

Medical University of
Vienna

Periodontology and
Implantology—

Academic Expert

Unit for Postgraduate Education and Training

Curriculum for the university program "Periodontology and Implantology— Academic Expert"

Part I: General

§ 1 Objective

The university program "Periodontology and Implantology— Academic Expert" provides postgraduate education and training for practicing dentists. This program provides up-to-date knowledge that builds on the study of dentistry and specialization in the field of periodontology and implantology. In addition to the acquisition of scientific basics, this program includes an update on the theoretical and especially the practical training under the supervision of experts in the field of periodontology and implantology.

§ 2 Qualification profile

The university program "Periodontology and Implantology— Academic Expert" provides an in-depth and scientifically and methodologically high-quality education geared to lasting knowledge, which enables graduates for further qualification and employment in, for example, the following fields and makes them internationally competitive:

- Oral anatomy, histology, molecular biology, and etiological pathology of periodontal and peri-implant diseases;
- Conservative therapy of periodontal and peri-implant diseases;
- Resective and regenerative procedures in periodontal and peri-implant surgery;
- Soft tissue management in periodontal peri-implant surgery;
- Guided bone regeneration, socket preservation, and various techniques of dental implantations;
- Computer-guided implantations, sinus floor elevations, and bone augmentations;
- Complex bone augmentations, bone reconstructions, and preprosthetic surgery;
- Implant prosthetics: Occlusion theory and digital restorative dentistry

§ 3 Cooperations

In accordance with § 56 para. 4 UG (Universities Act), the university program is carried out in cooperation with the University Clinic of Dentistry Vienna (100% subsidiary of the Medical University of Vienna) for economic and organizational support. More detailed provisions are regulated in a cooperation agreement.

§ 4 Duration and structure

- (1) The university program lasts 4 semesters and has a scope of 60 ECTS (European Credit Transfer and Accumulation System) credits. Of these, 55 ECTS points are reserved for the mandatory courses in the modules, 5 ECTS for the interdisciplinary module examinations and for the final examination by the board of examiners.
- (2) The maximum duration of study is 6 semesters, which is the scheduled study time plus 2 semesters. After that, admission to the university program expires.
- (3) Part of the theoretical material can be offered as distance learning (e.g., e-learning).
- (4) The university program is run on a part-time basis. Courses may also be taught during nonteaching hours.
- (5) The courses are held in English.

§ 5 Requirements for admission

- (1) Prerequisites for admission to the university program include proof of:
 - a) a completed university degree of at least 300 ECTS (or an equivalent degree completed at a recognized domestic or foreign post-secondary educational institution) in the discipline of dentistry;
 - b) admission to practice dentistry at the place where the patient is treated, because program participants must treat patients outside the University Clinic of Dentistry Vienna in the facilities of their own dental practice according to the criteria learned in the curriculum to be able to manage the patient cases required for successful completion of the university program;
 - c) at least two years of relevant professional experience in the field of dentistry.
- (2) Applicants must prove that they have the necessary knowledge of the English language at the B2 level of the Common European Framework of Reference for Languages, either by means of internationally recognized language certificates/diplomas or diplomas (e.g., school-leaving certificate based on being taught in this language, completion of a university degree in the language of instruction in question) or by means of an examination by the academic program director. Proof may be waived if the language of instruction is the first language of the applicant.
- (3) Furthermore, computer skills are required that allow for the problem-free use of the teaching and learning platform and the use of literature databases.
- (4) A letter of application and curriculum vitae must accompany the application for admission.
- (5) The academic program director checks the suitability of the applicants on the basis of the documents submitted and, if necessary, in a personal interview.
- (6) Admission is only possible before the start of the university program in each case. The academic program director determines the maximum number of participants per university program, taking into account the available study places according to pedagogical and organizational aspects and in accordance with the budget plan.

- (7) Exceptional cases for admission after the start of the university program can only be approved by the curriculum director after proposal by the academic program director provided that the completion of equivalent teaching and learning can be demonstrated.

