



IMC JOINT DEGREE PROGRAM

Master of Science (M.Sc.) in Esthetic and Dental Surgery

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Application

Admission requirements

International Medical College (IMC)/MIB GmbH is the institution in charge of student admission and the conduct of the Master's course of studies, regulated by cooperation agreements with the individual participating universities and thus resulting in a uniform procedure for admission. Those who are interested in the Master's course must register online; once their data have been checked, they will receive a confirmation of admission and the required contract as this Master's course of studies is subject to a fee. If the number of people who are interested in the course exceeds the number of available places (the number of participants is limited due to the limited number of available places for the clinical practical training blocks), admission will be decided on a first come, first served bases.

Admission requirements:

1. general or relevant subject-related university entrance qualification, or
2. license to practice medicine or dentistry in Germany (requiring the successful completion of dental/general medical studies at a university with a regular duration of at least 10 semesters (300 CP), or equivalent license recognized by a state medical or dental board of one's respective country;

Please note: The web-based basic modules that are equivalent to a dental medical review course ensure, once the course is completed, that all participants, including those from other countries, will be equally qualified for the specialization modules.

Study Structure

Academic degree

The "Master Of Science" (MSc) academic degree in Esthetic and Dental Surgery can be obtained by this part-time post-graduate Master's degree course for licensed medical doctors and dentists.

Beginning and duration of the course of studies

1. The course of studies starts every year on 1 July.
2. The standard period of study for this IMC program of post-graduate studies is 15 months. However, as the course consists of individual modules, it is possible to complete it within a period of 36 months. The study program has a total time commitment of approximately 1500 hours. According to the Annex, the total time is divided in web-based basic and advanced trainings, seminars, practical training blocks and a Master's thesis (equivalent to 60 ECTS points).
3. Attendance in Germany is necessary for two times for block internships and one time for final exam.

Online lessons and examinations

The online lessons will be activated gradually. After that, you will have access to them till the end of the year of studies. However, online examinations will take place at a certain point in time and will take 90 minutes each.

Curriculum

Overview – ECTS / Workload

Module	Description	Duration	CP/Workload
Basic module 1	Basic principles of general and dental medicine Theory web-based		9/225
Basic module 2	Basic principles of oral medicine Theory web-based On-site event 1 During attendance in Germany Basic principles of surgery - practical training Complications, Management of complications - lecture Scientific working - lecture		8/200 1/25
Basic module 3	Basic principles of oral surgery On-site event 1 During attendance in Germany Surgical anatomy of the head and neck - lecture Imaging procedures using DVT - lecture, practical training Preparation of surgical interventions - lecture, practical training Medically compromised patients, Local anesthesia etc. - lecture, practical training Practice management - lecture On-site event 2 During attendance in Germany Odontogenic infection - lecture Dental traumatology - lecture, practical training Traumatology of the jaws - lecture		1/25 1/25

MSc Esthetic and Dental Surgery	Description	ECTS/ Workload
Specialization module 1: Preserving dentistry and endodontics	Preserving dentistry and endodontics Theory web-based	5/125
	On-site event 1 During attendance in Germany Endodontic practical training - lecture and practical training Anatomical practical training	1/25
	On-site event 2 During attendance in Germany Prosthodontic concepts - lecture and practical training	1/25

Specialization module 2: Dental surgery and periodontology	Dental surgery and periodontology Theory web-based		5/125
	On-site event 1 During attendance in Germany Periapical surgery, Cysts - lecture and practical training Tooth extraction, Socket preservation - lecture and practical training Complications in dentoalveolar surgery - lecture Anatomical and surgical practical training - lecture and practical training		1/25
	On-site event 2 During attendance in Germany Periodontal flap surgery - lecture and practical training Periodontal resective surgery - lecture and practical training Periodontal plastic surgery - lecture and practical training Periodontal regenerative surgery - lecture and practical training Basic principles of periodontology and implantology - lecture Management of complications in periodontology - lecture		1/25
Specialization module 3: Esthetic aspects	Esthetic aspects Theory web-based		5/125
	On-site event 1 During attendance in Germany Adhesive techniques Composites Veneers, CAD/CAM Bleaching		1/25
	On-site event 2 During attendance in Germany Full dentures Partial dentures		1/25
Specialization module 4 Clinical practical training	Practical training 1 Periodontology	1 week	2/50
	Practical training 2 Surgery and surgical endodontics	1 week	2/50
Specialization module 5	Master's thesis		15/375

