

Course of Study-Specific Examination Regulations

For the Master's course of study

Lasers in Dentistry (LASERS)

of RWTH Aachen

dated April 11, 2018

On the basis of §§ 2 para. 4, 22, para. 1 p.1 no.3, 64 of the law governing the Universities of the Federal State of North Rhine-Westphalia (Higher Education Act – HEA) in the version of Article 1 of the Future Higher Education Act NRW of September 16, 2014 (GV. NRW p. 547), most recently amended by Article 3 of the Act to Ensure the Accreditation of Courses of Study in North Rhine-Westphalia from October 17, 2017 (GV. NRW p. 806), RWTH Aachen University (RWTH) has issued the following examination regulations:

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I. General Information

Art. 1

Scope of Application and Academic Degree

- (1) These examination regulations apply to the Master's course of study Lasers in Dentistry at RWTH. It only applies in conjunction with the General Examination Regulations (GER) in the relevant applicable version, and includes additional course of study-specific regulations. In cases of doubt, the regulations of the general examination regulations take priority.
- (2) For the successful completion of the Master's course, the Faculty of Medicine awards the academic degree Master of Science, RWTH Aachen University (M. Sc. RWTH) to the candidate.

Art. 2

Objectives of the Course of Study and Language Provisions

- (1) This is a Master's course for the purpose of continuing education according to § 2 para. 4 GER.
- (2) The overall educational objectives are set out in § 2 para. 1, 3 and 4 GER. For further information and provisions on the objectives of the Master's course of study, please refer to the Appendix 3 of the present examination regulations.
- (3) Teaching takes place in English and/or German.

(4) Examinations may be taken in German or English, in agreement with the examiner in question.

Art. 3

Admission Requirements

- (1) Basic requirement for admission is a recognized university degree according to § 3 para. 4 GER.
- (2) To meet the educational prerequisites and successfully complete the Master's course of study Lasers in Dentistry, the student applicant must have the necessary competence in the following areas:
 - a. Approbation as a dentist or an equivalent qualification for foreign study applicants
 - b. as a general rule two years of dental work in a clinic or practice.
- (3) For admission conditional on additional requirements, § 3 para. 6 GER applies. If additional requirements corresponding to more than 30 credit points are required, admission to the Master's course of study is not possible.
- (4) For this Master's course of study, adequate knowledge of the English language must be proven according to § 3 para. 9 GER.
- (5) § 3 para. 12 GER applies for determining whether admission requirements are met.
- (6) General regulations for the recognition of prior examinations are given in § 13 GER.

Art. 4

Standard Period of Study, Curriculum, Credit Points and Scope of Study

- (1) The standard period of study is four terms (two years) full-time, including preparation of the Master's thesis. The program can only be started in the winter semester.
- (2) The program consists only of compulsory modules. To successfully complete the program, it is necessary to achieve a total of 60 CP. The Master examination is composed as follows:

Compulsory Modules	40 CP
Master Thesis	20 CP
Total	60 CP

- (3) The degree course, including the Master's thesis module, comprises 10 modules. All modules are defined in the module catalogue. The weighting of the examinations with credit points to be taken in the individual modules is carried out according to § 4 para. 4 GER.
- (4) RWTH International Academy gGmbH ensures through its academic offering that the prescribed program duration will be met, that in particular the modules required for successful completion and the associated examinations as well as the master thesis are completed as per the time frames set in the program schedule and prior to the intended deadlines.

Art. 5

Obligatory Attendance in Classes

- (1) According to § 5 para. 2 GER, obligatory attendance can only be stipulated in courses of the following type:
 1. Tutorials
 2. Seminars and introductory seminars
 3. Colloquia
 4. (Laboratory) practicals
 5. Excursions
- (2) The courses for which attendance is required according to para. 1, are identified as such in the module catalogue.

Art. 6

Examinations and Examination Deadlines

- (1) General regulations on examinations and examination periods are included in § 6 GER.
- (2) Provided successful participation in modules or examinations or passing of module components according to § 5 para. 4 GER is stipulated as a precondition for participation in other examinations, this is indicated accordingly in the module catalogue.

Art. 7

Types of Examinations

- (1) General regulations on types of examination are included in § 7 GER.
- (2) The duration of written examination is
 - 60 to 90 minutes for up to 5 CP
 - 90 to 120 minutes for up to 6 or 7 CP
 - 120+ minutes and more for 8 or more CP
- (3) The duration of an oral examination per candidate for a module with up to 5 CP is at least 15 minutes and at most 45 minutes, and for a module with more than 5 CP, it is at least 30 and at most 60 minutes. An oral examination as a group examination is conducted with no more than four candidates.
- (4) The scope of a written homework should not exceed 8 pages. The completion time of a written homework depends on the CP assigned for it.
- (5) The length of the written elaboration of a presentation is to be 6 to 8 pages. The duration of the presentation is 20 minutes.
- (6) For colloquiums, the following applies specifically: The duration of a colloquium is at least 15 and at most 60 minutes.
- (7) The examiner specifies the duration of the examination and, if applicable, of other modalities of the examination at the start of the course in question.
- (8) Admission to module examinations may be conditional on the successful completion of module components as examination requirements in accordance with § 7 para. 15 GER. This is outlined for the relevant modules in the module catalogue. At the start of term, or by the time of the first

course session, the lecturer provides precise criteria in the CMS regarding possible improvement of grades through the completion of module components, particularly the number and type of bonus-enabling tutorials as well as the mode of correction and assessment.

