In the Name of God

Section I:
Title: Prosthodontics
Degree: Master of Science in Clinical Dentistry (MSc)

Definition
Dental prosthesis is one of the dental specialties majors that is made up of fixed, complete removable, partial removable and maxillofacial removable prosthesis and dental implants and in the case of successful graduation it will lead to the MSc degree.

The Aim of the Course
The aim of performing this education program is training prosthodontists who are at national and global level from the aspects of knowledge and science level and practical skills. In addition being able to provide preventive and therapeutic services with standard quality in their field besides being capable of providing education service and playing an active role in advancing sciences and expanding science and research limits.

General Competencies
Effective communication with patients, accurate examinations, proper application of paraclinical tests, familiarity with modern science and technology, accurate diagnosis and appropriate treatment planning, proposing appropriate preventive and therapeutic strategies, conducting research with the aim of solving existing problems, educating patients, accompaniers and colleagues, and management and executive participation in the health team

Specific Competencies and Skills
Prosthodontic post graduates ought to achieve these capabilities:
- complete familiarity with stomatognathic and occlusion and subsequent disorders
- Capability of diagnosis, treatment plan and intraoral lost tissue regeneration
- Capability of diagnosis, treatment plan and extra oral lost tissue regeneration
- Capability of diagnosis, treatment plan and treating occlusal and TMJ disorders
- Acquiring skill in research and hiring scientific references

Professionalism and ethical expectations from graduates: It is expected that graduates:

a) In the area of altruism: preferring the patient’s interests to their own, observance of justice while working with different patients, considering all physical, psychological, social and belief-related aspects of patients while treating them, spending enough time in all phases of patient care, paying attention to patients’ demands and discomforts, observance of the patients’ bill of rights.

b) In the area of dutifulness and responsibility: have enough commitment to do their tasks, answer patients’ questions, provide patients and their accompaniers with information regarding the patient’s status in the most appropriate way, avoid unnecessary interferences with colleagues’ work and interact with the health team members, ask patients’ permission for examining and
taking any diagnostic-therapeutic measures, and instructing patients properly regarding prevention, appearance of side effects, disease reoccurrence and improvement of life quality.

c) In the area of honor and honesty: be truthful, honest and confidant and respect patient’s privacy.

d) In the area of respecting others: respect patients’ conventions, traditions and habits, respect patient as a human being, respect patients’ time and observe order and regularity, respect patients’ accompaniers, colleagues and therapeutic team members, and have an appearance appropriate to professional prestige.

e) In the area of professional career: accept critique, know their scientific limitations, ask for advice and help if needed, improve their knowledge and skills constantly, do diagnostic-therapeutic measures according to available facilities and scientific achievements, and observe the standards of completing medical record and reporting.

The Terms and Conditions of Admission to the Course
Applicant’s documents, including his/her DDS/BDS degree, CV, Recommendation, etc will be reviewed by the faculty members of Prosthodontics Department. Based on the documents, the applicant will be accepted for either an interview or a three month evaluation period to be an observer in Prosthodontics Department. If he/she could successfully pass the interview/evaluation period, he/she will be accepted to continue as a MSc student.

Educational Strategies, Methods and Techniques
The following educational strategies are considered in Prosthodontics program:
Learner-centered education, learning based on problem solving, integration of basic and clinical sciences, evidence-based learning, lifelong community-oriented education, and systematic education.

Student Assessment
A variety of assessment methods including theoretical exam, DOPS, OSCE, Seminar presentation, portfolio, etc, depending on the course, is implemented.

Number and Type of Credits and Tables of the Courses
The educational system of the Prosthodontics program is semestrial. Theoretical, practical and workshop courses are set in three areas of basic sciences, related sciences and specialty sciences.
Prosthodontics post graduate program duration is three years in full time mode according to dental education council’s principles.
Education System:
Course types are in theoretical, practical, theoretical-practical forms that are presented in basic, related and special science courses forms.