Part II: Study and examination regulations

§ 6 Program contents

The university program is as follows:

Compulsory courses (LV)

	LV Type	Academic hours (aS)	Self-study	ECTS	Mode of examination/ performance review
MODULE 1 Conservative therapy of periodontitis	VB	61	151	8	Interdisciplinary module examination 1
LV-1 Relevant anatomy: Human anatomical cadaver course	VB	9	50	2,3	Mandatory with written and/or oral performance review
LV-2 Digital imaging and diagnostics	VO	4	7	0.375	Mandatory with written and/or oral performance review
LV-3 Diagnostics and treatment concepts of periodontitis and peri-implantitis	VO	4	6	0.375	Mandatory with written and/or oral performance review
LV-4 Conservative treatment of periodontitis I: Mechanical plaque reduction	VB	8	16	0.75	Mandatory with written and/or oral performance review
LV-5 Conservative treatment of periodontitis II: Chemical and biomodified therapies	VB	8	16	0.75	Mandatory with written and/or oral performance review
LV-6 Oral, dental, and facial photo documentation	VB	6	21	1.05	Mandatory with written and/or oral performance review

LV-7 Laser treatment of periodontitis and peri-implantitis	VB	18	29	1.7	Mandatory with written and/or oral performance review
LV-8 Occlusal trauma and interdisciplinary therapy concept	VO	4	6	0.5	Written or oral course examination (LV examination)

The theoretical knowledge acquired in Module 1 will be intensified practically in a human anatomical cadaver course. The module provides current knowledge of multifactorial etiology as well as interdisciplinary treatment concepts and new therapeutic technologies in the conservative treatment of periodontitis and peri-implantitis. This knowledge is reinforced through intensive internships. The module also covers current diagnostics in microbiology and relevant biomarkers in oral fluid.

	LV Type	Academic hours (aS)	Self-study	ECTS	Mode of examination/ performance review
MODULE 2 Periodontal Surgery I: Resective and regenerative processes	VB	53	160	8	Interdisciplinary module examination 2
LV-1 Resective periodontal surgery—conventional surgical technique and laser surgery	VB	12	35	1.75	Mandatory with written and/or oral performance review
LV-2 Regenerative periodontal surgery—conventional surgical technique and laser surgery	VB	12	35	1.75	Mandatory with written and/or oral performance review
LV-3 Resective and regenerative periodontal surgery for peri-implant defect	VB	10	29	1.5	Mandatory with written and/or oral performance review
LV-4 Application of bone augmentation materials and growth factors	VO	2	4	0.25	Written or oral course examination (LV examination)
LV-5 Wound healing and regeneration in healthy and systemically ill patients	VO	4	8	0.5	Written or oral course examination (LV examination)
LV-6 Interdisciplinary therapy: Concept of orthodontic and reconstructive therapies	VO	2	4	0.25	Written or oral course examination (LV examination)
LV-7 Drug application emergency medicine/forensics	VO	6	11	0.5	Written or oral course examination (LV examination)

LINE_Case discussion, case presentation	SE	5	34	1.5	Mandatory with oral performance review
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The module deals theoretically and in intensive practical courses with regenerative and resective periodontal surgery, current surgical techniques as well as various conventional flap operations and laser application in periodontal surgery. Furthermore, this module deals with the surgical treatment of peri-implant bone defects caused by peri-implantitis. In addition, this module provides knowledge of the development and application of bone augmentation materials and growth factors, as well as preoperative and post-operative management of complex cases.