Art. 8

Assessment and Grading

- (1) General regulations for assessing the examinations and the formation of grades are included in § 10 GER.
- (2) If an examination consists of several partial exams, each partial exam must be passed, i.e. be completed with the grade of at least "sufficient" (4.0).
- (3) A module has been passed if all associated partial examinations have been passed with a grade of at least "sufficient" (4.0), and all other credit points or module components have been achieved according to the relevant course of study-specific examination regulations.
- (4) The overall grade is formed taking into account all module grades and the grade of the Master's thesis according to § 10 para. 10 GER.

Art. 9

Examination Board

The responsible Examination Board according to § 11 GER is the Master's Examination Board Lasers in Dentistry of the Faculty of Medicine.

Art. 10

Repeating Examinations or the Master's Thesis, Loss of the Right to Examination

General regulations for resit examinations, the Master's thesis, and the loss of the right to examinations are included in § 14 GER.

Art. 11

Cancellation, Non-Attendance, Withdrawal, Deception, Non-Compliance

- (1) General provisions on cancellation, non-attendance, withdrawal, deception or non-compliance are included in § 15 GER.
- (2) The following shall apply to the deregistration of examinations pursuant to § 15 (1) GER: The program manager and the examiner must be notified in writing by e-mail of any cancellation of an examination up to 3 working days prior to an examination.

II. Master Examination and Master Thesis

Art. 12

Type and Scope of the Master's Examination

- (1) The master examination consists of
 1. examinations that are to be completed based on the structure of the course of study according to § 4 para. 2 and detailed in the module catalogue, as well as
 2. the Master's thesis.

- (2) The order of courses is based on the curriculum (appendix 2). The assignment for the Master's thesis can only be issued if the module Laser Safety and Optics as well as the module Dosimetry, Literature Research, Caries Fluorescence Diagnostics, Laser Physics (including the qualification as laser safety officer) were successfully completed to the total amount of 9 CP.

Art. 13

Master Thesis

- (1) General regulations for the Master's thesis are included in § 17 GER.
- (2) Reference is made to § 17 para. 2 GER with regard to supervision of the Master's thesis.
- (3) The master thesis is to be written in the English language. It can usually be written in German or English, in agreement with the examiner in question.
- (4) The turnaround time (time frame for completion) for the Master's thesis is usually a maximum of six months parallel to courses. Upon appeal to the examination board, the turnaround time can be fixed at up to 24 months. In justified exceptional cases, the turnaround time can be extended by a maximum of up to six weeks upon application to the Examination Board in accordance with § 17 para. 7 GER.
- (5) The scope of work for execution and written preparation of the Master's thesis corresponds to 20 credit points.

Art. 14

Acceptance and Assessment of the Master's Thesis

- (1) General provisions on acceptance and assessment of Master's thesis are included in § 18 GER.
- (2) The Master's thesis is to be submitted on time with three copies to the Central Examination Office. Printed, bound copies must be submitted. Furthermore, the thesis must be submitted as a PDF file on a data carrier. All collected data must also be stored on this data carrier.

III. Final Provisions

Art. 15

Inspection of Examination Files

Review of exam documents is carried out in accordance with § 22 GER.

Art. 16

Coming into Effect, Publication and Transitional Provisions

- (1) These examination regulations are published as an Official Announcement of RWTH Aachen University (“Amtliche Bekanntmachungen”) and come into effect in Winter Semester 2017/2018.
- (2) The examination regulations for the Lasers in Dentistry Master’s course of study dated 21st December 2010, are replaced by the present examination regulations.
- (3) These examination regulations apply to all students who enrolled in the Lasers in Dentistry Master’s course of study at RWTH.
- (4) Partial examinations of modules that were passed before the winter semester 2015/2016 are valid for all examination attempts offered for a course.
- (5) As of winter semester 2017/2018, the module catalogue will be replaced by the corresponding version in Annex 1. Students who have started one or more modules from the examination regulations of 21.12.2010 before winter semester 2017/2018 can still complete them under the previous regulations.

Issued based on the resolutions of the Faculty Council of the Faculty of Medicine dated 4th December 2017 and 4th February 2019.

Aachen, December 24, 2019

Rector of RWTH Aachen University

Signed Rüdiger

Univ.-Prof. Dr. rer. nat. Dr. h. c. mult. U. Rüdiger

Appendix 3 – Goals of the Master’s Degree Program

The Master's program Lasers in Dentistry is an application-oriented continuing education program in which great importance is attached to the teaching of scientific fundamentals. The program offers dentists the opportunity to specialize in laser dentistry.

It promotes the analytical, constructive and creative abilities for problem solving in practice as well as for the complementary and/or sole therapeutic application of different laser systems in the dental treatment spectrum on the basis of a reasonably broad technical knowledge deepened in selected sub-areas and a broad knowledge of methods.

Qualifications that students acquire in the course of their studies are:

- An understanding of the different optical models for the classification of light
- Knowledge of the physical basics as well as the technical implementation of a laser system
- knowledge of dental principles in the application of laser systems with certain wavelengths
- competent and professional patient counselling in all areas of laser and laser-assisted therapies
- Critical evaluation of scientific findings in the field of dentistry

The ability to use dental laser systems in a clinically correct manner:

- The safe and ethical use of Laser
- The clinically indicated use of lasers taking into account indications and contra-indications for given wavelengths
- The supportive or independent role of lasers in therapy
- Recognized treatment plans and protocols