

# UniReport



Goethe-Universität | Frankfurt am Main

Statutes and Regulations

## **Statutes and Regulations for the Faculty of Medicine at the Johann Wolfgang Goethe University Frankfurt am Main for the Master Course in Dental Technology leading to the degree of “Master of Science (M.Sc.)“ from January 11<sup>th</sup>, 2018**

**Approved by the Executive Committee in the meeting of February 6<sup>th</sup>, 2018**

On the basis of §§ 20, 44 Para. 1 No. 1 of the Higher Education Act of the State of Hesse in the version of 14 December 2009, last amended by law on 27 May 2013, the Faculty Council of the Faculty of Medicine at the Johann Wolfgang Goethe University Frankfurt am Main agreed the following statute for the Master Course in Dental Technology on the January 11<sup>th</sup>, 2018. This statute was approved by the Executive committee of the Johann Wolfgang Goethe University in line with § 37 Para. 5 of the Higher Education Act of the State of Hesse on the February 6<sup>th</sup>, 2018. This is the official announcement.

## Section I: General Information

- § 1 Scope of the regulations (RO: § 1)
- § 2 Purpose of the Master examination (RO: § 2)
- § 3 Academic Degree (RO: § 3)
- § 4 Standard length of study (RO: § 4)
- § 5 Study abroad (RO: § 5)

## Section II: Aims of the course; commencement of the course and entry requirements to the course

- § 6 Aims of the course (RO: § 6)
- § 7 Commencement of the course (RO: § 7)
- § 8 Entry requirements for the Master course (RO: § 9)

## Section III: Course structure and organisation

- § 9 Course design; modularisation (RO: § 11)
- § 10 Module descriptions (RO :§ 14)
- § 11 Scope of the course and the modules; credit points (CP) (RO: § 15)
- § 12 Teaching and learning methods; access to modules (RO: § 16)
- § 13 Proof of study (Proof of work and attendance) (RO: § 17)
- § 14 Study schedule; Information (RO: § 18)
- § 15 Course counselling; Orientation events (RO: § 19)
- § 16 Academic Management and Module Coordinator (RO: § 20)

## Section IV: Examination Organisation

- § 17 Examination Board; Examination Office (RO: § 21)
- § 18 Duties of the Examination Board (RO: § 22)
- § 19 Examiners; Observers (RO: § 23)

## Section V: Examination requirements and procedures

- § 20 Initial registration and admission to the Master examinations (RO: § 24)
- § 21 Examination date and notification procedure (RO: § 25)
- § 22 Failure and withdrawal from the module examinations (RO § 26)
- § 23 Course and examination work in the light of illness and disability ; special circumstances (RO: § 27)
- § 24 Compulsory study counselling; time limits for completing the examinations (RO: § 28)
- § 25 Cheating and infringement of the regulations (RO: § 29)
- § 26 Deficits in the examination procedure (RO: § 30)
- § 27 Recognition and credit for academic performance (RO: § 31)
- § 28 Consideration of competences acquired outside university (RO: § 32)

## Section VI: Completion of the module examinations

- § 29 Module examinations (RO: § 33)
- § 30 Oral examination work (RO: § 34)
- § 31 Written examinations (RO: § 35)
- § 32 Homework (RO: § 36)
- § 33 Portfolio (RO: § 37)
- § 34 Subject-related practical examinations

§ 35 OSCE

§ 36 Master Thesis (RO: §§ 40, 41)

#### Section VII: Assessment of the course and examination work; setting the grades and the overall grade; failing the overall examination

§ 37 Assessment/Grading the course and examination work; setting the grades and the overall grade (RO: § 42)

§ 38 Passing and failing examinations; Grade publication (RO: § 43)

§ 39 Compilation of exam records (Transcript of Records) (RO: § 44)

#### Section VIII: Change between compulsory and elective modules/ Study focus; repeating the examinations; loss of examination entitlement and final failure

§ 40 Repeating the examinations (RO: § 46)

§ 41 Loss of examination entitlement and final failure (RO: § 47)

#### Section IX: Examination report; Certificate and Diploma Supplement

§ 42 Examination report (RO: § 48)

§ 43 Master certificate (RO: § 49)

§ 44 Diploma Supplement (RO: § 50)

#### Section X: Invalidation of the Master examination; Examination files; Protests and Objections; Examination fees

§ 45 Invalidation of examinations (RO: § 51)

§ 46 Access to examination files; retention periods (RO : § 52)

§ 47 Protests and objections (RO: § 53)

§ 48 Course fees

For enrolment to the post-graduate Master course in Dental Technology fees will be charged and will be set out in a fee structure by the Committee of the Johann Wolfgang Goethe University in line with § 16 Para. 3 of the Higher Education Act.

#### Section XI: Concluding provisions

§ 49 Effective Date (RO: § 56)

## Appendices:

**Appendix 1: Regulations governing special admission requirements/ aptitude assessment procedure for Master courses (Appendix 2 GR)**

**Appendix 2: Regulations covering qualified professionals**

**Appendix 3: Model course plan**

**Appendix 4: Module descriptions**

## List of abbreviations:

GVBl.	Official Gazette of the Federal State of Hesse
HHG	Higher Education Act of the Federal State of Hesse of the 14. December 2009 (GVBl. I, S. 666), last amended by Art. 11 of the Act of 27. May 2013 (GVBl. I, S. 218)
HImmaVO	Enrolment regulations of the Federal State of Hesse of the 24. February 2010 (GVBl. I, S. 94), last amended on the 23. April 2013 (GVBl. I, S. 192)
RO	General Regulations for tiered and modular courses at the Johann Wolfgang Goethe University Frankfurt am Main of the 30. April 2014
OSCE	Objective Structured Clinical Examination

## **Section I: General Information**

### **§ 1 Scope of the regulation (RO: § 1)**

This regulation covers the course-specific regulations for the Master Course in Dental Technology. Together with the General Regulations they are valid for the tiered and modular courses at the Johann Wolfgang Goethe University Frankfurt am Main as at 30 April 2014, UniReport statutes and regulations of the 11 July 2014 as amended, hereinafter known as General Regulations (RO).

### **§ 2 Purpose of the Master examination (RO: § 2)**

(1) The Master programme concludes with a further qualification for the profession. The Master examination determines whether the students have attained the goals of the Master programmes. Examinations are taken cumulatively i.e. the sum of the module examinations in the Master course in Dental Technology together with the Master thesis comprise the Master examination.

(2) By means of the cumulative Master examination it can be determined whether the students have attained the basic technical knowledge in the areas to be examined and if they have a clear overview of how the subject areas interrelate and are able to independently apply academic methods and knowledge and whether they are prepared for the transition into practice.

### **Academic Degree (RO: § 3)**

After successful completion of the course and having passed the examination, the Faculty of Medicine awards the academic degree of Master of Science, abbreviated to M.Sc.

### **§ 3 Standard length of study (RO: § 4)**

(1) The standard length of study for the Master course in Dental Technology covers six semesters. The Master course may be completed in a shorter period of time.

(2) The Master course in Dental Technology is a postgraduate part-time Master course.

(3) The Master course in Dental Technology requires achievement of 120 credit points – identified as CP – according to § 11.

(4) The Faculty of Medicine establishes a tuition programme based on this regulation and determines appropriate examination dates so that studies can be completed within the standard length of study.

### **§ 4 Study abroad (RO: § 5)**

(1) It is recommended that during the Master course at least one semester should be studied abroad or at least a period of residence be spent abroad. The connections of the Johann Wolfgang Goethe University with foreign universities can be used where information can be obtained via the student advisory centre and in the International Office.

## **Section II: Aims of the course; commencement of the course and entry requirements to the course**

### **§ 5 Aims of the course (RO: § 6)**

(1) The aim of the course “Master of Science in Dental Technology“ is to support academically the change in the line of work of the dental technician and academic engineering trained graduates in dental technology as well as optimising the working relationship with the dentists undertaking the treatment.

(2) A guiding principle of the course is to raise the appreciation of the Bachelor graduate who primarily receives a technical training in material sciences or a Bachelor graduate trained in dental technology to an academically based interdisciplinary level by means of an extended medical understanding of the patient under treatment. Registered dentists undertaking the course acquire deeper knowledge in the field of dental technology with the aim of identifying synergies potential and their implementation in existing therapy.

(3) Graduates should gain a deep understanding for complex recording, planning and evaluation of treatments with dental restorations, heighten their awareness of the importance of cooperation between individual professions within the treatment team and in the future either independently or in groups work on individual aspects using academic methods.

### **§ 6 Commencement of the course (RO: § 7)**

The course can start both in the winter semester as well as in the summer semester.

### **§ 7 Entry requirements for the Master course (RO: § 9)**

(1) Applications for registering for the Master course in Dental Technology are to be submitted to the Examination Board or at a location designated by the President of the Johann Wolfgang Goethe University. The Examination Board is responsible for the details of the application process and decides on the acceptability of the applicant. Para. 7 Sentence 2 is unaffected by this.

(2) General requirements for admission to the Master course are

- a) evidence of a Bachelor degree in the field of dental technology or in a similar discipline each with a standard course time of at least six semesters or
- b) evidence of graduation from a German university with at least the same quality or from a German university of applied sciences in a similar discipline each with a standard course time of at least six semesters or
- c) evidence of graduation abroad with at least the same quality in the same or related discipline with a standard course time of at least six semesters or
- d) evidence of a licence to practise as a dentist in Germany or
- e) evidence of academic graduation with at least the same quality to practice dentistry abroad or
- f) evidence of qualifying as a “Zahntechnikermeister” (master dental technician) or equivalent (In this case it will be necessary to complete a separate examination to determine suitability for the course. Further details are covered in Appendix 2 of the regulations).

(3) In addition, the following is required

- for university graduates, evidence of professional practice as a dental technician or as a dentist for a minimum of three years
- for “Zahntechnikermeister” (master dental technicians), evidence of professional practice as a dental technician for a minimum of four years
- evidence of payment of the fees laid down by the committee in line with § 16 Para. 3 of the Higher Education Act of the State of Hesse

(4) Another requirement for admission is evidence of English language skills, normally level C 1, but at least B 2, of the “Common European Framework for European languages“of September 2000. Language skills can be proven through TOEFL or IELTS test results or equivalent. The following minimum scores apply: 87 points TOEFL/ 5.5 points in IELTS. Evidence of English knowledge in line with Clause 1 is not required if the students are admitted to study in the context of a German speaking cohort in line with § 9 Para. 7 Sentence 2.

(5) In the context of a German cohort in line with § 9 Para. 7 Sentence 2 only students who enjoy a German knowledge of DSH 2 can be admitted. Evidence of the language must be in line with the “Regulation of the Johann Wolfgang Goethe University Frankfurt am Main regarding the German language test for university admission (DSH) for students with foreign university admission entitlement“in the latest version in so far as the students are not exempt from the German language test as laid down in the DSH regulation. The German knowledge required for that matter does not require proof if the applicants have the German dental license to practise or the Austrian dental license to practise or the Swiss dental license to practise or have applied for university admission in a German speaking area.

(6) Specific admission requirements are regulated in Appendix 1.

(7) The Examination Board decides all matters regarding requirements for admission and equivalence of degree levels and language skills. To complete these tasks other admission committees can be co-opted. Specifics are regulated in Appendix 1

(8) When the admission requirements are satisfied the applicant will be admitted by the President of the Johann Wolfgang Goethe University. Alternatively the Examinations or Admissions Committee issues a written rejection together with the procedure for appeal.

(9) The requirements for admission to the Master examination are regulated in § 20.

## **Section III: Course Structure and Organisation**

### **§ 8 Course Design; Modularisation (RO: § 11)**

(1) The Master course in Dental Technology is a “single subject course“.

(2) The Master course in Dental Technology has a modular structure. A module is a learning and study unit self-contained in terms of content and time. It covers a set of teaching sessions linked to each other by content including practical phases, project work as well as self-tuition and is focused on a pre-defined learning objective. Modules cover one to two semesters.

(3) The Master course in Dental Technology consists of eighteen compulsory modules incl.the master thesis.

(4) The study programme Dental Technology consists exclusively of compulsory modules that are obligatory including the master thesis. The course offers no optional modules.

(5) From the classification of the modules to the course phases , to the level of obligation of the modules and the student workload calculated according to § 11 (Workload) in CP, the following course structure for the Master course in Dental Technology has been developed :

Study-semester	Module Title	Course Phase	CP
1	Dental Technology – Manufacturing, Digital Applications, Materials, Science	Foundation course	5
	Material Science		5
	Digital Design and Planning		8
	Case Documentation		5
	Total		23
2	Dental Technology – Patient Treatment Procedures for Dental Technicians	Foundation course	8
	Hygiene and Regulations		5
	Patient Handling		5
	Scientific Methods I		5
	Total		23
3	Process Management within a Therapeutic Team	Specialisation course	5
	Anatomy, Physiology and Oral Diseases		5
	Dental Technology – CAD/CAM Procedures		5
	Scientific Methods II		5
	Total		20
4	Complex Workflows for Immediate Restorations on Implants		9
	Quality Management		5
	Offering Consulting Services for Clinicians		5
	Total		19
5	Economic Lab Management	Specialisation course	5
	Manufacturing of Dental Restorations		10
	Total		15
6	Master Thesis	Final stage	20
	Total		20
Total:			120



(6) The teaching sessions in the modules are defined as compulsory or optional depending on their obligation. Compulsory sessions are clearly marked depending on their content and format in the module description. Optional sessions are teaching sessions that students have chosen within a module from a specific subject area or on a specific topic.

(7) The course is offered in the English language. If demand exists, the Examination Board can decide to admit a German speaking cohort. Students who were admitted as part of a German cohort complete their studies in the German language.

(8) To the extent that teaching sessions build on each other then students are obliged to follow the sequence as identified in the module description.

(9) Students have the possibility within the Master course in Dental Technology depending on available places to undertake examinations or performance monitoring in modules outside those identified in this regulation (additional module). The result of the examination will be excluded from the overall marks for the Master examination.

### **§ 9 Module descriptions (RO: § 14)**

A module description in line with § 14 Para. 2 and Para. 5 GR is shown in Appendix 4 for each compulsory module. The module descriptions are part of these regulations.

### **§ 10 Scope of the course and the modules; Credit points (CP) (RO: § 15)**

(1) Within the module description each module is allocated credit points (CP) on the basis of the European Credit Transfer System (ECTS) whilst taking into account decisions and recommendations of the conference of the Cultural Ministers and university rectors. The CPs enable performance to be transferred to other courses at the Johann Wolfgang Goethe University or at another university and vice versa.