List of individual Modules

BASIC MODULE 1 - BASIC PRINCIPLES OF GENERAL AND DENTAL MEDICINE

The module comprises the following training contents

- Anatomy
- Basic principles of general medicine
- Pharmaceutics
- Dental assistance
- X-ray technology and radiation protection
- Tissues
- Histology, physiology and pathophysiology of the bone
- Oral structures
- Diseases affecting the oral mucosa
- Immune system
- Pathological principles
- Inflammation
- Tissue injuries
- Medically compromised patients
- Emergency medicine
- Local anesthetics
- Antibiotics and chemotherapy
- Radiological diagnosis
- General and special case history
- Practice structure for the execution of surgical interventions
- Injuries and infections
- Analgesics
- Surgical sutures
- Surgical instruments
- General anesthesia
- Pre-medication

BASIC MODULE 2 - BASIC PRINCIPLES OF ORAL MEDICINE

The module comprises the following training contents

- The patient undergoing surgery
- Principles of surgery
- Surgical anatomy of the head and neck region
- Imaging procedures
- Preparation of surgical interventions
- Medically compromised patients, local anesthesia, analgesics, sedation
- Basic principles of surgery
- Dental surgery
- Complications
- Odontogenic soft tissue and bone infections
- Traumatology
- Diseases of the oral mucosa, oncology, tumor surgery
- Prosthodontic treatment
- Basic principles of cleft lip, alveolus and palate, and deformities, Basic principles of dysgnathia
- Basic principles of periodontology

Suture and preparation exercises on a pig's mandible:

- Rehrmann's trapezoid flap
- Vestibuloplasty
- Rotation flap
- Recession coverage
- Nerve exposure

Suture exercises in a pig's ear

- Straight incision, angular incision, square excision
- Harvesting of a large connective-tissue graft in a thick skin fold in the middle of the ear
- Simple interrupted sutures: interrupted knots using instruments, and manual knots
- Mattress sutures: horizontal, vertical
- Running sutures: overcast, U-shaped sutures, modification according to Schuchardt
- Intracutaneous sutures

Suture and preparation exercises on a pig's mandible

- Rehrmann's trapezoid flap in region 7 or 8 (without prior tooth extraction):
 - Preparation of trapezoid flap
 - Periosteal slitting
 - Fixation using mattress sutures and simple interrupted sutures
- Vestibuloplasty in regions 5 and 6:
 - Incision in the mucogingival border area
 - Preparation of an apically advanced split-thickness mucosal flap sparing the periosteum (epiperiosteal preparation)
 - Fixation of the mucosal flap at the apical periosteum using simple interrupted sutures
 - Fixation of a part of the connective-tissue graft harvested prior to the procedure on the periosteum using simple interrupted sutures in order to cover the wound
- Rotation flap in the space between teeth 3 and 2:
 - Crestal incision in the mucosa only!!!!
 - Preparation of a lingually advanced trapezoid mucosal flap sparing the periosteum and the connective tissue
 - Sharp circumcission of the exposed trapezoid connective tissue up to the bone, never using a crestal incision since otherwise the flap will be separated
 - Detachment of the connective tissue flap pedicled on the crest from the bone up to the middle of the alveolar crest
 - Preparation of a buccal pocket to take the rolled connective-tissue flap
 - Fixation using simple interrupted sutures
- Recession coverage using Raetzke's envelope technique:
 - Preparation of a single recession in region 3
 - Preparation of a pocket surrounding the recession completely to the papilla
 - Placement of a part of the connective-tissue graft harvested prior to the procedure in the mucosal pocket
- Nerve exposure (mental nerve; please note: this nerve may be present more than once in a pig)
 - Incision of the mucoperiosteum in region 2/3
 - Submucous to caudal preparation
 - Nerve exposure

BASIC MODULE 3 - BASIC PRINCIPLES OF ORAL SURGERY

The module comprises the following training contents

- Tooth extraction
- Complications in dentoalveolar surgery
- Surgical measures for the preservation of teeth
- Local anesthesia
- Changes and diseases of the oral mucosa
- Bisphosphonate-induced necrosis of the jaw
- Cysts in the oral and maxillofacial region
- Odontogenic soft tissue infection
- Basic principles of traumatology treatment
- Fractures of the mandible
- Fractures of the midface
- Dental trauma
- Odontogenic bone infection
- Basic principles of oncology
- Tumor surgery
- Basic principles of cleft lip, alveolus and palate, and deformities
- Basic principles of dysgnathia