Basic science courses:
These courses are considered to be the infrastructure of related science and specialty science courses and their aim is to remind, update, expand and deepen the topics that are presented in this specialty program. Basic science courses are 8.5 units of post graduate program which is presented as common and specialized basic science.

Related science courses:
These courses (2 units) is about the scientific relationship with other specialty fields of dentistry and teach knowledge, creativity and appropriate decision making to residents in the way that the residents will acquire capability of team working for presenting comprehensive treatment plan regarding the modern related science advancements, limitation, priorities and capabilities.

Special science courses:
These courses which are the main post graduate program content are taught with the goal of knowledge and science promotion and skill acquisition in prosthodontics. Specialty science courses are 92.5 h of the post graduate program which will be taught by the related education department faculty members. Total education hours of post graduate prosthodontics is 1785
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### Related Sciences

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Ethical issues
The graduates should,

- Observe the Patient's Bill of Rights\(^1\) when working with the patients.
- Strictly observe Biosafety and Patient Safety Rules* concerning the patients, personnel and workplace.
- Observe the Rulebook for Dress Code\(^2\).
- Strictly observe the Regulations of Working with the Laboratory Animals\(^3\).
- Carefully preserve resources and equipment.
- Truly respect faculty members, the staff, classmates and other students and work for creating an intimate and respectful atmosphere.
- Observe social and professional ethical considerations in criticism.

1, 2 and 3 are contained in the Enclosures.

* Biosafety and Patient Safety Rules will be set out by the Educational Departments and will be available to the students.
Section II

Unit Title: Medical Education 1

Number and type of unit: 1 Workshop unit
Educational hours during the course: 56h

Aims: The goal of medical education 1 and 2 is about acquiring necessary capabilities by resident for participation in teaching and evaluation in theoretical, workshop, preclinical, clinical courses in the field.

Subtitles:
1. Faculty member`s role in the field of education
2. Learning-Teaching principles
3. Types of learning
4. Teaching process skills
5. Faculty member`s duties and characteristics
6. Lesson plan
7. Educational goals
8. Educational content provision principles
9. Lecture note
10. Q&A note
11. Education in small groups
12. Various methods of group education
13. Simulation and role playing
14. Clinical education
15. Learning assist tools
16. Smart boards
17. PowerPoint preparation
Unit Title: Medical Education 2

Number and type of unit: 2 Workshop unit
Educational hours during the course: 102h

Aims: The goal of medical education 1 and 2 is about acquiring necessary capabilities by resident for participation in teaching and evaluation in theoretical, workshop, preclinical, clinical courses in the field.

Subtitles:
1. Special course planning
2. Students` evaluation and its methods
3. Multi choice questions
4. Descriptive questions
5. Exam questions leveling
6. Evaluation during the work
7. Dops planning
8. OSCE exams
9. Oral exams
10. Question analysis
11. Plan evaluation
12. Course planning
13. Log book
14. Port Folio
15. Learning skill based attitude
16. Standard patent
17. Integration in education
Unit Title: EBD and research methodology

Number and type of unit: 2 Workshop unit
Educational hours during the course: 102h

Aims: Acquiring knowledge about research scientific basis and familiarity with research methods in the field of education and acquiring skill in research results publication.

Subtitles:

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<td>27</td>
<td>Familiarity with statistics tests application in dentistry</td>
<td>Problem oriented lecture</td>
<td>6</td>
</tr>
</tbody>
</table>
Unit Title: Clinical Photography*  
Unit Code: 4  

Number and type of unit: 1 Workshop unit  
Educational hours during the course: 51h  

Aims: The resident should always be aware and dominate on what to do in emergencies and show on standardized patient. It is therefore necessary for the resident to expose the emergency treatment workflow.