(2) CPs are a quantitative measure for the workload that the averagely capable student needs to apply for the successful completion of the relevant module in respect of attendance study, participation in internships outside university or in excursions, the preparation and follow-up of the subject matter and the preparation and development of the student's own contributions and examination performance. One CP corresponds to a workload of 30 hours. 1200 working hours per student year are considered a regular workload. 20 CPs correspond to the average workload per semester.

(3) 300 CPs are required to complete the Master degree in Dental Technology after taking into consideration the previous study and up to the first professional qualification.

(4) CPs will only be awarded for a successfully completed module.

(5) For each student on the course a credit point account will be set up at the examination office. As far as the organisation facilitates, the student can access the status of his account at any time.

(6) The workload will be assessed within the framework of evaluation in line with § 12 Para. 1 and Para. 2 of the Higher Education Act of the State of Hesse as well as the reaccreditation of the course and adjusted for the workload assessed by the evaluation.

### **§ 11 Teaching and Learning Methods; Access to modules (RO: § 16)**

(1) The teaching sessions for the Master course in Dental Technology will be carried out in the following ways:

- a) Lecture: related presentation and imparting of basic and specialist knowledge as well as methodical knowledge through lecturing where applicable in conjunction with demonstrations or experiments. The teachers develop and impart teaching material whilst involving the students;

- b) Practice: working through and deepening an understanding of the teaching material as well as training in the technical methodology and developing special skills by working on and discussing exemplary tasks;
- c) Seminar: development of academic data or processing topical problems by academic methods, as a rule through papers prepared by students, learning, practising and developing presentation and discussion techniques;
- d) Self-study: the requirements for self-study are outlined in the module descriptions in Appendix 4.

(2) If according to the module description, access to the teaching session of a module assumes successful completion of other modules or depends on a visit from the course consultant or, if in the module description, attending an individual teaching session presupposes attendance at another teaching session or the performance record for another teaching session, then the justification to attend will be reviewed by the Examination Board.

(3) The module description may require a mandatory registration to take part in modules or in certain events within a module. The course website advises in advance in which situations a mandatory registration is necessary.

### **§ 12 Proof of study(proof of work and attendance) (RO: § 17)**

(1) It is a requirement of the course that proof of attendance as evidence of proper studying together with the CPs for having passed the module examination are prerequisites to receive the CPs allocated to the module. The following regulations apply:

(2) Where the module description identifies the requirement to regularly attend a class, then this will be documented through proof of attendance or through attendance lists. Class management will determine the required documentation.

(3) Regular attendance for a course is given when the student was present in all the individual sessions during a semester as determined by class management. It is still to be confirmed when the student has not attended up to three individual sessions out of 15 planned schedules or 20 % of the session time where there are fewer planned schedules. Where the allowed absence has been exceeded for reasons that the student does not need to justify as e.g. illness, essential care of a child living in the same household or the care of a close relative (children, parents, grandparents, spouse, partner in common law) or performing a duty as named or elected representative in the academic or student self-administration then the module coordinator decides whether and in what form an equivalent task is required and appropriate. The regulations covering compensation for disadvantages in § 23 are to be taken into account.

### **§ 13 Study Schedule; Information (RO: § 18)**

(1) The study schedule in appendix 3 assumes a possible start for the course in the summer semester or winter semester and provides the student with a targeted design for their studies. The course planning takes into account content between modules and organisational requirements on the courses offered.

(2) The Department of Postgraduate Education has set up a website for the Master course in Dental Technology where general information and regulations concerning the course are provided in the latest version. The study schedule is to be found there and, where modules are imported or exported, the list of the current import and export range of courses is published.

(3) For the Master course in Dental Technology the faculty publishes a listing of teaching events with commentary on the basis of the module descriptions and the study schedule with a description of the range of courses including both their timing and organisation. This will be updated each semester and appear in the last lecture week of the previous semester.

## **§ 14 Course counselling; Orientation events (RO: § 19)**

(1) During the entire course students have the possibility of consulting the course counsellor for the Master course in Dental Technology in the Faculty of Medicine. The course counsellor is appointed by the academic dean. Through course counselling students receive support especially in questions of course structure, course technology and the choice of teaching sessions. Course counselling should be used particularly:

- at the beginning of the first semesters;
- examination failure and unsuccessful attempts to obtain performance records;
- when experiencing difficulties in individual teaching sessions;
- when changing courses or universities.

(2) In addition to course counselling, the student also has access to the central counselling of the Johann Wolfgang Goethe University. They provide general course counselling regarding course possibilities, contents, structure and demands of a course and advise on personal difficulties relating to the course.

(3) Prior to the start of the lecture period of each semester when students can start their course an orientation event takes place to which first year students are invited and notified either by notice or other means. This is where information is provided about the structure and design of the course and other specifics relating to the semester. Students will be given the opportunity to ask questions in particular with regard to course organisation.

## **§ 15 Academic management and module coordinator (RO: § 20)**

(1) The academic dean of dentistry in the Faculty of Medicine performs the duties of academic management for the Master course in Dental Technology in so far as on their recommendation these have not been transferred by the Faculty Council to a professor entitled to examine the Master course for the period of at least 2 years.

The academic manager is an advisory member of the Course Committee and has the following duties in particular:

- Coordination of the teaching and examinations offered in the course together with the module coordinator, where applicable from other faculties;
- Preparing and maintaining examiner lists;
- Evaluation of the course and where appropriate implementation of quality assurance measures developed from this together with the Course Committee (see also § 6 Evaluation statute for teaching and learning);
- If applicable, requisitioning the module representative (Para. (2) remains unaffected )

(2) The academic management for the course appoints a module coordinator from those teaching the module. For cross-faculty modules the module coordinator will be appointed in cooperation with the academic dean of the other faculty. The module coordinator must be a professor or a long-term academic member of the teaching unit. In relation to this module they are responsible for content-related coordination and the organisational duties allocated by these regulations, especially for involvement in the organisation of the module examination. The academic management of the course deputises for the module coordinator.

## **Section IV: Examination organisation**

### **§ 16 Examination Board; Examination Office (RO: § 21)**

(1) The faculty council establishes an Examination Board for the Master course in Dental Technology.

(2) The Examination Board consists of five members of which three members are from the professorate, one academic associate and a student from the Master course in Dental Technology.

(3) The members of the Examination Board together with their deputies are selected on the recommendation of the relevant groups from the Faculty Council. The tenure of the students is one year and for the others two years. Re-election is possible.

(4) For matters affecting a member of the Examination Board their membership remains dormant in respect of this matter and will be assumed by their deputy. This is not valid for purely organisational issues.

(5) The academic dean of dentistry assumes the Chair of the Examination Board.

The Deputy Chairperson will be selected from the professorate in the Examination Board or their deputies. The Chairperson manages the business of the Examination Board. They convene sittings of the Examination Board and chair all discussions and decisions. As a rule at least one sitting of the Examination Board should take place each semester. A sitting is to be convened when at least two members of the Examination Board request this.

(6) The Examination Board does not meet in public. It has a quorum when at least half of the members including the Chairperson are present and the voting majority of the professorate is guaranteed. Agreement of the majority of those present is necessary to make a decision. In a parity of votes then the Chairperson has the deciding vote. The decisions of the Examination Board are to be minuted. Otherwise the process is in line with the procedural rules for committees at the Johann Wolfgang Goethe University.

(7) The Examination Board can allocate individual duties to the Chairperson to complete and decide on his own. The members of the Examination Board and the examinee affected may veto his decisions. The Chairperson of the Examination Board can delegate the execution of duties to the Examination Office. This is the administrative office of the Examination Board. It deals with ongoing business as instructed by the Chairperson.

(8) The members of the Examination Board and their deputies are subject to official secrecy. In so far as they are not in public office, they are obliged by the Chairperson to confidentiality and they confirm this confidentiality with their signature which is then held on file.

(9) The members of the Examination Board are entitled to take part in the oral examinations as observers.

(10) The Examination Board can announce instructions, set appointments and make other decisions whilst observing the data protection provisions with legally binding effect by notice in the Examination Office or other appropriate means according to § 41 Administrative Procedure Act of Hesse.

(11) Negative decisions of the Examination Board or its Chairperson are to be advised in writing without delay to the student, with justification and advising the instruction on right to appeal. The student has the opportunity to express his views prior to the decision.

### **§ 17 Duties of the Examination Board (RO: § 22)**

(1) The Examination Board and the relevant Examination Office for the Master course in Dental Technology are responsible for the organisation and the proper implementation of the examinations of the Master course in Dental Technology. The Examination Board ensures that the provisions of these regulations are adhered to and is the arbiter where there is uncertainty in interpreting these regulations. It decides on all examination matters that are not the responsibility of regulations or statutes of another organ or panel or of the Chairperson of the Examination Board.

(2) The following rules in particular are normally the responsibility of the Examination Board :

- deciding whether the requirements for admission to the Master course have been met including the issue of conditions for completing course and examination work from the Bachelor course and deciding on provisional admission;
- setting the examination dates, -duration and registration and cancellation periods for the examinations and their publication;
- where appropriate the appointment of examiners;
- decisions regarding admission to the examinations;
- decisions regarding credits according to §§ § 27, § 28 as well as issuing conditions to repeating study and examination work for the purpose of credits;
- the calculation and announcement of grades for the examinations as well as the overall grade for the Master degree;
- deciding on the Master thesis;
- decisions regarding pass or fail;
- decisions regarding compensation for any disadvantage and about extending examination and work deadlines;
- decisions concerning infringements against examination regulations;
- decisions about the invalidity of the Master degree;
- decisions in respect of objections and rejections of the students pertaining to decisions on the examination procedures in so far as they are permitted;
- regular reporting in the Study Committee on the development of examination and study times including processing times for the Master thesis;
- the publication of the distribution of subject grades and overall grades;
- reform suggestions for these regulations.

(3) As a control over the retention of good academic practice The Examination Board is entitled to check academic work for deception or attempts to deceive with the aid of electronic means. The Board may request that the examination work be presented electronically within a reasonable period of time. If the author does not satisfy this request then the work may be considered as a failure.

### **§ 18 Examiners; Observers (RO: § 23)**

(1) Those authorised to hold university examinations are members of the professorate, academic employees who have been assigned to teach independently, lecturers and tutors for special duties both in professional practice and in the training of experienced people who have been approved by the dean to hold an examination (§ 18 Para. 2 University Act of Hesse). Private lecturers, adjunct professors, honorary professors who regularly perform teaching assignments in the subjects to be examined as well as non-practising and retired professors can be appointed examiners by the Examination Board with their agreement. On a case by case the Examination Board can appoint a person as the second specialist advisor for the Master thesis who is not part of the Johann Wolfgang Goethe University but in line with Clause 1 is entitled to examine. Examination performances may only be assessed by those who are qualified with either the same examination or an equivalent one.

(2) Normally the teacher of the module for which an examination is being set is also the examiner without any special appointment of the Examination Board. If there are compelling reasons why a teacher cannot hold the examination then the Examination Board can appoint another examiner.

(3) Written examinations that cannot be repeated are to be assessed by two examiners § 36(17) remains unaffected. Oral examinations are to be held by several examiners or by one or more examiners in the presence of an observer.

(4) Only a member or an employee of the Johann Wolfgang Goethe University can be appointed as an observer of oral examinations that has obtained at least the Master degree or a comparative examination. The appointment of the observer is confirmed by the Chairperson of the Examination Committee, who can delegate the appointment to an examiner.

(5) Examiners and observers are subject to the official duty of confidentiality.

## **Section V: Examination requirements and procedures**

### **§ 19 Initial registration and admission to the Master examinations (RO: § 24)**

(1) At the latest when registering for the first module examination for the Master course in Dental Technology the students must submit a duly completed entry form for admission to the Master examination to the Examination Office for the Master course in Dental Technology. When the study course has not been undertaken with the admission application then the following must be submitted with the registration for the examination:

- a) a statement whether the student has not yet passed a Master examination or a public final university degree in the subject Dental Technology or in a similar course (a course with a predominantly similar field of study) or whether they are currently studying the subject Dental Technology or a similar course at a university in Germany or abroad and have not yet completed the examination procedure;
- b) a statement whether and if applicable how often the student has already failed module examinations in the Master course in Dental Technology or in the same modules in another course at a university in Germany or abroad.
- c) if applicable, evidence of study or examination work already completed that needs to be completed in the course;
- d) a declaration agreeing to the video recording of oral examinations;
- e) if applicable, evidence of payment for the course in line with § 48

(2) On an exceptional basis, the Examination Board can release the student from compulsory matriculation for individual modules especially in those cases where there is a change in location or field of study or in a resumption of studies.

(3) Admission will be decided by the Chairperson of the Examination Board, in cases of doubt the Examination Committee, if appropriate after consultation with an expert. The admission will be rejected when

- a) the documentation is incomplete or
- b) the student has definitively lost the right to examination for a module according to Para. (1) b) or for the relevant course or has definitively failed one of the examinations specified in Para. (1) a).

(4) At the student's request, exceptions from Para. (1) and Para. (3) in special cases can be decided by the Examination Board.

(5) Rejection to admission will be advised to the student in writing by the Chairperson of the Examination Board. This will include a justification and the instruction on right to appeal.

## **§ 20 Examination date and notification procedure (RO: § 25)**

- (1) Module examinations will be completed in time and content relevant to the corresponding module. Module examinations for mandatory modules will normally be offered at least twice a year.
- (2) At the end of the module, the oral and written examinations should be completed in the examination periods laid down by the Examination Board. The examination dates are normally immediately directly after the attendance stages.
- (3) The exact examination dates for the module examinations will be established by the Examination Board in agreement with the examiners. The Examination Office will advise the students by notice or other appropriate means of an examination timetable at the earliest possible time but at the latest four weeks before the examination dates of the time and place of the examinations as well as the names of the examiners involved. If there are compelling reasons to deviate from this examination timetable then the revised dates can only be approved by the Chairperson of the Examination Board. Dates for oral examinations or for examinations that are to be taken at the time of individual teaching sessions or over the course of the teaching sessions will be agreed by the examiner with the students.
- (4) The Examination Board sets deadlines (normally 2 weeks) for the module examinations that have to be advised at the latest four weeks before the deadlines start by notification or another appropriate means.
- (5) Within the deadline for each module examination the student has to register in writing or electronically in agreement with the Examination Office. Registration for the module examinations is with the Examination Office. In cases where justified an extension to the registration is decided by the Chairperson of the Examination Board on application of the student. § 22(2) Clause 3 is relevant here.
- (6) The student can only register and take the module examination as long as they have matriculated at the Johann Wolfgang Goethe University. § 20(2) remains unaffected. To register for the relevant module examination the student must be admitted to the Master examination and they must not yet have finally passed the relevant module examination. Furthermore depending on the module description they must have completed the required performance and attendance evidence. If admission to a module examination depends on proof of study performance and these are not yet complete then a qualified admission to a module examination is possible. The module is then only deemed to be passed when all study work and module examinations have been passed. The Examination Board arbitrates on exceptions. Students on leave of absence cannot sit any examinations or apply for any performance records. During the leave of absence it is possible to resit failed examinations. Students are also allowed to complete study and examination work during a leave of absence if this is due to maternal leave or taking parental leave or taking care of a dependent relative confirmed by medical certificate or to fulfil an official duty in line with Article 12 a of the constitution or because of involvement as a named or elected representative in the academic self-administration.
- (7) The student can withdraw his examination registration up to one week before the examination deadline without giving any reasons. In the case of a later withdrawal § 22(1) applies.

