction is English. In deviation from § 10 paragraphs 2 and 3 of the Examination Rules and Regulations, the coursework and assessments will as a rule take place in English.

§ 6
Prerequisites for the Master Thesis

The authorization to commence work on the master thesis (§ 13 of the Rules and Regulations) can only take place when the requirements according to § 9 of the Rules and Regulations have been fulfilled, a student is at least in the third semester and has submitted proof of completion of at least 77 CP through award certificates in categories A and B along with the application.

Appendix I to Academic Regulations and Procedures for the Master Program Infection Biology of the Universität zu Lübeck: Scope of the Requirements and Methods of Assessment for the Master Examination

The following table shows the requirements and assessment methods for the master examination. The list includes how the assessments are usually made. Written examinations and assignments are marked with a "K", oral examinations / viva voce with an "M" and each internship / work placement report with a "T". Optional modules are marked with a "WP". SWS semester hour; KP CP/credits; V lecture; P internship/work placement; S seminar; Ü laboratory.

Infection Biology – Modules

Module Number	**Module**	**SWS**	**KP**	**Type of certificate**	**Type of Assessment**
LS 4015	Infection Biology 1	4V	6	A	M, K
LS 4145	Infection Biology 2	2V + 3P	5	A	M, K, T
LS 4035	Immunology	4V	6	A	M, K
LS 4175	Medical Microbiology (C)	4S	6	A	M, K
LS 4020 IB	Structural biology of Infection (C)	4V	6	A	M, K
LS 4045	Diagnosis of Infectious Diseases	2V + 2P + 1S	5	A	M, K, T
LS 4155	Anti-microbial Therapy and Prophylaxis	4S	6	A	M, K
LS 4185	Pathogen-Host Interaction (C)	2V	3	A	M, K
LS 4115	Practical course 1 (C)	24P	16	A	M, T
LS 5205	Consolidation in Infection Biology (C)*	4V/S/P	6	A	M
CS 4011	Biomathematics, Modelling und Biostatistics (C)	2V + 1Ü	4	A	K, M
LS 4025	Clinical Aspects of Infection	3V + 1Ü	5	A	M, K, T
LS 4165	Model Systems of Infection	3V + 2Ü + 2P	9	A	K, M, T
PS4610	Ethics of Research / Scientific Writing	2V + 2S	7	B	M, T
LS 5995	Master Thesis in Infection Biology		30	A	
	Total		**120**		

* The optional modules come under the subject areas "Infection Biology" and "Cellular and Mollecular Microbiology". Every winter semester, a minimum of four modules from each of the two subject areas are offered.

Appendix II to Academic Regulations and Procedures for the Master Program Infection Biology of the Universität zu Lübeck: Curriculum

Semester	Infection biology	Cellular and Molecular Microbiology		Interdisciplinary Section and Clinical Aspects	KP / SWS
1.	**LS4015 Infection Biology 1**	**LS4020-IB Structural Biology of Infection** [Compulsatory; Choice of 2 courses] **A Protein Structure/Crystallography** **B Biological NMR Spectroscopy** **C Single Molecule Methods** **D Microscopy: techniques and applications** **E Basics of Membrane Biophysics** **F Protein-Biophysics**		**LS4025 Clinical Aspects of Infection**	
KP	6	6		5	
V/Ü/P/S	4 / 0 / 0 / 0	2V each		3 / 1 / 0 / 0	
	LS4035 Immunology	**LS4045 Diagnosis of Infectious Diseases**		**CS4011 Bioinformatics, Modelling, Biostatistics** [Compulsatory; Choice of 1 course] **A Introduction to Bioinformatics** **B Modeling biological systems** **C Genetic epidemiology** **D Microarray Data analysis**	
KP	6	5		4	32
V/Ü/P/S	4 / 0 / 0 / 0	2 / 0 / 2 / 1		2 / 1 / 0 / 0	24
2.	**LS4145 Infection Biology 2**	**LS4155 Anti-microbial Therapy and Prophylaxis** **A Therapies** **B Vaccination strategies**		**LS4165 Model Systems of Infection**	
KP	5	6		9	
V/Ü/P/S	2 / 0 / 3 / 0	0 / 0 / 0 / 2	0 / 0 / 0 / 2	3 / 2 / 2 / 0	
	LS4175 Medical Microbiology [Compulsatory; Choice of 2 courses] **A Molecular Virology** **B Bacterial Virulence Factors** **C Pathogen Niches** **D Inflammation**	**LS4185 Host-Pathogen Interaction** [Compulsatory; Choice of 1 course] **A Principles and Analysis of HPI** **B Rational Drug Design**			
KP	6	3			29
V/Ü/P/S	2S each	2 / 0 / 0 / 0			22

3.	**LS4115 Practical Course**		
KP	**16**		
V/Ü/P/S	**0 / 0 / 24 / 0**		
	LS5205 Consolidation in Infection Biology [Compulsatory; Choice of 2 courses]		
KP	**6**		
V/Ü/P/S	**2S each**		
	Start Master Thesis MIB		
	6		
4.	**LS5995 Master Thesis MIB**		
KP	**24**		**28**
SWS			**28**
		PS4610 Ethics in Science / Scientific Writing	
KP		**7**	**31**
SWS		**2 / 0 / 0 / 0** | **0 / 0 / 0 / 2**	**4**
1. – 4.			**120** **80**

LS5205 Consolidation in IB:

LS5205-IB1:	Tuberculosis
LS5205-IB2:	Virus Host Interaction
LS5205-SG:	Structural Aspects of Protein biosynthesis
LS5205-ZB:	Cell Biology of the Senses
LS5205-ZF:	Gene Expression
LS5205-ZH:	DNA damage response in of malign lymphomas during pathogenesis
LS5205-ZI:	Molecular marker of malignant lymphomas
LS5205-ZK:	Cellular Microbiology & Inflammatory Diseases
LS5205-ZL:	Animals in experimental neuropharmacology
LS5205-ZM:	Molecular biology of virus infections of cytopathogenic and non-cytopathogenic viruses
LS5205-ZN:	Chronobiology