On-site events

- **Surgical anatomy of the head and neck region**
Anatomy, histology, pathophysiology, oral structures, tissue injuries, wound healing, wound infection, characteristics and treatment of wounds, hemorrhage and hemostasis
- **Imaging procedures**
Dental, oral and maxillofacial radiography: Technical options and validity of current examination methods (incl. review course)
Diagnostic options for and requirements of dental and orthodontic surgery (incl. review course)
- **Preparation of surgical interventions**
Legal requirements: contents of the hygiene schedule, such as hand disinfection, incl. demonstration and "black box" (training device for hand disinfection); rules with regard to the changing of clothes; handling MRSA, infectious diseases
Behavior in the operating room: as a non-sterile/sterile person; how to put on and take off surgical gloves; demonstration with specially treated surgical gloves; getting dressed (surgeon and assistants)
Preparation of the patient: shaving, positioning, disinfection, covering of the patient with cover sets
Instrument table: standard table in oral and maxillofacial surgery
Cleaning of the instruments

Medically compromised patients, local anesthesia, analgesics, sedation

Local anesthetics are used every day: Brushing up on interesting and important information

Sedation and anxiolysis in practice

Dealing with pain in patients undergoing dental surgery

Dental surgery in medically compromised patients

What to do in case of emergency: be prepared, identify the underlying problem correctly, deal appropriately with the underlying problem

Management of emergencies: practical exercises in emergency treatment

- **Dental surgery**
Tooth extraction, novel procedures and technologies, surgical tooth extraction, impacted teeth, apicoectomy, laser, piezotechnology, conventional approach
Complications
Complications occurring during dental surgical procedures, and management of complications

SPECIALIZATION MODULE 1: PRESERVING DENTISTRY AND ENDODONTICS

The module comprises the following training contents

- Pulp anatomy, physiology, diseases
- Histopathology, diagnostic procedures, definition, differentiation and epidemiology of periodontal disease, oral hygiene methods, wound healing, behavioral training with regard to patient compliance and cessation of smoking, halitosis (bad breath)
- Definition, characteristics and assessment of systemic periodontal disease, diabetes, cardiovascular disorders, immunosuppressive, antifungal and virostatic treatment
- Dental (rubber) dam, trephining, cavities for endodontic access, uncovering of root canal entries
- Endodontic working length
- Chemical and mechanical root preparation
- Manual root preparation
- Mechanical root preparation
- Chelators
- Medicinal root canal insertions
- Pastes used for root canal obturation (filling)
- Points used for root canal obturation
- Techniques used in root canal obturation
- Coronal closure
- Prosthodontic concepts
- Basic principles of treatment using fillings
- Instruments
- Relative and absolute drying
- Caries excavation
- Chemical and mechanical treatment of caries
- Cement 1 for base filling – Zinc oxide phosphate cement
- Cement 2 for base filling – Glass ionomer cement
- Cement 3 for base filling – Zinc oxide eugenol cement, carboxylate cement and cements containing calcium hydroxide
- Assessment of different kinds of cement for base filling
- Amalgam filling
- Composite filling
- Dentin adhesives
- Compomers and ormocers
- Fissure sealing
- Inlays 1 – Gold inlays and partial gold crowns
- Inlays 2 – Ceramic inlays and ceramic partial crowns
- Inlays 3 – Temporary treatment
- Inlays 4 - Insertion of a ceramic inlay
- Measures to preserve pulp vitality - Diagnosis, contraindications, hemostasis
- Measures to preserve pulp vitality – Wound dressings
- Measures to preserve pulp vitality – Direct pulp capping and partial amputation

Practical training

Functional diagnosis and treatment

- Pathology and diagnosis of temporomandibular joint (TMJ) disorders
- Treatment principles
- Functional diagnosis and treatment

Microsurgery

- Microsurgery techniques
- Use of magnifying aids
- Indications

Special endodontics

- Dental (rubber) dam, trephining, cavities for endodontic access, uncovering of root canal entries
- Endodontic working length
- Chemical and mechanical root canal preparation
- Manual root canal preparation
- Mechanical root canal preparation
- Chelators
- Medicinal root canal insertions
- Pastes used for root canal obturation (filling)
- Points used for root canal obturation
- Techniques used in root canal obturation
- Coronal closure
- Prosthodontic concepts

