

English Translation

**Academic Regulations and Procedures for Students
of the Infection Biology
Master Program at the Universität zu Lübeck
Awarding the Degree “Master of Science”**

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§ 1

Area of Application

These academic regulations and procedures are valid in connection with the Examination Rules and Regulations (PVO) of the Universität zu Lübeck for Students of the “Infection Biology” master program at the Universität zu Lübeck.

§ 2

Program Objective

(1) The Master program comprehensively prepares graduates 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 university 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.

(2) Based on the problematic nature of pathogen-host interactions in infections, students will receive extensive theoretical and practical training in dealing with biological systems. They will acquire the skills to use this knowledge to combat infectious diseases as well as to contribute to other biomedical research areas. In addition to scientific and technical skills, students will also learn essential skills for scientific communication using the English language. Critical analyzation of published data and methods, the ability to document one’s own data, being able to present scientific content in oral and written form as well as to formulate research proposals are all part of the learning, as is the development of skills for both independent scientific work and participation in interdisciplinary work groups and honing teamwork skills. Skills acquired through lectures and seminars will be applied in various internships (aka practicals/work placements) for the analysis of scientific problems and designing

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practical, feasible solutions for current scientific issues. This includes creating awareness of the ethical implications of biomedical research and imparting basic skills for social discourse on research. The independent selection of research topics by the students as well as the autonomous organization of research abroad or in industry, within the context of internships or the master thesis, is strongly encouraged. At the end of the degree program, students should be able to competently, independently and successfully use their knowledge and skills in academic or industrial environments.

(3) The degree program is internationally oriented, as infectious diseases pose a global problem. For this reason, foreign applicants will also be targeted for admission. The lectures, seminars and internships offered in the master program in Infection Biology address microbiology, immunology, cell biology, biochemistry, biophysics, the clinical presentation (pathogenesis, diagnosis, treatment, prophylaxis/prevention) and epidemiology of infectious diseases and their pathogens (bacteria, viruses, parasites, fungi), both fundamentally and intensively.

§ 3

Admission and Acceptance to the Degree Program

(1) Admission requirements for the master degree program "Infection Biology", which the applicant must provide evidence of, are as follows:

1. A bachelor degree in biology, biochemistry, human biology or the second state examination for human or veterinary medicine or a related field, for which the applicant must prove,
 - a) that she or he has earned a bachelor degree or the equivalent degree in biology, biochemistry or human biology or the second state exam for human or veterinary medicine or in a closely-related program of study at a German university or at a university that belongs to a country participating in the Bologna Process, or
 - b) that she or he has earned an equivalent degree in a closely-related program of study at a foreign university.

The equivalence of a foreign qualification will be determined in accordance with the assessment recommendations (aka Statement of Comparability) of The Standing Conference of the Ministers of Education and Cultural Affairs of the Länder (States) in the Federal Republic of Germany (<https://www.kmk.org/kmk/information-in-english.html>). The marks on the foreign proof of qualification are to be converted to the German marking system.

2. Proof of special qualifications, in which the first degree was completed with a grade of 2.3 or better.
3. Proof of sufficient knowledge of English in accordance with CEFR B2 (proven by submission of a German Abitur certificate showing courses in the language were taken for at least seven years,

or through appropriate language tests (e.g. TOEFL, IELTS). Further information concerning the provision of evidence can be found on the homepage of the degree program).

(2) The Examination Board makes all decisions concerning the evidence provided and the fulfillment of the application requirements stated in paragraph 1.

(3) If the qualifying program of study has not yet been completed at the time of application, but the bachelor thesis has already been begun, the submission of proof of examinations resulting in a minimum of 150 credit points and an average score of 2.3 or better is sufficient for conditional admission. In this case, evidence of the successful completion of the degree must be submitted within three months of beginning the studies. Failure to do so will result in disenrollment.

(4) Admission will be denied if the applicant has irrevocably failed an examination deemed necessary by the Examination Regulations of an Infection Biology degree program at a university of applied sciences in Germany or if the applicant is involved in a review process in said degree program.