	LV Type	Academic hours (aS)	Self-study	ECTS	Mode of examination/ performance review
MODULE 3 Periodontal Surgery II: Soft tissue management	VB	53	158	8	Interdisciplinary module examination 3
LV-1 Etiology and therapy of gingival hyperplasia	VO	4	8	0.5	Mandatory with written and/or oral performance review
LV-2 Etiology and therapy of gingival recession	VB	15	38	2	Mandatory with written and/or oral performance review
LV-3 Autologous and exogenous soft-tissue augmentation	VB	19	49	2.5	Mandatory with written and/or oral performance review
LV-4 Cortectomy—modified soft tissue in orthodontic treatment	VB	6	15	0.75	Mandatory with written and/or oral performance review
LV- 5 Interdisciplinary soft tissue management with periodontal surgery, orthodontics, and prosthodontics	VO	4	8	0.5	Mandatory with written and/or oral performance review
LINE_Case discussion, case presentation	SE	5	40	1.75	Mandatory with oral performance review

The module addresses general soft tissue management as well as gingival hyperplasia, recessions, and defects in order to take proper clinical measures for prevention and treatment. In the intensive practical courses, current surgical techniques of soft tissue management are taught and subsequently the ability in the interdisciplinary treatment of soft tissue modulation is intensified.

	LV Type	Academic hours (aS)	Self-study	ECTS	Mode of examination/performance review
MODULE 4 Implantology I: Basics, anatomy and histology, concepts, guided bone regeneration (GBR), and socket preservation	VB	53	160	8	Interdisciplinary module examination 4
LV-1 Implantology I: Basics, anatomy and histology, GBR, socket preservation, and atrophy	VO	8	14	0.75	Written or oral course examination (LV examination)
LV-2 Implant systems, implant surfaces, and osseointegration, incl. internships	VB	8	24	1.25	Mandatory with written and/or oral performance review
LV-3 Guided bone regeneration and socket preservation	VB	8	22	1.25	Mandatory with written and/or oral performance review
LV-4 Dissection Course II (Techniques)	PR	8	30	1.5	Mandatory with written and/or oral performance review
LV-5 Live OP interforaminal implants in the mandible and "Guided Bone Regeneration"	PR	4	12	0.5	Mandatory with written and/or oral performance review
LV-6 Dental traumatology and implant complications	VO	4	10	0.5	Written or oral course examination (LV examination)
LV-7 Hard- and soft-tissue augmentation	VB	8	14	0.75	Mandatory with written and/or oral performance review
LINE_Case discussion, case presentation	SE	5	34	1.5	Mandatory with oral performance review

The module deals with special implant-relevant anatomy and histology of edentulous alveolar processes. Knowledge of the fundamentals of implantology as well as special implant-related techniques, such as guided bone regeneration and techniques for preserving the alveolar process after tooth loss, will be taught and practiced in a human anatomical cadaver course. Live surgeries will demonstrate interantral as well as interforaminal implantations in edentulous patients. Hard- and soft-tissue augmentation techniques—also with regard to esthetic issues, especially in the anterior/cuspid regions—are taught using a variety of examples.

	LV Type	Academic hours (aS)	Self-study	ECTS	Mode of examination/ performance review
MODULE 5 Implantology II: Immediate implantations, computer-guided implantations, sinus floor elevations, and bone augmentations	VB	53	161	8	Interdisciplinary module examination 5
LV-1 Immediate implantation, early implantation	VB	8	16	0.75	Mandatory with written and/or oral performance review
LV-2 Guided implant surgery—Live-Op	VB	12	46	2.25	Mandatory with written and/or oral performance review
LV-3 Ridge augmentations, tooth transplantations VO, and live OP	VB	8	20	1	Mandatory with written and/or oral performance review
LV-4 Sinus lift, VO, and live OP	VB	9	16	1	Mandatory with written and/or oral performance review
LV-5 Dental aplasia	VO	3	4	0.25	Written or oral course examination (LV examination)
LV-6 Implant prosthetics I	VB	8	19	1	Mandatory with written and/or oral performance review
LINE_Case discussion, case presentation	SE	5	58	1,75	Mandatory with oral performance review

The module deals with complex implantological techniques, augmentation techniques, and basics of dental transplantation. Tissue-sparing extraction techniques and immediate implant placements to be performed immediately afterwards will be demonstrated in practical sessions. Computer-assisted "guided" implantation is taught practically with the aid of various software programs. Live surgeries will demonstrate the surgical techniques of computer-guided implant placement, tooth grafting as an alternative to implant restoration, and transcrestal and lateral sinus floor elevations.