Subtitles:

<table>
<thead>
<tr>
<th>No</th>
<th>Title</th>
<th>Learning-Teaching method</th>
<th>Course hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Familiarity with types of appropriate and standard cameras and familiarity with their application method and use of support</td>
<td>Workshop</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>Familiarity with types of retractors and mirror and their application</td>
<td>Workshop</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>Portrait and profile photograph</td>
<td>Workshop</td>
<td>1</td>
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<tr>
<td>4</td>
<td>Intra and extra oral photographs</td>
<td>Workshop</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>Taking photograph of casts and radiographs</td>
<td>Workshop</td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td>Familiarity with 3D photography and taking it</td>
<td>Workshop</td>
<td>1</td>
</tr>
<tr>
<td>7</td>
<td>Familiarity with solving possible problems during photography in groups and workshop</td>
<td>Workshop</td>
<td>1</td>
</tr>
<tr>
<td>8</td>
<td>Conducting standard photograph in the field and their analysis (by the related attending)</td>
<td>Workshop</td>
<td>3</td>
</tr>
<tr>
<td>9</td>
<td>Conducting 3D photographs and their analysis</td>
<td>Workshop</td>
<td>3</td>
</tr>
<tr>
<td>10</td>
<td>Superimposition of radiograph and photographs method</td>
<td>Workshop</td>
<td>1</td>
</tr>
<tr>
<td>11</td>
<td>Familiarity with photographs storage</td>
<td>Workshop</td>
<td>1</td>
</tr>
<tr>
<td>12</td>
<td>Familiarity with software related to photograph and their storage</td>
<td>Workshop</td>
<td>1</td>
</tr>
<tr>
<td>13</td>
<td>Slide presentation with PowerPoint</td>
<td>Workshop</td>
<td>1</td>
</tr>
</tbody>
</table>

Course main references:
Mastering Digital Dental Photography 2006 and Specialized books of each major
*This is an optional course
Unit Title: Medical Emergencies

Number and type of unit: 0.5 Workshop unit
Educational hours during the course: 24h

Aims: Acquiring skill for diagnosis and treatment of common medical emergencies in dental clinics in Skill lab and with training models.

Subtitles:
1. Observation taking method, medical history and its role in preventing and diagnosing emergencies and examinations
2. Equipment and tools in emergencies
3. Common emergencies and their treatment method: including allergy reactions, respiratory disorders, change consciousness
4. CPR
5. Immediate applicable techniques related to circulation-airway-breathing
6. Medication application in medical emergencies
7. Practical skills in medical emergencies (injections-serum therapy etc.)
8. Familiarity with emergency materials and equipment available in the department or common facilities available in the faculty

NOTE: it is suggested those educational sessions to be held in 3 hours workshop by oral and maxillofacial surgery attending (it can be held with help of Emergency Medicine department)
Unit Title: Infection control and patient safety

Number and type of unit: 1 Workshop unit
Educational hours during the course: 51h

Aims: Familiarity with patient safety methods and skills in dental and hospital clinics.

Subtitles:
1. Patient safety
2. Importance of human factors in patients’ safety
3. Familiarity with complex and efficient systems in patient care and safety
4. Efficient team formation and application
5. Experience from last mistakes for prevention of future hazards
6. Medical hazards familiarity and management
7. Quality promotion methods for safety promotion
8. Patients further contact with staff
9. Attention, prevention and infection control
10. Safety in infectious diseases
11. Medication safety promotion
12. Dental common infectious diseases microbiology and its transfer
13. *Presence in the department and employing the taught lessons

In teamwork every resident discuss about assigned topics.

*This section consists of 5 integrated sessions during resident’s clinical actions in the department with employing taught lessons, clinical and complementary evaluation and educations. It is expected that with such trainings, education tips will be planted in the residents and will be evaluated in the next semester.


Unit Title: Management and clinical governance*

Number and type of unit: 1 Workshop unit
Educational hours during the course: 51h

Aims: Familiarity with models and service quality management tools, service promotion demands, patient safety, management and evaluation and believing the necessity of oral health care quality promotion with implication of models and quality management tools such as clinical service governance model and employing these.