## **§ 21 Failure and withdrawal from module examinations (RO: § 26)**

- (1) Module examination work is considered “unsatisfactory“(5.0) according to § 37(2), if the student misses an obligatory examination deadline without an important reason or leaves before the end of the examination. The same is true if the student does not complete a written module examination work within the given time or submits an empty sheet of paper as the module examination work in a proctored examination or has remained silent in an oral examination.
- (2) As soon as the reason is known for the failure or discontinuation of the examination then this must be submitted in writing as soon as possible to the Chairperson of the Examination Board and made plausible. An inability to complete an examination during the examination work must be established without delay to the examiners or the proctor. The obligation

to immediately report and make plausible the reasons to the Examination Board is unaffected by this. In the case of illness it should be without delay that a medical certificate at least within three working days and a statement from the GP regarding the inability to sit an

examination, from which is clear for which kind of examination (written, oral, lengthy and other kinds of examinations) from a medical perspective the inability to sit an examination for the relevant examination deadline exists. The Chairperson of the Examination Board decides on the basis of the attached form concerning the examination inability per attachment 11 of the framework regulations. If further doubt is justified then in addition a certificate from the official medical doctor is required.

(3) The illness of a student's child to take care of that has not reached 14 years of age or of a close relative in need of care (children, parents, grandparents, spouse or common law spouse) is considered at the same level as one's own. An important reason is also considered to be maternal leave.

(4) Recognition of the reasons for failure or withdrawal is decided by the Chairperson of the Examination Board. If the reason is accepted then a new deadline will be set without delay.

(5) Where withdrawal or failure is accepted the examination results remain valid for those parts already submitted.

### **§ 22 Exam work in the light of illness and disability; special circumstances (RO: § 27)**

(1) In classes and exams, consideration is to be given for the nature and degree of a disability or a chronic illness that the student has or the stress of a pregnancy or raising children or taking care of close relatives in need of care.

(2) The nature and degree of the stress is to be advised to the Chairperson of the Examination Boards in a timely manner by submitting appropriate documents and in the case of illness by evidence of a medical certificate. If there is still any doubt then a certificate from the official public health officer can be requested.

(3) If the student makes it credible that they cannot complete the exam work as envisaged in part or in whole because of a disability, a chronic illness, looking after a close relative in need of care, a pregnancy or raising a child that under 14 years of age, then this disadvantage can be compensated by appropriate measures such as for example an extension of the process time or another form of examination procedure. The claim to legal maternity leave and the periods of parental leave is possible on submission of proof.

(4) The Chairperson of the Examination Board decides on the disadvantage compensation for exam work.

### **§ 23 Compulsory study counselling; time limits for completing the examinations (RO: § 28)**

The student is obliged to have a counselling session where the study period has exceeded the study plan by more than two semesters.

### **§ 24 Cheating and infringement of the regulations (RO: § 29)**

(1) If the student attempts to influence the result of his exam work by cheating or by using inadmissible resources then the exam is graded as "unsatisfactory" (5,0). The attempt to cheat is given in particular if the student brings inadmissible resources into the examination room or makes a false declaration in line with §§ § 29(7), § 32(5), § 36(15) or if they submit the same piece of work (or parts thereof) as exam work more than once.

(2) A student who actively supports a cheating attempt can be excluded from continuing the examination by the examiner or invigilator and in this case the exam work is graded as „unsatisfactory“ (5,0).



(3) In a particular serious case of cheating through repetition or cheating by inclusion of a written statement from the student that the work was completed independently without any inadmissible resources then the Examination Board can decide to exclude the student from repeating the examination such that the right to be examined in the Master course in Dental Technology is no longer given. The gravity of the cheating will be assessed considering the student's energy in cheating such as organised collaboration or the use of technical tools such as radios and mobile telephones and the impairment in equal opportunity caused by the cheating.

(4) A student who disturbs the orderly flow of the examination can be excluded from continuing the examination by the relevant examiner or invigilator after one warning as a rule and in this case the examination work affected will be assessed as "unsatisfactory"(5,0). Para. (3) Clause 1 applies here.

(5) Where the guilty conduct of a student brings about an unjust sitting of an examination then the Examination Board can decide that the exam work is assessed as having failed ("unsatisfactory"(5,0)).

(6) Within a period of four weeks the student can request in writing that decisions can be reviewed in line with Paragraphs (1) to (5) by the Examination Board.

(7) Negative decisions of the Examination Board are to be advised to the student in writing promptly with a justification and the instruction on right to appeal.

(8) Homework, written papers and the Master thesis are subject to the rules of citation laid down for this field of study for preparing academic work.

(9) To be able to check the suspicion of academic misconduct, the Examination Board can decide that unsupervised examination and/or study work must also be submitted electronically.

### **§ 25 Deficits in the examination procedure (RO: § 30)**

(1) If it is proven that there were deficits in the procedure for oral or written examination work that have influenced the examination result then at the request of a student or ex officio through the Examination Board it can be directed that the examination work of a specific student be repeated. Deficits in a written examination must be notified during the written examination to the invigilator and in an oral examination immediately after the examination to the Chairperson of the Examination Board or to the examiner. If during a written examination a student considers the corrective measures selected by the invigilator to be insufficient then they must report this immediately after the examination to the Chairperson of the Examination Board.

(2) Six months after the examination work is completed ex-officio directives per Para. (1) may no longer be issued

### **§ 26 Recognition and credit for academic performance (RO: § 31)**

(1) Study periods, study work and examination work will be taken into account without an equivalence assessment if they were completed at a German university in the same course, the course is accredited and there are no significant differences in the modules in respect of qualification goals achieved. If the Examination Board can establish no significant difference then the study periods, study work and examination work will be taken into account.

(2) Study periods, study work and examination work from other courses will be taken into account in so far as no significant differences exist in respect of the skills acquired. The review contains no schematic comparison but an overall view and assessment with regard to content, scope and requirements of the study and examination work in particular in consideration of the objectives achieved. The onus of proof regarding the lack of equivalence lies with the Examination Board. Para. (1) Clause 2 applies accordingly.

(3) Para. (2) applies accordingly when recognising study periods, study work and examination work in state-recognised correspondence courses, in other educational establishments, in particular for pupils with study and examination work on the basis of § 54 Para. 5 of the University Act of Hesse (HHG).

(4) When taking into account work completed at foreign universities Para. (2) equally applies. Equivalence agreements approved by the cultural ministers' conference and the university deans' conference as well as agreements in the context of university partner contracts. Where there are no equivalence agreements the Examination Board decides. Where there is doubt about the equivalence then the Central Office of International Education is to be heard.

(5) Where a study period abroad is mandatory or recommended then before the start of the study period abroad the student should discuss the eligibility recognition with the Chairperson of the Examination Board or a representative.

(6) Relevant professional occupations can be recognised as practical training. Details are regulated in the module description.

(7) Degree theses (e.g. Master theses, degree theses, state examination theses) which students have already successfully completed outside of the current Master course in Dental Technology at the Johann Wolfgang Goethe University will not be taken into account. It is furthermore not possible to repeatedly take into account one and the same work in the same Master course in Dental Technology.

(8) Study and exam work from a Bachelor's course cannot normally be taken into account for the Master course.

(9) Where exam work is taken into account the grades – assuming the grading system is comparable – are to be taken on and included in the calculation of the overall grade. Where the grading system is not comparable then the result will be recorded as "passed". Work that has been taken into account will normally be noted in the final document with details of the university where the work was completed.

(10) The applicant presents to the Examination Board all documents required for recognition and consideration from which the evaluation, the CP and the timing of all the examination work can be ascertained which they have undertaken in another course or at another university. The documents must show which examinations and study work were not passed or were repeated. The Examination Board can request to see further documents such as the legally binding module descriptions.

(11) Unsuccessful attempts in other courses or in courses at other universities will be taken into account in so far as they would have been taken into account had they been successful.

(12) The consideration and recognition of examination work undertaken more than five years ago can be rejected in individual cases; the decision can be linked to the issue of conditions. Completion of the requirements in paragraphs (1) to (4) together with Para. (10) give rise to a legal claim to consideration. Clause 1 and paragraphs (7) and (11) remain unaffected.

(13) The Examination Board decides the general validity of questions on recognition; its Chairperson considers specific cases where necessary with the assistance of a specialist examiner. Bearing the recognition in mind they determine a semester.

(14) Where study and examination work are recognised that do not have CP then corresponding equivalent values are to be calculated and noted on the student's account.

(15) Where recognition is applied, this may be linked to conditions requiring study and examination work to be repeated. Conditions and their timing for completion must be advised in writing to the applicant. The communication is to include the instruction on right to appeal.

## **§ 27 Consideration of competences acquired outside of university (RO: § 32)**

Knowledge and skills acquired before or during the study outside of a university and whose level and learning outcomes are equivalent to the study modules, may on application have the CP of the corresponding module be recognised. The

recognition is credited individually by the Examination Board on the recommendation of the person responsible for the module. A prerequisite is written evidence (e.g. reports, certificates) concerning the scope, contents and work completed. In total no more than 50 % of the CP required in the course may be replaced by recognition. Recognition of the CP is without a grade. This will be explicitly mentioned in the report.

## **Section VI: Completion of the module examinations**

### **§ 28 Module examinations (RO: § 33)**

(1) Module examinations are study-related and complete the relevant module. They are individual examinations which can only be repeated on a limited basis and normally are graded.

(2) Modules finish with a single module examination which can be carried out at the time of one of the teaching sessions (class related module examination).

(3) The module examination allows the student to show that they understand the contents and methods of the module in its essential components and can apply the knowledge and skills acquired. The contents of the module examinations are fundamentally the contents of the classes for the relevant module laid down in the module description. In class related module examinations the overriding qualification objectives of the module are being tested.

(4) The format of the relevant examination is determined by the module description. Written examinations take the form of :

- examinations
- portfolios;
- homework

Oral examinations take the form of:

- Individual examinations;
- colloquia

Further examination formats are:

- (Video-)Presentations;
- Subject-related practical examinations;
- OSCE (Objective Structured Clinical Examination)

(5) The format and length of the module examinations are regulated in the module descriptions. If several variations of the examination formats are envisaged in the module descriptions then the examination format for the relevant examination date will be decided by the examiner and advised to the student at the beginning of the module course and at the latest when the examination date is announced.

(6) The examination language is English. § 9 Para. 7 Clause 2 and Clause 3 are unaffected by this. Details are clarified in the module description.

(7) Written work (e.g. homework) prepared without supervision is to be prepared by the student in accordance with good academic practice. When submitting the work, the student has to provide written assurance that they have prepared this themselves and that all sources and resources have been identified in the work. A further declaration is required that the work has not been used in part or in whole in another course as study or examination work.

(8) Module examinees must provide an official photo ID.

(9) The examiner decides if and which resources may be used in a module examination. Resources that are permitted are to be advised in good time before the examination

### **§ 29 Oral examination work (RO: § 34)**

- (1) Oral examinations will be held by the examiner in the presence of an assessor as an individual examination.
- (2) Oral examinations last between at least 15 minutes and a maximum of 60 minutes per student examinee. The length of the relevant module examination is advised in the module description.
- (3) The fundamental topics and results of the oral examination will be recorded by the assessor in a report. The examination report is to be signed by the examiner and the assessor. Before grades are awarded the assessor's opinion is to be heard excluding the presence of the examinee or the public. The report is to be submitted to the Examination Office without delay.
- (4) The result of the oral examination is to be advised to the student at the end of the oral examination and in cases of failure or where the candidate has expressly requested that this be explained in detail; the reason given is to be recorded in the report.
- (5) For students completing the same examinations the oral examinations are open to university members. The student being examined can object to the public availability. Public availability does not cover the counselling and publication of the examination results for the examinee. It can also be limited for reasons of capacity. In order to check the reasons in Clause 1 the Chairperson of the Examination Board can request the necessary proof.

### **§ 30 Written examinations (RO: § 35)**

- (1) Written examinations deal with answering one or more tasks. In a written examination or other written supervised work the student must show that they have solved tasks independently within a limited time period and under supervision with limited resources and on the basis of the required basic knowledge and the application of current methods can recognise a problem can find ways to a solution..
- (2) "Multiple-Choice" questions for written examinations can count towards up to 25 % of the total points available.
- (3) In written examinations where more than 25 % of the total points available can be attained by "Multiple-Choice" questions, then in preparation of the questions and evaluation of the written examinations the following rules must be taken into account:
  - The examination questions must enable reliable examination results. The examination questions must be clearly understandable, unequivocally answerable and be able to clearly demonstrate the level of knowledge and information being examined. In particular that no other solution is possible except the one advised in the assessment as correct. The Examination Board has to ensure this through an appropriate procedure;
  - If the tasks fail to meet these criteria then they must be excluded from the assessment. If the answers do not reflect the standard response but are nonetheless acceptable then they will be recognised in favour of the student. Penalty points for incorrect answers are inadmissible;
  - The question and answer catalogue is to be developed by at least two accredited examiners including one from the professorate;
  - The student is to receive the pass criteria and the assessment scheme for the written examination at the latest with the tasks.

A written examination containing more than 25 % "Multiple Choice" questions is considered passed when the student has correctly answered at least 50 % (pass threshold) of the examination questions posed or when the number of questions

correctly answered by the students does not fall more than 22% below the average examination performance of all examinees who first attended an examination.

(4) A student who arrives late for a written examination cannot make up for the lost time. The examination room can only be vacated with the permission of the invigilator.

(5) The examination invigilator must prepare a short report on each written examination, which contains all incidents relevant for determining the examination results, in particular incidents cited in §§ § 22 and § 25.