	LV Type	Academic hours (aS)	Self-study	ECTS	Mode of examination/ performance review
MODULE 6 Implantology III: Complex bone augmentation and reconstruction, preprosthetic surgery, and zygoma implants	VB	55	153	8	Interdisciplinary module examination 6
LV-1 "ALL on four" concept—Live OP	PR	4	10	0.5	Mandatory with written and/or oral performance review
LV-2 Autologous bone harvesting for	VO	4	6	0.5	Written or oral course examination (LV examination)

augmentation and reconstruction					
LV-3 Bone grafting in severe atrophy—Live OP	PR	6	14	0.75	Mandatory with written and/or oral performance review
LV-4 Complex maxillofacial augmentation and implantation techniques	VO	2	5	0.25	Written or oral course examination (LV examination)
LV-5 Dissection course, bone harvesting, and complex maxillofacial surgical techniques	PR	8	30	1.5	Mandatory with written and/or oral performance review
LV-6 Preprosthetic surgery	VO	2	5	0.25	Written or oral course examination (LV examination)
LV-7 Drug-associated osteonecrosis of the jaw bones	VO	2	5	0.25	Written or oral course examination (LV examination)
LV-8 Clinical application of growth factors and tissue regeneration	PR	4	10	0.5	Mandatory with written and/or oral performance review
LV-9 Preprosthetic surgery—live OP	PR	6	3	0.5	Mandatory with written and/or oral performance review
LV-10 Oral implantology for the treatment of tumor and trauma patients	VO	4	5	0.25	Written or oral course examination (LV examination)
LV-11 Zygoma and pterygoid implants	VB	8	20	1	Written or oral course examination (LV examination)
LINE_Case discussion, case presentation	SE	5	40	1.75	Mandatory with oral performance review

The module provides knowledge of the fundamentals of complex augmentation procedures in maxillary bone and advanced techniques in implantology, which are practiced in human cadaver courses. Several live surgeries will demonstrate autogenous bone harvesting techniques and preprosthetic surgical techniques. Furthermore, theoretical and practical knowledge of the basics of endosseous oral implants in tumor and trauma patients as well as the basics of implant prosthetics are taught in this module.

	LV Type	Academic hours (aS)	Self-study	ECTS	Mode of examination/ performance review
MODULE 7 Implant Prosthetics III: Occlusion theory and digital dentistry	VB	53	134	7	Interdisciplinary module examination 7
LV-1 Etiology, diagnosis, and treatment concept for temporomandibular joint problems in malocclusion	VB	8	19	1	Mandatory with written and/or oral performance review
LV-2 Splint therapy and functional reconstruction of periodontally degraded dentition	VB	8	19	1	Mandatory with written and/or oral performance review
LV-3 Reconstruction of the dentition in aplasia and tumor resection	VB	8	19	1	Mandatory with written and/or oral performance review
LV-4 Introduction to digital dentistry (CAI/CAD/CAM)	VB	8	19	1	Mandatory with written and/or oral performance review
LV-5 Conventional and digital implant prosthetics	VB	8	19	1	Mandatory with written and/or oral performance review
LV-6 Digital workflow for occlusion reconstruction	VB	8	19	1	Mandatory with written and/or oral performance review
LINE_Case discussion, case presentation	SE	5	20	1	Mandatory with oral performance review

The module deals with the current knowledge base of functional and dysfunctional occlusion. Furthermore, this module deals with the interdisciplinary treatment of cases with severe and structural and functional dentition disorders caused by aplasia and tumor resection or periodontal diseases by means of implants. In addition, the current knowledge base and digital medicine technology are learned and the use of the intraoral scan, 3D printer, and CAD/CAM in splint therapy and implant reconstruction is taught.