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

§ 4

Curriculum

The degree program is comprised of modules, which predominantly serve the specialized qualifications and modules, which impart in particular basic and intensive multidisciplinary content in the areas of microbiology, immunology, cell biology, biochemistry, biophysics, clinic (pathogenesis, diagnosis, treatment, prophylaxis) and epidemiology of infectious diseases and their pathogens.

§ 5

Structure and Scope of the Degree Program

(1) The degree program courses comprise a total of 120 credit points (KP) according to ECTS standards, with a prescribed period of study of two years. Credit points earned per teaching module:

- in the compulsory section Infection Biology, 26 KP
- in the compulsory section Clinical Aspects, 14 KP
- in the subject-specific optional courses of Microbiology, 25 KP
- in the interdisciplinary optional and compulsory course section, 25 KP
- the master thesis is worth 30 KP, with a final colloquium.

(2) Participation in further training modules offered by the university, which are beyond those specified in paragraph 1 of the module handbook, is possible and recommended. The results of such examinations can, upon request, be listed in the Diploma Supplement, provided they are included in one of the module handbooks of a degree program of the Universität zu Lübeck.

(3) The teaching modules of the individual sections and the optional courses are listed in the annex and described in detail in the module handbook. Mandatory as well as elective modules which are part of the of a prior bachelor degree program and have already been successfully completed cannot be chosen within the master degree program.

(4) Courses and examinations are conducted in English. By way of derogation from § 12 paragraph 2 and § 16 paragraph 4 of the PVO, examination tasks are, as a rule, completed in English.

§ 6

Internships

For the master examination, two internships must be completed for a total of 22 weeks; one of the internships must have a duration of at least three months. The internships are for practical training and to prepare for future jobs. For this purpose, working in a business enterprise is just as suitable as that in non-university or university research institutions, provided that the activity conducted there has to do with ongoing research and development issues of the respective department and satisfies the demands made on a graduate of the master program in Infection Biology. The decision on this is made on an individual basis by the Examination Board.

§ 7

Master Examination and Examination Prerequisites

(1) The master examination consists of course-related subject examinations for the individual teaching modules and the master thesis with a final colloquium. Examinations in accordance with § 12 paragraph 1 in conjunction with §§ 13 ff. PVO are required for the modules of the categories A and B.

(2) In principle, admission to the course-related subject examinations occurs, in accordance with § 11 PVO, with the enrollment in the Infection Biology master program. For admission to a subject examination, according to § 11 paragraph 2 PVO, there could be specific prerequisites defined in the module handbook to be met before the module. Prerequisites must be completed and proof submitted before the time of the examination; they are not included in the module grade.

(3) The application for permission to do the master thesis is, in accordance with § 11 paragraph 5 PVO, to be made separately in writing to the chairperson of the Examination Board.

§ 8

Prerequisites for the Master Thesis

The authorization to commence work on the master thesis can only be granted if a student fulfills the prerequisites laid out in § 11 PVO, is at least in the third semester, and has submitted perfor-

mance certificates from the degree program comprising at least 70 ECTS in accordance with § 5 paragraph 1. The internships must have been completed; however module examinations may still be pending.

Appendix 1 to Academic Regulations and Procedures for the Infection Biology Master Program of the Universität zu Lübeck

The Module Catalog

1. Preliminary remarks

In the following tables, the teaching modules (LM) are listed for which performance certificates (LZF) must be earned in order to pass the master examination, divided into the various fields of study. For each teaching module the amount of average contact hours per week (SWS), the type – lecture (V), laboratory (Ü), internship (P) or seminar (S) – the number of credit points (KP) according to the European Credit Transfer System, and the type of performance certificate – category A or B – are indicated. Further details, such as learning objectives and content, the required coursework or the type of examination are described in the module handbook (MHB).