(6) The time needed to complete the written examinations should be in relation to the scope of the module being examined. For written examinations this is a minimum of 60 minutes and a maximum of 120 minutes. The exact length is shown in the appropriate module description.

(7) Normally the written examinations will be assessed by one examiner. Where this is a failure in the very last repetition then a second examiner is to assess the examination. The assessment is to be justified in writing. If the grades are different than the average grade determines the grade of the written examination. The assessment procedure of the written examinations must not exceed four weeks.

(8) Multimedia supported examinations (“e-examinations”) are permissible as long as they are deemed to fulfil the purpose of the examination. They may only be carried out using IT systems available in the university administration or from the responsible Examination Office in agreement with the university computer centre made available for this purpose. It must be guaranteed that the electronic data is clearly identifiable. The data must be unique and always be linked to the examinee. The examination is to be carried out in the presence of a specialist competent clerk. A report is to be completed on the examination process in which at least the names of the clerk as well as the examinees, the start and finish of the examination together with any special incidents. Inspection of the multimedia supported examination as well as the examination results is covered by § 46. The tasks including a standard answer, the assessment scheme, the individual examination results as well as the minutes are to be archived in line with the legal requirements.

### **§ 31 Homework (RO: § 36)**

(1) Written homework allows the student to show that they can independently handle a problem from the field of study using academic methods. It must form part of the module.

(2) Homework can be allowed as group work when the contribution of the individual as examination performance is recognisable based on objective criteria.

(3) The student can be given the opportunity to propose a subject. Setting the subject is the responsibility of the examiner who documents the time needed for the homework.

(4) For those who also work, homework should be a minimum of two weeks but no longer than eight weeks (in full time 2 to 5 CP workload). The relevant working period is laid down in the module description. The completion dates for the homework will be determined by the examiners and documented.

(5) The homework is to be submitted within the time allotted to the examiner as a single copy with a statement in line with § 29(7) ; if posted then the postmark serves as proof. The receipt of the homework is to be placed on record by the examiner.

(6) The assessment of the homework by the examiner is to be completed within six weeks of submission and substantiated in writing. Otherwise § 31(7) shall apply.

(7) A student whose homework is assessed as “unsatisfactory“(5.0) can apply to the examiner to improve the homework. This does not apply when the assessment “unsatisfactory“(5.0) is based on § 22 or § 25 . The examiner will set a deadline for the improvement of the homework. The decision about the improved homework will be limited to whether the homework is

to be assessed with a grade 4.0 or worse. If the deadline for the submission of the improved homework is not met then the homework will have a final assessment of the grade “unsatisfactory“(5.0).

### § 32 Portfolio (RO: § 37)

(1) A portfolio is an organised and target-oriented collection of different items of work (e.g. documents, films, audio files) that represent the growth in competence and knowledge of the student over a specific period of time.

(2) The student should relate the individual elements of the portfolio for the module “Manufacturing of Dental Restorations“to the relevant competences of a self-evaluation. The module “Manufacturing of Dental Restorations“ requires a treatment documentation of 10 clinical cases before and after the insertion of independently developed dental restorations as well as their production process.

The following inserted dental restorations with a dentist on a real patient (pa) or by the student on a phantom (ph) are to be performed:

- 1 restoration with minimally evasive ceramic chips (pa)
- 1 restoration with veneers (total 1 to 6) (pa)
- 1 restoration with ceramic inlays (pa)
- 1 restoration with full ceramic single crown in the aesthetic zone (pa)
- 1 restoration with a three or four tiered bridge (ph or pa)
- 1 restoration with a fixed total reconstruction (ph or pa)
- 1 restoration with a complete reconstruction fixed to teeth and/or implants but removable (ph or pa)
- 3 restorations with a continuous digital production process (virtual patient, CAD-based construction, digitally machine design (ph or pa).

The assessment of the individual items of work is undertaken by an examination – approved tutor or by the module coordinator.

To assess the complete treatment documentation, the student has to upload all the required text and picture documents in electronic form onto the e-learning platform of the course. Appropriate security measures in the platform structure guarantee the necessary data protection of the patients and limit access to the documents only by the tutor or module coordinator. Specifically the portfolio contains 10 sets of treatment documentation each with the following contents:

- a) Planning:
  - general medical history, findings, indication
  - clarification: risks, alternatives, costs
  - photo or video documentation
  - planning models (set-up; templates) or 3D record
  - where applicable X-ray findings
- b) Dental production process:
  - photo or video documentation
  - production report
- c) Integration process
  - photo or video documentation
  - where applicable X-ray control



(4) Admission to undertake the Master thesis depends on having completed the modules “Dental Technology – Manufacturing, Digital Applications, Materials, Science”, “Dental Technology – Patient Treatment Procedures for Dental Technicians”, “Academic Methods I” and „Academic Methods II“.

(5) The supervision of the Master thesis will be undertaken by a person from those entitled to examine in line with § 19 . This individual has the duty to guide the student in the preparation of the Master thesis and to regularly inform themselves on the progress of the thesis. The supervisor has to ensure that where appropriate the necessary instrumental equipment for completion of the Master thesis is available. The supervisor is normally the primary reviewer.

(6) With the agreement of the Chairperson of the Examination Board the Master thesis can also be prepared in an establishment outside the Johann Wolfgang Goethe University. In this case the subject must be chosen in agreement with a member of the professorate of the Faculty of Medicine.

(7) The subject of the Master thesis has to be agreed with the coordinator and on registration of the Master thesis be advised to the Chairperson of the Examination Board. If the student is unable to find a coordinator then through application by the student the Chairperson of the Examination Board will ensure that the student receives a subject for the Master thesis and the necessary coordinator support.

(8) The Chairperson of the Examination Board decides on the admission of the Master thesis.

(9) The issue of the subject is made by the Chairperson of the Examination Board. The timing of the issue and the subject chosen are to be registered by the Examination Office. The Master thesis cannot be started before it is officially registered.

(10) The Master thesis can also be admitted as group work when the contribution of the individual student to be assessed as examination work based on the indication of sections, page numbers, or other objective criteria enabling a clear differentiation of ownership of work, can be clearly evaluated on a separate basis and if the requirements of Paragraph (2) are fulfilled.

(11) The Master thesis is to be completed in the English language. § 9 Para. 7 Clause 2 and Clause 3 remain unaffected by this.

(12) The research topic can be changed once only and only within the first third of the process time. The new research topic must have a different content to the topic that was changed. If as a result of the withdrawal in line with Para. (13) Sentence 3 a new subject for the Master thesis is issued then this cannot be changed.

(13) If the student cannot meet the deadline for handing in the thesis for reasons beyond their control (e.g. illness of a child in their responsibility), then the Chairperson of the Examination Board may extend the process time if the student requests this before the submission date. The maximum extension in process time is 50 %. If the extension lasts longer then the student may withdraw from the exam work.

(14) The Master thesis is to be handed in to the Examination Office on time. The timing will be recorded. If posted then the postmark is important. If the Master thesis is not handed in on time then it will be graded as “unsatisfactory“(5.0).

(15) The Master thesis is to be submitted in two written (bound) copies and in Word- and PDF-format electronically on a data CD or on a USB stick. If the Master thesis is submitted within the deadline but not in the prescribed format then it will be graded as “unsatisfactory” (5.0).

(16) The Master thesis is to be prepared under the rules of good academic practice. In particular all sections, pictures and drawings that have been taken literally or in the gist from publications or from other third-party texts are to be identified as such. The Master thesis is to include a statement from the student that they have prepared the work – and for group work with a corresponding clearly separately marked share of the work – independently and only using the sources and resources quoted. Additionally it must be made clear that the Master thesis neither in whole nor in part has been used for another examination as study work.



(17) The Examination Board will provide a coordinator for the Master thesis as primary reviewer for the assessment in accordance with § 37(2). At the same time a further examiner from those entitled to examine according to § 19 is appointed as a second reviewer and the Board gives them the thesis to review. At least one examiner should belong to the professorate of the Faculty of Medicine. The second reviewer can restrict themselves to agreeing with the assessment by co-signing the report of the first reviewer. The assessment of the examiners should follow promptly and be available at least six weeks after the thesis has been submitted. If the two reviewers differ in their assessment of the Master thesis then the grade for the Master thesis will be determined in line with § 37(3).

(18) If the Master thesis has been successful then it is to be presented in a colloquium. This examination should take place within four weeks after the Master thesis has been submitted. The date of the examination is normally determined by the Chairperson of the Examination Board and promptly advised to the student in writing. The oral examination covers the contents of the Master thesis as well as questions and tasks in the context of the topic chosen for the Master thesis. The examination normally lasts 30 minutes. As a rule it will be held by the coordinator of the Master thesis in the presence of an expert assessor. § 30 covers how the colloquium is to be conducted.

## **Section VII: Assessment of the course and examination work; Setting the grades and the overall grade; Failing the overall examination**

### **§ 36 Assessment/Grading the course and examination work; Setting the grades and the overall grade (RO: § 42)**

(1) Examination work is normally graded and on an exceptional basis assessed according to the module description with “pass” or “fail”. The grading or assessment of the examination work is carried out by the examiners. The individual performance of the student always forms the basis.

(2) The grading of the individual examination work is subject to the following grades:

1	very good	an excellent performance;
2	good	a performance that lies significantly above the average requirements;
3	satisfactory	a performance corresponding to the average requirements;
4	sufficient	a performance that still meets the requirements despite its deficits;
5	insufficient	a performance that fails to meet the requirements due to significant deficits.

To differentiate the assessments of the examination work the grades can be marked up or marked down by 0.3 between the grades; the following grades are permitted 1.0; 1.3; 1.7; 2.0; 2.3; 2.7; 3.0; 3.3; 3.7; 4.0 and 5.0

(3) If the module examination is graded differently by two or more examiners then the module grade is calculated as the arithmetic mean of the grades assessed by the examiners. When establishing the module grade only the first decimal place after the decimal point will be considered.

(4) The Master examination receives an overall grade comprising all the results of the module examinations for the course.

(5) The overall pass grade of a Master examination derives from the following structure whereby only the first decimal place after the decimal point is taken into account and all other places are eliminated without rounding:

1.0 up to and including 1.5	very good
1.6 up to and including 2.5	good
2.6 up to and including 3.5	satisfactory
3.6 up to and including 4.0	sufficient
greater than 4.0	fail

(6) If an English translation is required for the report then the grades will be structured for the individual examination work as well as the overall grade as follows:

1.0 up to and including 1.5	very good
1.6 up to and including 2.5	good
2.6 up to and including 3.5	satisfactory
3.6 up to and including 4.0	sufficient
greater than 4.0	fail

(7) For transparency of the overall grade an ECTS grading table will be provided in the Diploma Supplement in line with § 44

### **§ 37 Passing and failing examinations; Grade publication (RO: § 43)**

(1) A module examination consisting of one single examination is deemed to have been passed if assigned a grade "sufficient" (4.0) or better.

(2) The Master examination is passed if all the modules prescribed in these regulations have been successfully completed i.e. the required study documents have been submitted and the module examinations prescribed including the Master thesis have been assessed with at least "sufficient" (4.0).

(3) The results of all examinations will be announced promptly. The Examination Board decides whether the publication of the grades are published anonymously in the university by notice and/or by the electronic examination administration system although the legitimate interests of those affected are to be protected. If a module examination has a final assessment of "fail" (5.0) or the Master thesis is worse than "sufficient" (4.0) then the student receives from the Chairperson of the Examination Board a written notification including an instruction on right to appeal with an instruction whether and in what timeframe the module examination and the Master thesis can be repeated.

### **§ 38 Compilation of examination results (Transcript of Records) (RO: § 44)**

Upon request the student will be issued with a certificate in respect of examinations passed in the form of a transcript of records in German and in English containing as a minimum the title of the module, the date of the individual examinations and the grades.

## **Section VIII: Change between compulsory and elective modules/ study focus; repeating examinations; loss of examination entitlement and final failure**

### **§ 39 Repeating the examinations (RO: § 46)**

- (1) Examinations that have been passed cannot be repeated.
- (2) All compulsory module examinations that have been failed must be resat.
- (3) Module examinations that have not been passed can be resat a maximum of two times.
- (4) A Master thesis (including a colloquium) that has not been passed can be resat once only. Another topic will be issued. Returning the topic of the Master thesis is only possible in the context of a repeated examination when the student did not select this possibility when preparing the first Master thesis. Returning the topic a second time is not permissible.
- (5) Unsuccessful attempts in the same or comparable module examinations of another course at the Johann Wolfgang Goethe University or another German university are to be taken into account for the permissible number of examination resits. Under special circumstances, in particular with a change of course, the Examination Board can choose to ignore this recognition.
- (6) With the exception of the Master thesis, the Examination Board can schedule an oral examination for the resit of written exam work not passed.
- (7) The first examination resit should be completed by the end of the relevant semester but at the latest by the beginning of the following semester. The second examination resit should be completed by the next possible examination date following the examination resit that had been failed. The Examination Board determines the exact dates for the resit and advises them in good time. Students must sit the examination repetition at the next possible date and thereby are considered registered. The entitlement to take the examination expires if the resit date is not met unless the student was not responsible for missing the date. An interim exmatriculation does not extend the resit deadline.
- (8) Examination resits are normally recorded in accordance with the regulation as with the first examination.

### **§ 40 Loss of examination entitlement and final failure (RO: § 47)**

- (1) The Master examination has been failed and the entitlement to take an examination is irreversibly lost when
  1. after all resit attempts a module examination has been failed,
  2. a deadline for resitting a module examination in line with § 40 has been exceeded,
  3. a severe case of cheating or a severe breach of the regulations in line with § 25.
- (2) With respect to the final failure of the Master examination and the resultant loss of entitlement to be examined, an official decision will be communicated together with a instruction on right to appeal.
- (3) If the student has finally failed the Master examination in the course and consequently the entitlement to be examined then they will be exmatriculated. Upon request and on presentation of the exmatriculation certificate the student may receive a certificate from the Examination Office in which the module examinations passed and their grades and the credit points acquired and where it is quite clear that the Master examination has finally not been passed.

## Section IX: Examination Report; Certificate and Diploma Supplement

### § 41 Examination Report (RO: § 48)

(1) Within a maximum of four weeks of receipt of the assessment of the last examination work, a report in German and in English concerning the Master examination passed is to be issued in line with the model in line with the guidelines of the framework regulations. The report contains information about the module with the module grades (those modules will be marked that do not form part of the overall grade of the Master examination) the topic and the grade of the Master thesis, the standard study period and the overall grade.