SPECIALIZATION MODULE 2: DENTAL SURGERY AND PERIODONTOLOGY

The module comprises the following training contents

- Surgical treatment of periapical changes
- Surgical treatment of cysts
- Tooth extraction and socket preservation, Complications in dentoalveolar surgery
- Odontogenic tumors
- Differential diagnosis of changes in the jaw
- Periodontal flap surgery
- Periodontal resective surgery
- Periodontal plastic surgery
- Periodontal regenerative surgery
- Basic principles of periodontology and implantology
- Management of complications in periodontology
- The most important techniques used in endodontic surgery and their characteristic surgical features as well as special regenerative surgery techniques including computer-controlled dental drills are presented in special seminars and practical exercises with selected tutors.
- Microsurgery techniques

Practical surgical training using anatomical preparations

- Periodontal flap surgery
- Periodontal resective surgery
- Periodontal plastic surgery
- Periodontal regenerative surgery

SPECIALIZATION MODULE 3: ESTHETIC ASPECTS

The module comprises the following training contents

- Reconstruction of the occlusal surface from an esthetic and functional point of view
- Materials science
- Clinical handling of composite materials
- Mastering of direct obturation techniques in the treatment of defects of lateral teeth
- Use of various materials and methods for fixation used with pin anchoring
- Materials science of metal-free reconstructions
- Esthetic analysis (initial evaluation, aids for the evaluation of esthetic parameters, esthetic criteria for the replacement of missing teeth)
- Facial analysis (relevant parameters for full face and profile views)
- Dentolabial analysis (incisal edge, laugh line, buccal corridor, midline, occlusal plane)
- Phonetic analysis
- Dental analysis (dental composition, shape and color of teeth, surface structure, proportions)
- Esthetic parameters acc. to *Scherer, Rinn, Kopp*
- Gingival analysis (morphology, esthetic parameters, potential to influence the condition of the gingiva)
- Justifying indications for esthetic treatment
- Practical exercises in the field of esthetic analysis
- Basic principles of digital photography
- Requirements (image quality, composition, quantity, processing) for the photographic documentation in order to control the course of treatment in dental practice, or for lectures
- Profile photography and lateral cephalometric analysis: areas of use, evaluation and clinical applications
- Practical exercises in digital dental photography
- Technique using adhesives
- Composites
- Veneers, CAD/CAM
- Bleaching

Esthetic aspects

- Technique using adhesives
- Composites
- Veneers, CAD/CAM
- Bleaching (internal/external)
 - legal requirements, indications and limitations
 - home bleaching/in-office bleaching (overview of current systems)
- Treatment of white spots
- Cosmetic contouring
 - direct esthetic treatment using composites
 - broadening of teeth
 - shape and positional corrections

- peg-shaped teeth
- diastema closure
- black triangles
- reconstruction following trauma
- esthetic and defect-oriented filling treatment in anterior and lateral teeth (layer technique)
- Non-prep
 - veneers
 - componeers
 - lumineers
- All-ceramic restorations
 - veneers
 - inlays
 - partial crowns
 - all-ceramic monolithic and veneer crowns
 - direct and indirect adhesive bridges

SPECIALIZATION MODULE 4: CLINICAL PRACTICAL TRAINING

Periodontology and dental and endodontic surgery

Practical training in Germany and Hungary

Training Block Part 1

Thursday	Welcome-Dinner
Friday	Surgical anatomy of the head and neck region Dental surgery Management of Complications
Saturday	Basics of surgery Suture and preparation exercises on a pig's mandible Suture exercises in a pig's ear Suture and preparation exercises on a pig's mandible
Sunday.	Imaging Procedures Preparation of surgical interventions Medically compromised patients, local anesthesia, analgesics, sedation
Monday - Friday	Microsurgery Special Endodontics Functional Diagnosis And Treatment Esthetic Aspects
Saturday – Sunday	Practical surgical training in periodontology
Monday	Departure

Training Block Part 2: maximum 10 participants, this block will be held twice

Sunday.	Arrival Budapest - Hungary
Monday - Friday	Endodontic surgery and tooth extraction, clinical treatment of patients under supervision
Saturday	Time for free disposal
Sunday	Aesthetic and Prosthetics - Lecture
Monday - Friday	Periodontology, clinical treatment of patients under supervision
Saturday	Departure