	Academic hours (aS)	ECTS
Modules 1-7	381	55
Interdisciplinary module examinations 1-7 (0.5 ECTS per examination)		3,5
Commission final examination		1,5
TOTAL	381	60

Modules—Descriptions

In addition to module-specific and practical content, accompanying courses are held in individual modules:

- (i) Case presentation and case discussion (Modules 2-7).

§ 7 Practice

University program participants must arrange for the possibility of independent patient treatment (premises and patient base) outside the university program itself in order to be able to manage the patient cases required for the successful completion of the university program. There will be no patient treatment by the participants at the University Clinic of Dentistry Vienna within the framework of the university program. Only instructors engage in treatment for demonstration purposes (Live OP) during the modules at the university dental clinic. Admission for patient treatment in Austria is not required if the patient treatment takes place abroad. Compliance with the legal requirements for the independent treatment of patients abroad is the responsibility of the program participants. The patient treatments required for the positive completion of the university program take place on the premises of the participants' own practice or in the organizational unit in which the program participants are employed as dentists.

Between Modules 1 and 7, program participants must document three patient cases in periodontics and/or implantology outside of the modules at the university dental clinic and present them in Modules 2–7 as part of the LINE_Case Discussion and Case Presentations and present ongoing treatments as well as progress in each module. In the course of the university program, the participants learn how to present these patient cases. The patients (cases) to be treated must be presented to the instructor before the start of treatment. Diagnosis, planning, and treatment are planned together with the instructors. The treatments are continuously monitored by the instructors. The LINE_Case Discussions and Case Presentations also include patient treatments outside the University Clinic of Dentistry Vienna, documentation of these, and preparation and follow-up of the self-study presentations. Two of these complex cases must be presented again at the end of the university program and will be examined during the final commission examination.

§ 8 Recognition of exams

(1) Upon application by the student, the curriculum director shall decide on the recognition of examinations pursuant to § 78 UG.

(2) Courses and examinations that have already been completed for another compulsory or elective module of this university program cannot be used again in another module of the same university program (prohibition of double use).

§ 9 Compulsory attendance

- (1) Participation is mandatory in the modules or courses that are relevant for assessment. The number of justified absences per course may not exceed 20% of the scheduled attendance time.
- (2) If the subject of the course allows, in the case of absences of *more* than 20%, (appropriate evidence for the absences must be provided), opportunities for repetition and/or substitute performance may also be offered in justified individual cases. The academic program director decides on the necessity of substitute performance or the repetition of one or more modules (courses).

§ 10 Examination regulations

- (1) The examinations or course work in the university program consist of
 - In-process examinations in the examination subjects, the aim of which is to determine whether the course participants have gained a thorough overview of the learning objectives;
 - Interdisciplinary module exams 1-7 in Modules 1-7 at the end of a module;
 - Course examinations in lectures (LV examinations);
 - Mandatory courses with written and/or oral performance review.
 - commissioned final examination.
- (2) **Course examinations in lectures (VO):** Lectures are courses in which parts of a subject and its methods are taught in a didactically prepared manner. They serve to introduce the basic concepts and systematics, to show the scientific background, to create cross-connections, and to explain complicated issues and their significance for clinical/practical applications. Assessment is based on a single examination at the end of a course. This final examination is conducted in writing or orally.
- (3) The assessment of **mandatory courses** is not based on a single examination at the end of a course, but on regular written and/or oral contributions of the students (e.g., seminar paper, presentation, active participation and own contributions in group work or discussions, and completion of tasks in exercises), continuous observation and completion of the prescribed attendance requirement (accompanying performance review), and optionally by an additional final (partial) examination.