The report will be signed by the Dean of Studies or the Dean of Studies of Dentistry in the Faculty of Medicine and provided with the seal of the Johann Wolfgang Goethe University. The report bears the date of the day on which the last exam work was assessed.

(2) Upon request, the Examination Board issues a certificate confirming that the Master degree acquired corresponds to the contents of the German degree (Diplomabschluss) and German Master degree (Magisterabschluss).

### § 42 Master certificate (RO: § 49)

(1) The student receives a Master certificate with the date of the report at the same time as the report of the Master examination. This certifies the award of the academic degree. Upon request the certificate can be issued in English. The certificate will additionally be issued in English.

(2) The certificate will be signed by the Dean of Medicine or the Dean of Studies of Dentistry of the Faculty of Medicine as well as the Chairperson of the Examination Board and provided with the seal of the Johann Wolfgang Goethe University.

(3) The title of academic degree can only be used after the certificate has been issued.

### § 43 Diploma Supplement (RO: § 50)

(1) With the certificate and the report a Diploma Supplement will be issued in line with international standards; the text to be used is that agreed between the university rectors' conference and the Cultural Ministers' conference in the appropriate version (Model Appendix 10 GR).

(2) The Diploma Supplement includes an ECTS grading table. The final grades that are issued in a course in a comparative cohort are to be collated and their numerical and percentual distribution calculated over the grade levels in line with § 37(5) and presented in a table as follows:

Final Grades	Total number within the reference group	Percentage of graduates/ graduates within the reference group
Up to 1.5 (very good)		
from 1.6 to 2.5 (good)		

from 2.6 to 3.5 (satisfactory)		
from 3.6 to 4.0 (sufficient)		

The reference group is derived from the number of graduates of the relevant course over a period of three course years. The calculation is undertaken only when the reference group consists of at least 50 graduates. If less than 50 students within the comparative cohort have completed the course then the Examination Board decides whether further years will be included in the calculation.

## **Section X: Invalidity of the Master examination; Examination files; Protests and Objections; Examination fees**

### **§ 44 Invalidity of examinations (RO: § 51)**

(1) If the student has cheated in course or exam work and this becomes known after the report has been issued, then the Examination Board can retrospectively review the grades for that course and exam work where the student has cheated and declare the examination or course work as having entirely or partly failed. The examiners are to be heard beforehand. The student will be given the opportunity of explaining themselves before such a decision.

(2) If the requirements for admission to the examination were not fulfilled although the student did not deliberately intend this and this fact becomes known after the report has been issued then this deficit may be resolved by passing the examination. If the student has deliberately unjustifiably obtained admission to the examination then the Examination Board decides on the legal consequences with reference to the Administrative Procedure Act of the state of Hesse in its latest version. Para. (1) Sentence 3 applies here.

(3) The incorrect report is to be returned and if appropriate a new one issued. The Diploma Supplement and if appropriate the relevant course record are to be returned with the incorrect report and if appropriate reissued. The Master certificate is also to be returned with these documents if the examination was declared "failed" based on cheating. A decision according to Para.(1) and Para. (2) Sentence 2 is excluded after a period of five years from the date of the examination report

### **§ 45 Access to examination files; Retention periods (RO: § 52)**

(1) When the examination results are announced the student is granted upon request timely access to their written examination work and the related review as well as the examination records.

(2) The examination files are held in the Examination Offices. The retention periods for examination documents are governed by § 20 of the Enrolment Registration of the State of Hesse (HIMMAVO) in the relevant version.

### **§ 46 Protests and Objections (RO: § 53)**

(1) It is possible to object to the decisions of the Chair of the Examination Board. The objection is to be submitted to the Chairperson of the Examination Board within one month of the announcement of the decision. The Examination Board

decides on the objection. If the objection is not accepted the Chairperson of the Examination Board prepares a statement of rejection together with an instruction on right to appeal.

(2) An individual can submit a written objection against negative decisions of the Examination Board (Examination Office) and against examiner assessments as long as an instruction on right to appeal was issued within one month or within one year after its announcement. If the Examination Board does not accept the objection where applicable after the input of the examiner involved then the President issues the rejection notice. The objection is to be justified and provided with an instruction on right to appeal.

### **§ 47 Course fees**

Fees will be charged for the Master course in Dental Technology and are determined by the Presidium of the Johann Wolfgang Goethe University in line with § 16 Para.3 of the Higher Education Act of the Federal State of Hesse (HHG) in a fees regulation.

## **Section XI: Concluding provisions**

### **§ 48 Effective date (RO: § 56)**

(1) These regulations come into effect on the day after their publication in the UniReport/Statutes and Regulations of the Johann Wolfgang Goethe University Frankfurt am Main.

(2) These regulations are effective from the winter semester 2018/2019.

## **Imprint**

UniReport Statutes and Regulations appear irregularly and as needs arise as a special edition of the UniReport. The circulation is determined for each issue.

Editor is the President of the Johann Wolfgang Goethe-University Frankfurt am Main.

## Appendix 1: Regulations governing special admission requirements/ aptitude assessment procedure for the Master course in Dental Technology

(1) In addition to the first university degree, qualifying for professional employment in line with § 8 Para. 2 a) to e) and qualification attested in line with § 8 Para. 2 f) admission requires evidence of the particular aptitude in the context of an aptitude assessment procedure with the following requirements.

(2) The application must include university certificates, from dentists evidence of the licence to practise medicine and the certificate for the dental examination, evidence of the required language skills in line with § 8 Para. 4 and. Para. 5, proof of the required professional experience in line with § 8 Para. 3 as well as a letter of motivation in English and German.

(3) The Examination Board for the Master course reviews the documents in line with the requirements per Para. 1 and 2 and proceeds with the remaining procedure. To perform this task the Board can also employ one or more Admission Committees. An Admission Committee consists at least of two professors entitled to examine the Master course, an academic employee entitled to examine the Master course as well as a student member registered for the Master course, who has an advisory role. If the Examination Board employs several Admission Committees for the same Master course, then at the beginning of the admissions procedure a joint agreement on the assessment standards occurs as a rule. The Examination Board and Admission Committee can seek support from other staff members.

(4) The assessment of the particular aptitude is based on the following criteria with the weighting as shown:

a) Grade of the requisite first degree and/or grade of the aptitude examination per § 8 Para. 2 f) in conjunction with Appendix 2:	60 %
b) Letter of motivation:	10 %
c) Interview:	30 %

Admission requires an overall grade of at least 2.5.

(5) Apart from its argumentative qualities, the assessment of the motivation letter depends on how convincing the presentation of the personal interest in the Master course in Dental Technology as well as the presentation of the particular aptitude and motivation for the course taking into account previous professional and practical experience or course-relevant work also outside of the university. The letter of motivation will be assessed with a grade in line with § 37 Para. 2.

(6) A written invitation for the interview will be issued with reasonable notice. Non-attendance precludes the right of another appointment. The interview is carried out on an individual basis, is not public and is expected to last between 20 and 30 minutes. On an exceptional justified basis it can be a telephone interview ideally with video which is particularly important when the applicant is resident abroad or is abroad because of service obligations or social commitments.

(7) The interview provides the applicant with the opportunity to demonstrate and justify their motivation and aptitude for the Master course. A professorial member of the Committee will prepare a report incorporating the applicant's name, the length of the interview, the questions and answers as well as the essential elements of the conversation.

(8) The outcome of the interview will be graded in line with § 37 Para. 2 based upon how convincing the presentation of the aptitude and motivation for the course. This can also include study, professional or practical experience.

## Appendix 2: Regulations governing the aptitude examination for professionally qualified applicants in line with § 8 Abs. 2 d)

(1) The application for admission to the aptitude examination must be submitted by the 01 February for enrolment in the summer semester of the same year and by the 01 August for enrolment in the winter semester of the same year signed by the Registration Office of the Department for Postgraduate Education at the centre for mouth, jaw and facial medicine (ZZMK).

(2) The application must include

- a) certified copies of the certificates for the “Zahntechnikermeister”(master dental technician) examination or an equivalent qualification
- b) evidence of professional practice as a dental technician for a period of at least four years
- c) evidence of the required language skills per § 8 Para. 4 and. Para. 5
- d) where applicable evidence of guest studies or participation in advanced training at a university

(3) The applications for admission will be reviewed by the relevant Examination Office for completeness and with appropriate notes are presented to the Examination Board for a decision on admission.

(4) Applicants will be invited to the aptitude examination when the applications are presented in the prescribed manner per Para.1 and 2 and the requirements for registration are included.

(5) The Examination Board responsible for the Master course in Dental Technology is responsible for the implementation of the aptitude examination. In the aptitude examination the applicants must demonstrate a level of knowledge corresponds to that of a Bachelor degree in Dental Technology or in the same discipline required for the Master course in Dental Technology in line with § 8 Para. 2 a). The aptitude examination consists of a written part and an oral element. Both examination parts are weighted equally. The written element lasts four hours and the oral part for 50 to 60 minutes. The oral part will be conducted as an individual examination.

(6) The subjects of the written and oral examination are relevant tasks and questions according to Paragraph 7. The Examination Board sets the tasks for the written part. Topics in the oral examination can in addition be items from prior employment or from a current advanced training course or a guest study which are relevant for admission to the Master course in Dental Technology.

The selection of the examination material relates to the specific employment and study relevant experiences of the applicants.

(7) Examination requirements

- a) General requirements:
  - Managing complex subject material
  - Formulation of scientific subject material
  - Knowledge of the application and limits of academic models
  - Distinguishing between facts and hypotheses, requirements and conclusions
  - Planning, implementation and evaluation of experiments
  - Working and calculating with units
  - Knowledge in the field of quality management
- b) Subject specific requirements  
Knowledge of the following areas are required:
  - Dental produced therapy aids (conventional and digital)
  - Occlusal function
  - Dental aesthetics
  - Dental materials for the extraoral production of dental therapy aids (inlays, onlays, crowns, bridges, etc.)
  - Coordination of work processes between dentists and dental technicians
  - Implant prosthetics

(8) The aptitude examination will be held in English. For an application for a German cohort the examination will be held in German.



(9) The written part will be assessed by two members of the Examination Board approved to examine and selected by the Chairperson of the Examination Board whereby at least one examiner must belong to the group of the professorate. The evaluation follows the standards set in § 37 Para. 2 and Para. 3.

(10) The oral part will be carried out by two examiners in line with § 8 Para. 1 Sentence 1. The examiners assess the oral part of the examination with an agreed grade based on the standard as in § 37 Para. 2. § 30 Para. 3 and 4.

(11) The aptitude examination is passed when both examination parts have been assessed with at least “sufficient“(4.0) .The overall grade consists in equal parts of the grades from the written and oral part. § 37 Para. 5 applies. The Chairperson of the Examination Board advises the applicant in writing of the result of the examination.

(12) Resitting an aptitude examination that has been passed is not possible. An aptitude examination that has been failed can be repeated once only at the next possible date. Resitting parts of the examination is not possible.

(13) §§ 22, 23, 25 and 26 are to be applied analogously.

### Appendix 3: Model Course Plan

Study-semester	Title of the teaching session	Lesson- Format	C P	Module- No.
1	Dental Technology – Manufacturing, Digital Applications, Materials, Science	lecture	5	MDADS
	Material Science	lecture	5	MS
	Digital Design and Planning	seminar, practical	8	DDP
	Case Documentation	seminar, practical	5	CDOC
	<b>Total</b>		<b>23</b>	
2	Dental Technology – Patient Treatment Procedures for Dental Technicians	seminar, practical	8	PTPDT
	Hygiene and Regulations	seminar, practical	5	HREG
	Patient Handling	seminar	5	PATH
	Scientific Methods I	seminar	5	SM1
	<b>Total</b>		<b>23</b>	
3	Process Management within a Therapeutic Team	lecture	5	PMTT
	Anatomy, Physiology and Oral Diseases	lecture	5	APOD
	Dental Technology – CAD/CAM Procedures	seminar,practical	5	CCCP
	Scientific Methods II	seminar	5	SM2
	<b>Total</b>		<b>20</b>	
4	Complex Workflows for Immediate Restorations on Implants	lecture	9	CWIRI
	Quality Management	lecture	5	QM
	Offering Consulting Services for Clinicians	seminar	5	OCSC
	<b>Total</b>		<b>19</b>	
5	Economic Lab Management	lecture	5	ELM
	Manufacturing of Dental Restorations	-	10	MODR
	<b>Total</b>		<b>15</b>	
6	Master Thesis	-	20	MT
	<b>Total</b>		<b>20</b>	
<b>Total</b>				<b>120</b>

## Appendix 4: Module Descriptions

### Module Description *Dental Technology – Manufacturing, Digital Applications, Materials, Science*

Module 1 / MDAMS	Dental Technology – Manufacturing, Digital Applications, Materials, Science	Compulsory module	5 CP (total) = 150 h	
			Contact study 8 h in form of block sessions	Self-study 142 h
<b>Contents</b>				
<p>The module teaches the current level of knowledge in the field of Dental Technology by means of lectures and seminars. It teaches the context between current developments in the health system – in particular in dental medicine – and the resultant role of the dental technician in a therapeutic team.</p> <p>Based on this the clinical requirements of dental prepared restorations are explained.</p> <p>In particular therapeutic approaches to improve the aesthetics are differentiated between pure surgery that changes the tissue, applied dental materials as well as a combination of both.</p>				
<b>Learning outcomes /Competence objectives</b>				
<p>The clinical competence of the students will be extended by the selective demonstration of all therapeutic concepts within the different disciplines of teeth-, mouth- and jaw medicine to the replacement of missing oral tissue and the improvement in orofacial aesthetics.</p> <p>The students gain a lasting knowledge of how functional and aesthetic excellent overall results in restorative dental medicine on the one hand in most complex interdisciplinary treatment processes and on the other hand in the quality of dental prepared restorations and materials used. They are able to appreciate the interaction of therapeutic approaches and materials.</p>				
<b>Requirements to participate in the module and individual sessions of the module</b>				
None				
<b>Recommended requirements</b>				
None				
<b>Allocation of the module (course / faculty)</b>			Dental Technology/ Faculty 16	
<b>Usability of the module for other courses</b>			-	
<b>Availability</b>			Once pro semester	
<b>Length of the module</b>			One semester	
<b>Module Coordinator</b>			Dr. Paul Weigl	
<b>Proof of study /where applicable as exam preparation</b>				
<b>Proof of attendance</b>			None	
<b>Proof of work</b>			None	
<b>Teaching / Learning formats</b>				
<b>Lesson / Examination language</b>			English / In the case of a purely German cohort: German	
<b>Module examination</b>			<b>Format / Length / Contents where applicable</b>	
<b>Final module examination consisting of :</b>			Examination (graded) / length of examination: 60 min.	
<b>cumulative module examination consisting of :</b>				
<b>Establishing the grade by cumulative module examinations:</b>				