2. General instructions and rules for the selection of teaching modules

Students have freedom of choice concerning the optional teaching modules, taking into account the examination requirements. The following rules must be observed:

- Courses cannot be counted more than once.
- Courses, which have already been specified in the examination certificate or Diploma Supplement of the qualifying bachelor degree program, cannot be selected.
- Further courses or module combinations may be accepted by the Examination Board if the request has been properly justified.
- Of the optional courses, only a limited number of teaching modules and only with sufficient demand will be offered in each academic year.

3. Compulsory teaching modules from the field of Infection Biology

Compulsory teaching modules	SWS	KP	Type LZF
LS4015-KP06 Infection Biology 1	4V	6	A
LS4145-KP05 Infection Biology 2	2V+3P	5	A
LS4035-KP06 Immunology	2V+2S	6	A
LS4165-KP09 Model Systems of Infection	3V+2S+2P	9	A
Total		26	

4. Compulsory teaching modules from the field of Clinical Aspects

Compulsory teaching modules	SWS	KP	Type LZF
LS4045-KP05 Diagnostical Methods in Microbiology and Pathology	2V+2P	5	A
LS4025-KP03 Clinical Aspects of Infection	2V	3	A
LS4155-KP06 Anti-microbial Therapy and Prophylaxis	2V+2S	6	A
Total		14	

5. Optional teaching modules from the field of Microbiology

Optional teaching modules	SWS	KP	Type LZF
LS4175-KP06 Medical Microbiology	4S	6	A
LS4185-KP03 Host-Pathogen-Interaction	2V/S	3	A
LS4115-KP16 Internships	24P	16	A
Total		25	

6. Interdisciplinary optional and compulsory teaching modules

Optional teaching modules	SWS	KP	Type LZF
LS4021-KP06 Structural Biology of Infection	4V	6	A
LS5205-KP06 Consolidation Courses	4S/P	6	B
Compulsory teaching modules			
PS4611-KP07 Ethic in Science / Scientific Writing	4S	7	B
MA1610-KP06 Applied Biostatistics and Epidemiology	4V+2Ü	6	A
Total		25	

7. Master Project

Master thesis with colloquium	Time allowed	KP
LS5995-KP30 Master Thesis in Infection Biology	6 months	30

Appendix 2 to Academic Regulations and Procedures for the Infection Biology Master Program of the Universität zu Lübeck

The following table describes the recommended course of studies.

1. Semester (32 KP)	2. Semester (29 KP)	3. Semester (29 KP)	4. Semester (30 KP)
LS4015-KP06 Infection Biology 1 6 KP (4V)	LS4145-KP05 Infection Biology 2 5 KP (2V+3P)	LS4115-KP16 Internships 16 KP (24P)	LS5995-KP30 Masterthesis in Infection Biology 23 KP
LS4035-KP06 Immunology 6 KP (2V+2S)	LS4165-KP09 Model Systems of Infection 9 KP (3V+2S+2P)		
LS4045-KP05 Diagnostical Methods in Microbiology and Pathology 5 KP (2V+2P)	LS4155-KP06 Anti-microbial Therapy and Prophylaxis 6 KP (2V+2S)	LS5205-KP06 Consolidation Courses 6 KP (4S/P)	PS4610-KP07 Ethic in Science / Scientific Writing 7 KP (4S)
LS4025-KP03 Clinical Aspects of Infection 3 KP (2V)	LS4175-KP06 Medical Microbiology 6 KP (4S)		
LS4021-KP06 Structural Biology of Infection 6 KP (4V)	LS4185-KP03 Host-Pathogen Interaction 3 KP (2V/S)	LS5995-KP30 Begin Masterthesis in Infection Biology 7 KP	
MA1610-KP05 Biostatistics and Epidemiology 6 KP (4V+2Ü)			
6 Prüfungen	5 Prüfungen	3 Prüfungen	2 Prüfung
Semesterwochenstunden: Vorlesung / Übung / Praktikum / Seminar			KP: Kreditpunkte / ECTS-Punkte
Pflichtmodul	Wahlpflicht	Pflichtmodul	Bereich
Infektionsbiologie	Mikrobiologie	Klinische Aspekte	fächerübergreifend