The following mandatory course types are offered:

- a. Internships (PR): Internships are courses in which students work independently on specific issues, building on theoretical and practical knowledge. The lessons in this form of teaching/learning are structured in terms of time, systematically specified in terms of content, and oriented toward detailed learning objectives. Internships have an intrinsic examination character and serve to acquire skills in preparation for later professional practice. A final, summative exam to review the content learned may be additionally included.
- b. Seminars (SE): Seminars are courses in which students work on and discuss course content independently. They are an important training method for the acquisition of knowledge and also attitudes. Through interactive participation of the students in small groups, the ability to independently apply the acquired knowledge to analyze and solve problems is learned above all. This form of teaching trains independent examination of theoretical problems on a scientific basis and also serves to reflect on attitudes.

- c. The combined course type "VB" combines the definitions of the course types "Lecture" and "Internship" (see above). The elements are integrated, which results in an added didactic value.
- (4) **Interdisciplinary Module Exams 1–7:** The achievement of the study objectives of Modules 1–7 is verified by the courses listed in each case (mandatory) and, for each module, by a written and/or oral module examination ("Interdisciplinary Module Examinations 1–7"). The admission to the respective module examination requires the positive completion of the mandatory courses in the module.

The interdisciplinary module examinations are examinations in the form of a single examination at the end of a module. They may be conducted as a final written and/or oral examination. The participants are to be informed about the examination method in an appropriate manner before the start of the module.

The provisions for course examinations (§ 14 para. 3 no. 1) of Section II of the Statutes will apply *mutatis mutandis* to module examinations.

- (5) The examiner in examinations is usually the lecturer whose course the student has taken. In good time and before the start of the module, students must be informed which examiner will be responsible for conducting the module examination.
- (6) For written examinations, the examination questions must be answered in writing. Oral examinations are conducted by the examiners as individual discussions or in the form of a presentation or similar. Study achievements can also be queried via e-learning (e.g., Moodle).
- (7) The course instructors must inform the students in good time before the start of the course about the objectives, contents, and methods of their courses and about the contents, methods, assessment criteria, and assessment standards of the course examinations.
- (8) At the end of the university program, i.e., after positive completion of Modules 1–7 or positive completion of all course-related examinations as well as the interdisciplinary module examinations 1–7, an (oral) final examination before an examination board is scheduled, which is conducted in the form of a single examination and includes the following contents:
- Two completed case presentations (completion of the practice section and patient cases);
 - Expert discussion;
 - Review of the knowledge of the professional literature;
 - Knowledge of the theoretical and practical contents of the curriculum and the literature recommended in the courses.
- (9) The examination boards in the university program are to be formed by the curriculum director on the proposal of the academic program director in accordance with § 19 of the curriculum organization plan for university programs.
- (10) If an examination candidate is prevented from taking an examination due to illness or another reason worthy of consideration and if he/she has reported this circumstance in good time and with proof, the examinations concerned will be made up at the earliest possible date.
- (11) The examination procedure and the forms of grading will be governed by §§ 72ff UG and the relevant provisions of Section II of the Statutes of the Medical University of Vienna. The positive success of examinations is to be assessed as "very good" (1), "good" (2), "satisfactory" (3), or "sufficient" (4) and the negative success is to be assessed as "not sufficient" (5). If this form of assessment is impossible or inappropriate, the positive assessment will be "successfully participated," and the negative assessment will be "unsuccessfully participated."

§ 11 Graduation and academic degree

- (1) The university program is successfully completed when all prescribed examinations have been positively assessed in accordance with the examination regulations.
- (2) The successful completion of the university program is certified by a degree certificate and the academic degree "Academic Expert in Periodontology and Implantology" is awarded by the Medical University of Vienna.
- (3) The individual modules and the courses assigned to them, with their total number of hours and individual grades, as well as the ECTS credits, must be listed on the degree certificate. Courses that have been evaluated as "successfully attended/unsuccessfully attended" must also be listed.

Part III: Organization

§ 12 Entry into force

- (1) This curriculum comes into force on the first day of the month following the announcement.