	Lesson format	CP	Semester				
			1	2	3	4	5
Dental Technology – Manufacturing, Digital Application, Materials, Science	Lecture	5	x				
Module examination	Examination	-					
<b>Total</b>		<b>5</b>					

## Module Description *Material Sciences*

Module 2/ MS	Material Sciences	Compulsory module	5 CP (total) = 150 h	
			Contact study 8 h in form of block sessions	Self-study 142 h
<b>Contents</b>				
<p>The module imparts knowledge about the scientific description and examination of the materials used in dentistry. In particular the potentially allergic and /or toxic interaction of the material surface with the adjoining oral tissue and the clinical long-term implications are taught.</p> <p>The methods of an objective scientific evaluation of the clinical reaction of a new material will be examined (prospective/retrospective clinical studies, animal studies, cell experiments, mechanical material testing, surface scanning etc.). Potential and limitations of individual examination methods will be critically analysed.</p>				
<b>Learning outcomes /Competence objectives</b>				
<p>The students are enabled to independently and objectively evaluate dental material based on results from scientific examination methods for their clinical reaction. On completion of the module the students are in the position to be able to compare in detail the statements from clinical studies with animal experimental and in-vitro examinations when new dental materials are launched onto the market.</p>				
<b>Requirements to participate in the module and individual sessions of the module</b>				
None				
<b>Recommended requirements</b>				
None				
<b>Allocation of the module (course / faculty)</b>			Dental Technology / Faculty 16	
<b>Usability of the module for other courses</b>			-	
<b>Availability</b>			Once pro semester	
<b>Length of the module</b>			One semester	
<b>Module Coordinator</b>			Prof Dr. mult. Robert Sader	
<b>Proof of study /where applicable as exam preparation</b>				
<b>Proof of attendance</b>			None	
<b>Proof of work</b>			None	
<b>Teaching / Learning formats</b>				
<b>Lesson / Examination language</b>			English / In the case of a purely German cohort: German	

Module examination			Format / Length / Contents where applicable					
Final module examination consisting of :			Examination (graded) / length of examination: 60 min.					
Cumulative module examination consisting of :								
Establishing the grade by cumulative module examinations:								
		Lesson format	CP	Semester				
				1	2	3	4	5
	Material Sciences	Lecture	5	x				
	Module examination	Examination	-	x				
	<b>Total</b>		<b>5</b>					

### Module Description *Digital Design and Planning*

Module 3/ DDP	Digital Design and Planning	Compulsory module	8 CP (total) = 240 h	
			Contact study 28 h in form of block sessions	Self-study 212 h
<b>Contents</b>				
<p>In the module “Digital Design and Planning“ software products available on the market to design fillings, chips, crowns and bridges, implant abutments, removable dentures, occlusal splints and orthodontic brackets and appliances will be critically discussed regarding their quality, their efficiency as well as their application will be trained in workshops using case studies.</p> <p>Students will be taught to create a virtual patient from varying data sets (CT, DVT, MRT, optical 3D surface scan etc.) and to make a 3D print for this or selected elements.</p> <p>Further potential as well as a risk-benefit analysis for digital planning on virtual patients will be taught to students.</p> <p>The methodology and safety of a complete/correct transfer of a digitally planned treatment to the real patient plays a decisive role when working on the selection criteria for an appropriate planning and design software.</p>				
<b>Learning outcomes /Competence objectives</b>				
<p>At the end of the module the students can independently digitally design and produce dental restoration with the help of corresponding software and with appropriate downstream mechanical moulding (NC-milling machines, 3D-printers etc.) They achieve the competence to independently and objectively select software products.</p> <p>The students are able to generate a “virtual“patient with the aid of three dimensional medical imaging (CBCT, CT, MRT, 3D-surface scan) and to plan, design and produce medical restorations on it either directly or on the 3D-print-out. They can use a structured risk-benefit analysis to compare on a case by case basis using this method with the conventional medical production of restorations in particular with regard to the challenge to undertake a complete/correct transfer of a digitally planned treatment on the real patient.</p>				
<b>Requirements to participate in the module and individual sessions of the module</b>				
None				
<b>Recommended requirements</b>				
None				
<b>Allocation of the module (course / faculty)</b>			Dental Technology / Faculty 16	
<b>Usability of the module for other courses</b>			-	
<b>Availability</b>			pro semester	
<b>Length of the module</b>			one semester	

<b>Module Coordinator</b>		Dr. Paul Weigl						
<b>Proof of study /where applicable as exam preparation</b>								
<b>Proof of attendance</b>		None						
<b>Proof of work</b>		None						
<b>Teaching / Learning formats</b>								
<b>Lesson / Examination language</b>		English / In the case of a purely German cohort: German						
<b>Module examination</b>		<b>Format / Length / Contents where applicable</b>						
<b>Final module examination consisting of :</b>		Practical Examination (graded), Length: 60 minutes (s. § 34 Para. 3.)						
<b>Cumulative module examination consisting of:</b>								
<b>Establishing the grade by cumulative module examinations:</b>								
		Lesson format	CP	Semester				
				1	2	3	4	5
	Digital Design and Planning	Seminar, Practical	8	x				
	Module examination	Practical examination	-	x				
	<b>Total</b>		<b>8</b>					

### Module Description Case Documentation

<b>Module 4/ CDOC</b>	<b>Case Documentation</b>	<b>Compulsory module</b>	<b>5 CP (insg.) = 150 h</b>	
			<b>Contact study</b> 8 h in form of block sessions	<b>Self-study</b> 142 h
<b>Contents</b>				
<p>In the module “Case Documentation” the documentation of clinical cases will be explained and information provided about their significance before and after fitting medical restorations as well as their production process at professional standards. In this context the students will be trained on an application basis in diverse documentation methods (protocol, dental photography and video recording in 2D and 3D). In particular, modern methods of three dimensional medical imagery (CBCT, CT, MRT, 3D-surface scans etc.) enable the advantage of a “virtual” patient in the form of a digitalised 3D-representation of oral tissue and the face. The medical realisation of simulated treatment on the virtual patient allows the use of AR (Augmented Reality) or VR (Virtual Reality) glasses.</p>				
<b>Learning outcomes /Competence objectives</b>				
<p>The specialist competence of the student in respect of the orderly documentation of patient cases and in particular dentally produced restorations will improve through the practical usage of written and image processes (dental photography, video recording, mock-up, CBCT, CT, MRT, 3D-surface scans etc.). The objective is the personal documentation and evaluation of patient cases with integrated dentally produced restorations in line with current scientific standards.</p>				
<b>Requirements to participate in the module and individual sessions of the module</b>				
None				

Recommended requirements								
None								
Allocation of the module (course / faculty)			Dental Technology / Faculty 16					
Usability of the module for other courses			-					
Availability			pro semester					
Length of the module			one semester					
Module Coordinator			Dr. Paul Weigl					
Proof of study /where applicable as exam preparation								
Proof of attendance			None					
Proof of work			None					
Teaching / Learning formats								
Lesson / Examination language			English / In the case of a purely German cohort: German					
Module examination			<b>Format / length / contents where appropriate</b>					
Final module examination consisting of:			Homework (graded), scope: 10 pages, Length: 8 weeks, Contents: Working a mock case					
Cumulative module examination consisting of :								
Establishing the grade by cumulative module examinations:								
		Lesson format	CP	Semester				
				1	2	3	4	5
	Case Documentation	Seminar, Practical	5	x				
	Module examination	Practical examination	-	x				
	<b>Total</b>		<b>5</b>					

### Module description *Dental Technology – Patient Treatment Procedures for Dental Technicians*

Module 5/ PTPDT	Dental Technology – Patient Treatment Procedures for Dental Technicians	Compulsory module	8 CP (total) = 240 h	
			Contact study 24 h in the form of block sessions	Self - study 216 h
<b>Contents</b>				
<p>The students will be shown specific treatment procedural step for patients that can be delegated by dentists to dental technicians with corresponding training. These include non-invasive procedural steps of functional and aesthetic try-ins for dental produced restorations, adjusting the occlusion, determining the vertical and horizontal jaw relationship, implant abutment assembly and disassembly, determining the colour and soft tissue, the fitting of a face bow, conventional as well as digital tooth/jaw impression.</p> <p>The treatment steps will in addition to the theoretical presentation be demonstrated on patients and the students will be trained on a phantom.</p>				
<b>Learning outcomes /Competence objectives</b>				

<p>After successful completion of the module the students will be able to perform non-invasive treatment steps directly on the patient. The objective is to significantly expand the field of work of the dental technician in that he is trained to be personally involved in the treatment of the patient. Before implementing this acquired skill and competence on the patient a legal clarification and approval must be obtained on a country by country basis.</p>								
<p><b>Requirements to participate in the module and individual sessions of the module</b></p>								
<p>Successful completion of the modules “Dental Technology – Manufacturing, Digital Applications, Materials, Science”</p>								
<p><b>Recommended requirements</b></p>								
<p>None</p>								
<p><b>Allocation of the module (course / faculty)</b></p>	<p>Dental Technology / Faculty 16</p>							
<p><b>Usability of the module for other courses</b></p>	<p>-</p>							
<p><b>Availability</b></p>	<p>pro semester</p>							
<p><b>Length of the module</b></p>	<p>one semester</p>							
<p><b>Module Coordinator</b></p>	<p>Prof. Dr. Robert Sader</p>							
<p><b>Proof of study /where applicable as exam preparation</b></p>								
<p><b>Proof of attendance</b></p>	<p>Regular attendance</p>							
<p><b>Proof of work</b></p>	<p>none</p>							
<p><b>Teaching / Learning formats</b></p>								
<p><b>Lesson / Examination language</b></p>	<p>English / In the case of a purely German cohort: German:</p>							
<p><b>Module examination</b></p>								
<p><b>Format / length / contents where appropriate</b></p>								
<p><b>Final module examination consisting of:</b></p>	<p>OSCE (graded), length: 30 minutes.</p>							
<p><b>Cumulative module examination consisting of :</b></p>								
<p><b>Establishing the grade by cumulative module examinations:</b></p>								
				Semester				
	Lesson format	CP		1	2	3	4	5
	Dental Technology – Patient Treatment Procedures for Dental Technicians	Seminar, Practical	8		x			
	Module examination	OSCE	-		x			
	<b>Total</b>		<b>8</b>					

## Module Description *Hygiene and Regulations*

<p>Module 6/ HREG</p>	<p>Hygiene and Regulations</p>	<p>Compulsory module</p>	<p>5 CP (total) = 150 h</p>	
			<p>Contact study 8h in the form of block sessions</p>	<p>Self-study 142 h</p>
<p><b>Contents</b></p>				
<p>The students learn about the significance and realisation of all the stringent and facultative necessary hygiene measures for the treatment of patients. The distinction will be made between treating a patient on a dentist chair in a dental technical environment and in a dental practice or clinic. Additionally the significance and fulfilment of the norms and laws (different by country) in respect of hygienic standards will be explained.</p> <p>Non-invasive therapy steps as explained in the module “Dental Technology – Patient Treatment Procedures for Dental Technicians” will be compared between two different working environments: the patient comes to the dental technical environment or the dental technician is present in a dental practice or clinic.</p>				



<b>Learning outcomes /Competence objectives</b>								
The students will be able to fulfil all hygienic standards for the implementation of dental therapy steps on the patient. They develop the competence to independently identify and implement country-specific norms and laws in respect of required hygienic standards and measures in their working environment.								
<b>Requirements to participate in the module and individual sessions of the module</b>								
Successful completion of the modules “Dental Technology – Manufacturing, Digital Applications, Materials, Science”								
<b>Recommended requirements</b>								
Module “Dental Technology – Patient Treatment Procedures for Dental Technicians”								
<b>Allocation of the module (course / faculty)</b>				Dental Technology / Faculty 16				
<b>Usability of the module for other courses</b>				-				
<b>Availability</b>				pro semester				
<b>Length of the module</b>				one semester				
<b>Module Coordinator</b>				Dr. Paul Weigl				
<b>Proof of study /where applicable as exam preparation</b>								
<b>Proof of attendance</b>				regulaär attendance				
<b>Proof of work</b>				none				
<b>Teaching / Learning formats</b>								
<b>Lesson / Examination language</b>				English / In the case of a purely German cohort: German				
<b>Module examination</b>				<b>Format / length / contents where appropriate</b>				
<b>Final module examination consisting of:</b>				Practical examination (graded), length: 30 minutes.				
<b>Cumulative module examination consisting of :</b>								
<b>Establishing the grade by cumulative module examinations:</b>								
		Lesson format	CP	Semester				
				1	2	3	4	5
	Hygiene and Regulations	Seminar, Practical	5		x			
	Module examination	Practical examination	-		x			
	<b>Total</b>		<b>5</b>					

### Module Description *Patient Handling*

Module 7/ PATH	Patient Handling	Compulsory module	5 CP (total) = 150 h		Weekly hours per semester
			Contact study 8h in form of block sessions	Self - study 142 h	
<b>Contents</b>					
<p>In the module “Patient Handling” the relationship of the dental technician to the patient is the focus. The students deal in this module with psychological and communication scientific approach that explains the relationship with each other is strongly characterised by information asymmetries and should be helpful for future non-invasive treatment steps.</p> <p>Furthermore communication with the patient is explained with regard to responsibilities within the overall therapy.</p>					

Learning outcomes /Competence objectives								
<p>The students acquire specific knowledge in a discipline outside dental technology. Through this they refine not only their methodical and theoretical awareness but gain insights into new contexts that is a productive complement to their dental-technological focus. The students gain greater intellectual flexibility. They acquire analytical skills to reflect critically on interdisciplinary correlations.</p> <p>The students acquire competences for a professional manner with patients by applying a structured and psychologically based conversation style before carrying out non-invasive therapy steps both when dealing with complications that arise during the therapy steps or afterwards as identified and taught in the module “Dental Technology – Patient Treatment Procedures for Dental Technicians“</p> <p>Scientifically based argumentation and the recognition of emotionally altered patients with exaggerated and unfulfilled therapy results are recognised by the students as essential prerequisites for a constantly serious interaction with patients. The students recognise the significance of patient communication for sustainable success for the treatment team of the dentist.</p>								
Requirements to participate in the module and individual sessions of the module								
Successful completion of the module “Dental Technology – Manufacturing, Digital Applications, Materials, Science”								
Recommended requirements								
“Dental Technology – Patient Treatment Procedures for Dental Technicians”								
Allocation of the module (course / faculty)				Dental Technology / Faculty 16				
Usability of the module for other courses				-				
Availability				pro semester				
Length of the module				one semester				
Module Coordinator				Dr. Paul Weigl				
Proof of study /where applicable as exam preparation								
Proof of attendance				Regular attendance				
Proof of work				none				
Teaching / Learning formats								
Lesson / Examination language				English / In the case of a purely German cohort: German				
Module examination				Format / length / contents where appropriate				
Final module examination consisting of :				Oral examination (graded), Length: 30 minutes.				
Cumulative module examination consisting of :								
Establishing the grade by cumulative module examinations:								
		Lesson format	CP	Semester				
				1	2	3	4	5
	Patient Handling	Seminar	5		x			
	Module examination	Oral examination	-		x			
	<b>Total</b>		<b>5</b>					

## Module Description *Scientific Methods I*

Module 8/ SM1	Scientific Methods I	Compulsory module	5 CP (total) = 150 h	
			Contact study 16 h in form of block sessions	Self - study 134 h
<b>Contents</b>				
<p>The module is an introduction to scientific theory and provides knowledge about rules for good scientific work. The required structure, stylistic text design, quoting from literature and the absolute separation in content of describing methods from results required for writing a scientific piece of work will be taught.</p> <p>The structured search for literature as well as its acquisition and evaluation by using literature databases and the university library of the Goethe University are a further element of this module.</p> <p>An initial insight into the evaluation methods of biomedical statistics forms the basis for the discussion of different designs of in-vitro and in-vivo scientific studies carried out.</p>				
<b>Learning outcomes /Competence objectives</b>				
<p>The students will be able to carry out their own scientific work. Additionally knowledge in the field of scientific theory, good scientific practice, basic statistics and scientific writings are included. Beyond this, students become familiar with research possibilities and derive an initial insight into the area of clinical study design.</p> <p>After completion of the module the students are in the position to provide well-founded evaluations of scientific literature as well as interpreting clinical studies. Additionally they have improved their analytical and communicative abilities to make complex relationships transparent and to demonstrate them scientifically adequately.</p>				
<b>Requirements to participate in the module and individual sessions of the module</b>				
none				
<b>Recommended requirements</b>				
none				
<b>Allocation of the module (course / faculty)</b>			Dental Technology / Faculty 16	
<b>Usability of the module for other courses</b>			-	
<b>Availability</b>			pro semester	
<b>Length of the module</b>			one semester	
<b>Module Coordinator</b>			Dr. Paul Weigl	
<b>Proof of study /where applicable as exam preparation</b>				
<b>Proof of attendance</b>			none	
<b>Proof of work</b>			none	
<b>Teaching / Learning formats</b>				
<b>Lesson / Examination language</b>			English / In the case of a purely German cohort: German	
<b>Module examination</b>			<b>Format / length / contents where appropriate</b>	
<b>Final module examination consisting of:</b>			Homework (graded), scope: 10 pages, Length: 8 weeks	
<b>Cumulative module examination consisting of :</b>				

Establishing the grade by cumulative module examinations:							
	Lesson format	CP	Semester				
			1	2	3	4	5
Academic Methods I	Seminar	5		x			
Module examination	Homework	-		x			
<b>Total</b>		<b>5</b>					

### Module Description *Process Management within a therapeutic team*

Module 9/ PMTT	Process Management within a therapeutic team	Compulsory module	5 CP (total) = 150 h		Weekly hours per semester
			Contact study 16h in form of block sessions	Self-study 134 h	
<b>Contents</b>					
<p>Building on the module “Dental Technology – Patient Treatment Procedures for Dental Technicians” a structured and efficient communication and the relationship with the leader of a team of therapists for the implementation of a complex multidisciplinary therapy will be taught.</p> <p>After identifying their own responsibilities and those of different therapists the students learn to know and apply the structured process to arrive at a consensus for a final therapeutic plan. This derives in particular from the scientifically based consideration of potential risks and expected benefits for the patient.</p> <p>Using case studies, an effective communication and reporting structure within the therapy team will be established as an important prerequisite for a complete realisation of the planned therapy results. Both the initial consensus agreement and the structured communication within the therapy team will be presented in detail as the basis for a functioning management of possible conflicts that might arise within the team and/or between the team and the patient.</p>					
<b>Learning outcomes /Competence objectives</b>					
<p>Students will be able to integrate on a sound scientific basis into an existing team comprising different medical/dental disciplines for a complex therapy and to independently identify and manage their own area of responsibility. Furthermore they are aware of the relevance of communication within the therapy team and are in the position to integrate communicatively into the team approach</p> <p>Competences in the field of professional project and personnel management will be acquired especially in the set-up and controlling of responsibility and communication structures, in the risk-benefit analysis and in conflict management.</p> <p>The objective is to enable graduates to contribute independently and expediently both from the subject matter as well as administratively within a complex multidisciplinary therapy team and to critically reflect on their own behaviour.</p>					
<b>Requirements to participate in the module and individual sessions of the module</b>					
Successful completion of the modules “Dental Technology – Manufacturing, Digital Applications, Materials, Science”, “Dental Technology – Patient Treatment Procedures for Dental Technicians”					
<b>Recommended requirements</b>					
Module “Patient Handling”					
<b>Allocation of the module (course / faculty)</b>			Dental Technology / Faculty 16		
<b>Usability of the module for other courses</b>			-		
<b>Availability</b>			pro semester		
<b>Length of the module</b>			one semester		
<b>Module Coordinator</b>			Prof. Dr. Robert Sader		
<b>Proof of study /where applicable as exam preparation</b>					



<b>Availability</b>	pro semester						
<b>Length of the module</b>	one semester						
<b>Module Coordinator</b>	Dr. Paul Weigl						
<b>Proof of study /where applicable as exam preparation</b>							
<b>Proof of attendance</b>	Regular attendance						
<b>Proof of work</b>	none						
<b>Teaching / Learning formats</b>							
<b>Lesson / Examination language</b>	English / In the case of a purely German cohort: German						
<b>Module examination</b>	<b>Format / length / contents where appropriate</b>						
<b>Final module examination consisting of:</b>	Examination (graded), length: 60 minutes.						
<b>Cumulative module examination consisting of :</b>							
<b>Establishing the grade by cumulative module examinations:</b>							
			Semester				
	Lesson format	CP	1	2	3	4	5
	Anatomy Physiology and Oral Diseases	lecture	5		x		
	Module examination	examination	-		x		
	<b>Total</b>		<b>5</b>				

### Module Description *Dental Technology – Chairside CAD/CAM Procedures*

<b>Modul 11/ CCCP</b>	<b>Dental Technology – Chairside CAD/CAM Procedures</b>	<b>Compulsory module</b>	<b>5 CP (total) = 150 h</b>		<b>Weekly hours per semester</b>
			<b>Contact study</b> 16h in form of block sessions	<b>Self-study</b> 134 h	
<b>Contents</b>					
<p>Students will become familiar with digital desktop devices which enable a completely digital work process up to the production of dental technical restorations on the dentist's chair. The quality and performance will be critically analysed as well as their application in workshops with case studies.</p> <p>The proper handling, care and maintenance of digital desktop devices will be trained.</p> <p>Students will be advised of the possibilities and limitations of such CAD/CAM systems, in particular with regard to the limited choice of dental materials. Minimum quality standards for digitally based design processes will be developed to gain objective selection criteria for their application.</p>					
<b>Learning outcomes /Competence objectives</b>					
<p>On completion of the module the students are in the position of independently designing dental restorations with the help of corresponding digital desktop devices and with appropriate machine design aids (NC milling machines, 3D printers etc.) to produce them locally. They acquire the competence for an independent and objective selection of such desktop devices.</p> <p>Students can apply a structured risk-benefit analysis on a case by case to compare and evaluate using these devices with the conventional dental production of restorations especially under the aspect of a limited choice of useful dental materials.</p>					
<b>Requirements to participate in the module and individual sessions of the module</b>					
<p>Successful completion of the module “Dental Technology – Manufacturing, Digital Applications, Materials, Science”, “Dental Technology – Patient Treatment Procedures for Dental Technicians” and “Digital Design and Planning”</p>					

Recommended requirements								
none								
Allocation of the module (course / faculty)			Dental Technology / Faculty 16					
Usability of the module for other courses			-					
Availability			pro semester					
Length of the module			one semester					
Module Coordinator			Dr. Paul Weigl					
Proof of study /where applicable as exam preparation								
Proof of attendance			none					
Proof of work			none					
Teaching / Learning formats								
Lesson / Examination language			English / In the case of a purely German cohort: German					
Module examination			Format / length / contents where appropriate					
Final module examination consisting of:			Examination (graded), length: 60 minutes.					
Cumulative module examination consisting of :								
Establishing the grade by cumulative module examinations:								
		Lesson format	CP	Semester				
				1	2	3	4	5
	Dental Technology – Chairside CAD/CAM Procedures	seminar, practical	5			x		
	Module examination	examination	-			x		
	<b>Total</b>		<b>5</b>					

## Module Description Scientific Methods II

Module 12/SM2	Scientific Methods II	Compulsory module	5 CP (total) = 150 h		Weekly hours per semester
			Contact study 16h in form of block sessions	Self study 134 h	
<b>Contents</b>					
<p>The module “Scientific Methods II“follows on from the module “Scientific Methods I“and teaches advanced knowledge in the area of scientific methods and applied biomedical statistics.</p> <p>Teaching focuses especially on the structured approach of a critical evaluation of the methods applied and the presentation of the result of scientific articles and textbooks. One important aspect – the identification and handling of errors in scientific publications – will receive special focus.</p> <p>The diverse ways and methods applied for carrying out a demanding scientific in-vitro or in-vivo study will be demonstrated using examples from the students will themselves be worked on.</p>					
<b>Learning outcomes /Competence objectives</b>					
<p>The students learn to develop complex areas of knowledge within specific issues in order to design learning and research processes themselves. They acquire research-oriented knowledge that supports priority setting with regard to the Master thesis. The students develop the competence to evaluate and select themselves the continuously increasing number of scientific articles and textbooks in this field based on objectifiable quality features. On completion of the module the students are in the position to deal adequately with scientific issues so as to design in-</p>					

<p>vitro or in-vivo studies and to write scientific papers.</p> <p>The students gain a deep understanding for the complex acquisition, planning and results evaluation of dental-technological applications with the aid of suitable scientific methods and develop an exceptionally reflective awareness for the range of research approaches and methodical competences.</p>																																						
<b>Requirements to participate in the module and individual sessions of the module</b>																																						
Successful completion of the module “Scientific Methods I“																																						
<b>Recommended requirements</b>																																						
none																																						
<b>Allocation of the module (course / faculty)</b>	Dental Technology / Faculty 16																																					
<b>Usability of the module for other courses</b>	-																																					
<b>Availability</b>	pro semester																																					
<b>Length of the module</b>	one semester																																					
<b>Module Coordinator</b>	Dr. Paul Weigl																																					
<b>Proof of study /where applicable as exam preparation</b>																																						
<b>Proof of attendance</b>	none																																					
<b>Proof of work</b>	none																																					
<b>Teaching / Learning formats</b>																																						
<b>Lesson / Examination language</b>	English / In the case of a purely German cohort: German																																					
<b>Module examination</b>	<b>Format / length / contents where appropriate</b>																																					
<b>Final module examination consisting of :</b>	Homework (graded), scope: 10 pages, length: 8 weeks																																					
<b>Cumulative module examination consisting of :</b>																																						
<b>Establishing the grade by cumulative module examinations:</b>																																						
	<table border="1"> <thead> <tr> <th rowspan="2"></th> <th rowspan="2">Lesson format</th> <th rowspan="2">CP</th> <th colspan="5">semester</th> </tr> <tr> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>5</th> </tr> </thead> <tbody> <tr> <td>Academic Methods II</td> <td>seminar</td> <td>5</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Module examination</td> <td>homework</td> <td>-</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td><b>Total</b></td> <td></td> <td><b>5</b></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>		Lesson format	CP	semester					1	2	3	4	5	Academic Methods II	seminar	5						Module examination	homework	-						<b>Total</b>		<b>5</b>					
	Lesson format				CP	semester																																
		1	2	3		4	5																															
Academic Methods II	seminar	5																																				
Module examination	homework	-																																				
<b>Total</b>		<b>5</b>																																				

### Module Description *Complex Workflows for Immediate Restorations on Implants*

<b>Module 13/ CWIRI</b>	<b>Complex Workflows for Immediate Restorations on Implants</b>	<b>Compulsory module</b>	<b>9 CP (total) = 270 h</b>		<b>Weekly hours per semester</b>
			<b>Contact study</b> 24h in form of block sessions	<b>Self study</b> 246 h	
<b>Contents</b>					
<p>Students will be taught the indications and clinical requirements for implants to fit immediately which in most cases enable a minimal invasive therapy.</p> <p>The challenges of working on a quick production of dental restorations for implants will be taught.</p> <p>Two digital continuous production processes for patients ‘specific abutments, as well as temporary and final restorations will be taught. A production process will use the digital desktop equipment described in the module “Dental Technology – Chairside CAD/CAM Procedures“. The second method deals with the virtual patient described</p>					



<p>in detail in the module „Digital Design and Planning“ which with the aid of navigated inserted implants enables the production of abutments and temporary restorations prior to the implant. Both innovative digital workflows will be compared in respect of total investment, planning time, time in the chair, preparation time, therapy costs, radiation dose, reliability and quality.</p>																																						
<p><b>Learning outcomes /Competence objectives</b></p>																																						
<p>Graduates are capable of transferring and applying their knowledge to the general advantages and disadvantages as well as the indications of patient – specific cases of implants supplied immediately.</p> <p>In this module students acquire the competence on a case by case basis to assess and in conclusion select the most appropriate production method for the immediate supply of patient-specific implant-abutments and the restorations attached to them for the immediate supply of implants.</p> <p>Furthermore the students learn to produce on virtual patients the abutments and restorations already prior to the implant insertion.</p>																																						
<p><b>Requirements to participate in the module and individual sessions of the module</b></p>																																						
<p>Successful completion of the modules “Dental Technology – Manufacturing, Digital Applications, Materials, Science”, “Dental Technology – Patient Treatment Procedures for Dental Technicians” and “Digital Design and Planning”.</p>																																						
<p><b>Recommended requirements</b></p>																																						
<p>Module “Dental Technology – Chairside CAD/CAM Procedures”</p>																																						
<p><b>Allocation of the module (course / faculty)</b></p>	<p>Dental Technology / Faculty 16</p>																																					
<p><b>Usability of the module for other courses</b></p>	<p>-</p>																																					
<p><b>Availability</b></p>	<p>pro semester</p>																																					
<p><b>Length of the module</b></p>	<p>one semester</p>																																					
<p><b>Module Coordinator</b></p>	<p>Dr. Paul Weigl</p>																																					
<p><b>Proof of study /where applicable as exam preparation</b></p>																																						
<p><b>Proof of attendance</b></p>	<p>none</p>																																					
<p><b>Proof of work</b></p>	<p>none</p>																																					
<p><b>Teaching / Learning formats</b></p>																																						
<p><b>Lesson / Examination language</b></p>	<p>English / In the case of a purely German cohort: German</p>																																					
<p><b>Module examination</b></p>	<p><b>Format / length / contents where appropriate</b></p>																																					
<p><b>Final module examination consisting of:</b></p>	<p>examination (graded), length: 60 minutes.</p>																																					
<p><b>Cumulative module examination consisting of :</b></p>																																						
<p><b>Establishing the grade by cumulative module examinations:</b></p>																																						
	<table border="1"> <thead> <tr> <th rowspan="2"></th> <th rowspan="2">Lesson format</th> <th rowspan="2">CP</th> <th colspan="5">Semester</th> </tr> <tr> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>5</th> </tr> </thead> <tbody> <tr> <td>Complex Workflows for Immediate Restorations on Implants</td> <td>lecture</td> <td>9</td> <td></td> <td></td> <td></td> <td>x</td> <td></td> </tr> <tr> <td>Module examination</td> <td>examination</td> <td>-</td> <td></td> <td></td> <td></td> <td>x</td> <td></td> </tr> <tr> <td><b>Total</b></td> <td></td> <td><b>9</b></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>		Lesson format	CP	Semester					1	2	3	4	5	Complex Workflows for Immediate Restorations on Implants	lecture	9				x		Module examination	examination	-				x		<b>Total</b>		<b>9</b>					
	Lesson format				CP	Semester																																
		1	2	3		4	5																															
Complex Workflows for Immediate Restorations on Implants	lecture	9				x																																
Module examination	examination	-				x																																
<b>Total</b>		<b>9</b>																																				

## Module Description *Quality Management*

Module 14/ QM	Quality Management	Compulsory module	5 CP (total) = 150 h					Weekly hours per semester
			Contact study 8h in form of block sessions		Self study 142 h			
<b>Contents</b>								
In the module “Quality Management“the organisational and regulatory requirements for a good and efficiently functioning dental business will be explained. This includes the identification of core processes, knowledge about methods of quality management, the definition of quality measures, quality assurance of externally purchased goods and/or services as well as the final quality assurance of the specific patient’s dental restoration.								
<b>Learning outcomes /Competence objectives</b>								
The objective is to furnish the graduates with additional knowledge in respect of a successful administrative and personnel structure in a dental business that enables an efficient and successful process and quality management. On completion of the module the students are in the position to determine, assess and implement the relevant regulatory requirements for their business. Additionally they are aware of the significance of an active risk prevention for the production of patients ‘specific medical products and are able to identify and minimise potential business risks.								
<b>Requirements to participate in the module and individual sessions of the module</b>								
none								
<b>Recommended requirements</b>								
Module “Hygiene and Regulations”								
<b>Allocation of the module (course / faculty)</b>			<b>Dental Technology / Faculty 16</b>					
<b>Usability of the module for other courses</b>			-					
<b>Availability</b>			pro semester					
<b>Length of the module</b>			one semester					
<b>Module Coordinator</b>			Dr. Paul Weigl					
<b>Proof of study /where applicable as exam preparation</b>								
<b>Proof of attendance</b>			none					
<b>Proof of work</b>			none					
<b>Teaching / Learning formats</b>								
<b>Lesson / Examination language</b>			English / In the case of a purely German cohort: German					
<b>Module examination</b>			<b>Format / length / contents where appropriate</b>					
<b>Final module examination consisting of :</b>			examination (graded), length: 60 minutes.					
<b>Cumulative module examination consisting of :</b>								
<b>Establishing the grade by cumulative module examinations:</b>								
		Lesson format	CP	Semester				
				1	2	3	4	5
	Quality Management	lecture	5				x	
	Module examination	examination	-				x	
	<b>Total</b>		<b>5</b>					

## Module Description *Offering Consulting Services to Clinicians*

Module 15/ OCSC	Offering Consulting Services to Clinicians	Compulsory module	5 CP (total) = 150 h				
			Contact study 24h in form von block sessions	Self study 126 h			
<b>Contents</b>							
<p>In the module“Offering Consulting Services to Clinicians“ the students will be made aware of the possibilities of a potential further development of their existing business model in the form of consulting activities (Business Development). The target group for this kind of consulting consists mainly of clinics where there is a consulting need with regard to new production methods, and to see cost-benefit relationships for different types of dental restorations and identification of workflow optimisation potential. The subjects taught in the Master programme put students in the position of offering this consulting with a sound scientific basis.</p> <p>Offering consulting services demands excellent presentation skills that the students learn in this module.</p>							
<b>Learning outcomes /Competence objectives</b>							
<p>After completion of the module, the students are in the position of identifying and assessing potential further business areas in the consulting field. They develop the necessary skill set, to implement consulting work professionally and to present and communicate customised content. In this way students acquire specific knowledge in a discipline outside dental technology. They sharpen not only their awareness of methodology and theory but also gain insights into new contexts that expand their scientific horizon. The students gain a greater intellectual flexibility. They acquire the analytical skills to critically reflect on interdisciplinary connections.</p>							
<b>Requirements to participate in the module and individual sessions of the module</b>							
<p>Successful completion of the modules “Dental Technology – Manufacturing, Digital Applications, Materials, Science”, “Dental Technology – Patient Treatment Procedures for Dental Technicians” and “Digital Design and Planning”</p>							
<b>Recommended requirements</b>							
<p>Module “Dental Technology – Chairside CAD/CAM Procedures”</p>							
<b>Allocation of the module (course / faculty)</b>			Dental Technology / Faculty 16				
<b>Usability of the module for other courses</b>			-				
<b>Availability</b>			pro semester				
<b>Length of the module</b>			one semester				
<b>Module Coordinator</b>			Dr. Paul Weigl				
<b>Proof of study /where applicable as exam preparation</b>							
<b>Proof of attendance</b>			None				
<b>Proof of work</b>			None				
<b>Teaching / Learning formats</b>							
<b>Lesson / Examination language</b>			English / In the case of a purely German cohort: German				
<b>Module examination</b>			<b>Format / length / contents where appropriate</b>				
<b>Final module examination consisting of :</b>			Oral presentation (graded), length: 15 minutes.				
<b>Cumulative module examination consisting of :</b>							
<b>Establishing the grade by cumulative module examinations:</b>							
	Lesson format	CP	Semester				
			1	2	3	4	5
Offering Consulting Services to Clinicians	seminar	5				x	
Module examination	Oral presentation	-				x	
<b>Total</b>		<b>5</b>					

## Module Description *Economic Lab Management*

Module 16/ ELM	Economic Lab Management	Compulsory module	5 CP (total) = 150 h				Weekly hours per semester	
			Contact study 8h in form of block sessions		Self study 142 h			
<b>Contents</b>								
<p>In the module “Economic Lab Management” business knowledge will be taught which should enable the students to improve the profitability of their dental business. For this reason contents from the areas of marketing and sales, process management and leadership will be taught.</p> <p>In addition to the business field developments discussed in the module “Offering Consulting Services to Clinicians” the students will become familiar in this module with methods from the area of business development (Design Thinking, etc.) which should enable the students to develop further business models of their own.</p>								
<b>Learning outcomes /Competence objectives</b>								
<p>After completion of the module “Economic Lab Management” the graduates develop the ability to see their laboratory from a business perspective and are therefore able to recognise and utilise the increase in profitability for their dental business. They will be further trained to identify and evaluate other business areas and to conclude newly developed business models. In this way their intellectual and analytical abilities are developed and they are able to identify and evaluate synergy potential between different disciplines.</p>								
<b>Requirements to participate in the module and individual sessions of the module</b>								
Successful completion of the module “Dental Technology – Patient Treatment Procedures for Dental Technicians”.								
<b>Recommended requirements</b>								
Module “Quality Management”.								
<b>Allocation of the module (course / faculty)</b>			<b>Dental Technology / Faculty 16</b>					
<b>Usability of the module for other courses</b>			-					
<b>Availability</b>			pro semester					
<b>Length of the module</b>			one semester					
<b>Module Coordinator</b>			Dr. Paul Weigl					
<b>Proof of study /where applicable as exam preparation</b>								
<b>Proof of attendance</b>			none					
<b>Proof of work</b>			none					
<b>Teaching / Learning formats</b>								
<b>Lesson / Examination language</b>			English / In the case of a purely German cohort: German					
<b>Module examination</b>			<b>Format / length / contents where appropriate</b>					
<b>Final module examination consisting of :</b>			Homework (graded), scope: 10 pages length: 8 weeks					
<b>Cumulative module examination consisting of :</b>								
<b>Establishing the grade by cumulative module examinations:</b>								
		Lesson format	CP	Semester				
				1	2	3	4	5
	Economic Lab Management	Lecture	5					x
	Module examination	homework	-					x
	<b>Total</b>		<b>5</b>					

## Module Description *Manufacturing of Dental Restorations*

Module 17 / MODR	Manufacturing of Dental Restorations	Compulsory module	10 CP (total) = 300 h	
			Contact study 4h	Self study 296 h
<b>Contents</b>				
<p>The module envisages the independent construction of 10 dental restorations that take place in a practice or clinic without the specialist or methodical support of a local trainer.</p> <p>The following inserted dental restorations by a dentist on a real patient (pa) or on a phantom (ph) are to be performed:</p> <ul style="list-style-type: none"> <li>a) 1 restoration with minimally evasive ceramic chips (pa)</li> <li>b) 1 restoration with veneers (total 1 to 6) (pa)</li> <li>c) 1 restoration with ceramic inlays (pa)</li> <li>d) 1 restoration with full ceramic single crown in the aesthetic zone (pa)</li> <li>e) 1 restoration with a three or four tiered bridge (ph or pa)</li> <li>f) 1 restoration with a fixed total reconstruction (ph or pa)</li> <li>g) 1 restoration with a complete reconstruction fixed to teeth and/or implants but removable (ph or pa)</li> <li>h) 3 restorations with a continuous digital production process (virtual patient, CAD-based construction, digital machine design (ph or pa).</li> </ul>				
<b>Learning outcomes /Competence objectives</b>				
<p>Improvement in the manual skills and competence for the application of conventional and consistent digital production processes will be achieved through an independent preparation of dental restorations. The objective is to develop a critically reflective professional operational competence.</p> <p>The competence for a professional clinical case documentation prepared independently with written and imaging procedures will be enhanced.</p>				
<b>Requirements to participate in the module and individual sessions of the module</b>				
Successful completion of the module “Case Documentation“				
<b>Recommended requirements</b>				
none				
<b>Allocation of the module (course / faculty)</b>			Dental Technology / Faculty 16	
<b>Usability of the module for other courses</b>			-	
<b>Availability</b>			Once pro semester	
<b>Length of the module</b>			Four semesters	
<b>Module Coordinator</b>			Prof. Dr. Robert Sader	
<b>Proof of study /where applicable as exam preparation</b>				
<b>Proof of attendance</b>			none	
<b>Proof of work</b>			none	
<b>Teaching / Learning formats</b>				
<b>Lesson / Examination language</b>			English / In the case of a purely German cohort: German	

Module examination			Format / length / contents where appropriate				
Final module examination consisting of:			Portfolio (graded) (written documentation of the required (10 cases)				
Cumulative module examination consisting of :							
Establishing the grade by cumulative module examinations:							
	Lesson format	CP	Semester				
			1	2	3	4	5
Manufacturing of Dental Restorations	lecture	10					x
Module examination	portfolio	-					x
<b>Total</b>		<b>10</b>					

## Module Description *Master Thesis*

Module 18/ MT	Master Thesis	Compulsory module	20 CP (total) = 600 h	
			Contact study	Self study 600 h
<b>Contents</b>				
<p>The Master thesis covers a subject from the area of dental technology that is literature based and is independently produced by the student using scientific methodology.</p> <p>The Master thesis can be based on a structured literature overview, an in-vitro study or a cell culture study. Further examples are clinical studies carried out as part of a therapeutic team , team- based new developments of materials, devices, production processes as well as the creation of an innovative scientifically evaluated service performance for members of the therapeutic team or for patients.</p>				
<b>Learning outcomes /Competence objectives</b>				
<p>The intensive and focussed analysis with a research subject chosen by themselves, the students expand their competent expertise to a high degree in a special area of dental technology. They learn to defend their theses and arguments, to react to critical questions and to take on suggestions in their work. The students are in the position of steering the learning and research process through targeted scientific-based decisions.</p>				
<b>Requirements to participate in the module and individual sessions of the module</b>				
<p>Successful completion of the modules “Dental Technology – Manufacturing, Digital Applications, Materials, Science”, “Dental Technology – Patient Treatment Procedures for Dental Technicians”, “Scientific Methods I” and “Scientific Methods II”.</p>				
<b>Recommended requirements</b>				
<p>Module “Complex Workflows for Immediate Restorations on Implants” and “Process Management within a therapeutic team”</p>				
<b>Allocation of the module (course / faculty)</b>			Dental Technology / Faculty 16	
<b>Usability of the module for other courses</b>			-	
<b>Availability</b>			pro semester	
<b>Length of the module</b>			one semester	
<b>Module Coordinator</b>			Dr. Paul Weigl	
<b>Proof of study /where applicable as exam preparation</b>				
<b>Proof of attendance</b>			none	

<b>Proof of work</b>			none					
<b>Teaching / Learning formats</b>								
<b>Lesson / Examination language</b>			Englisch / Im Falle einer rein deutschsprachigen Kohorte: Deutsch					
<b>Module examination</b>			<b>Format / length / contents where appropriate</b>					
<b>Final module examination consisting of :</b>			Master thesis (=final thesis , graded),scope: min. 25 pages, process time of 19 weeks with colloquium (ungraded, passes), length: 30 minutes					
<b>Cumulative module examination consisting of :</b>								
<b>Establishing the grade by cumulative module examinations:</b>								
		Lesson format	CP	Semester				
				1	2	3	4	5
	Master Thesis		19					x
	Colloquium		1					x
	<b>Total</b>		<b>20</b>					