Minimum expected skills: Residents are expected to hire clinical service governance while presenting oral health services and in higher semesters to represent these spontaneously

Subtitles:

<table>
<thead>
<tr>
<th>No</th>
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<th>Learning-Teaching method</th>
<th>Course hours</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Quality and its improvement systems</td>
<td>workshop</td>
<td>1</td>
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<tr>
<td></td>
<td>Course Description</td>
<td>Type</td>
<td>Duration</td>
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<tr>
<td>2</td>
<td>Oral health quality service management</td>
<td>Workshop</td>
<td>1</td>
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<tr>
<td>3</td>
<td>Clinical service governance and perquisites</td>
<td>Workshop</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>Models and quality management tools</td>
<td>Workshop</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>Patient`s safety</td>
<td>Workshop</td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td>Clinical effectiveness</td>
<td>Workshop</td>
<td>1</td>
</tr>
<tr>
<td>7</td>
<td>Clinical effectiveness principles and evidence based dentistry and clinical audit</td>
<td>Workshop</td>
<td>1</td>
</tr>
<tr>
<td>8</td>
<td>Cooperation with patients companions and society</td>
<td>Workshop</td>
<td>1</td>
</tr>
<tr>
<td>9</td>
<td>Staff, education and management</td>
<td>Workshop</td>
<td>1</td>
</tr>
<tr>
<td>10*</td>
<td>Quality improvement in specialized services</td>
<td>Workshop</td>
<td>5</td>
</tr>
<tr>
<td>11*</td>
<td>Evaluation of realization and clinical governance principles employment in the field</td>
<td>Workshop</td>
<td>3</td>
</tr>
</tbody>
</table>

*This item is simultaneous with clinical service in the specialized majors with the difference that necessary educations about clinical service governance management will be presented in these sessions.
*This is an optional course.
Unit Title: Oral immunology and microbiology

Number and type of unit: 0.5 theoretical units
Educational hours during the course: 9h

Subtitles:

1. General immunology principles such as immune system components acquired and innate immunity, humoral and cellular immunity, complement system, immune response regulation, allergy reaction, autoimmunity etc.
2. Oral and salivary immunology
3. Dental pulp and preapical tissues immune response
4. Effective immune responses in bone resorption and periodontal diseases
5. Immune response against dental plaque and caries
6. Drug sensitivity and its relation with immune system
7. Oral microbial flora
8. Microorganisms in dental plaque
9. Microorganisms related to periodontal diseases
10. Microorganisms related to pulp and preapical tissues diseases
11. Microorganisms related to common oral infections and dental abscesses
12. Practical familiarity with above microorganisms’ diagnosis methods
13. Discussion and Q&A about residents interesting topics in the field
Unit Title: Pharmacology

Number and type of unit: 0.5 theoretical units
Educational hours during the course: 9h

Subtitles:
1. A review to the principles
   - Absorption, distribution and excretion mechanisms of drugs in the body
   - Effects and side effects of drugs (toxic effects, idiosyncrasy, hypersensitivity etc.)
   - Drugs cross effect
   - Prescription in pregnancy and breast milking
2. Prescription principles
3. Analgesics and their pharmacology
4. Steroid and non-steroid anti-inflammatory drugs pharmacology
5. Antibiotic types and mechanisms (antimicrobials, antifungals and antivirals)
6. Antihistamines
7. Local anesthetics
8. Effective drugs on central and autonomic nervous system
9. General anesthetic drugs
10. Effective drugs on saliva excretion volume
11. Acquiring knowledge about immune system suppressing drugs in treatment of non-cancerous diseases
Unit Title: Oral and maxillofacial radiology

Number and type of unit: 1 theoretical-practical* (0.5 unit theoretical, 0.5 unit practical)
Educational hours during the course: 26h

Aims: Familiarity with common modern intra and extra oral radiograph techniques and subsequent differential diagnosis of oral and dental lesions

Subtitles:
1. Familiarity with radiobiology and irradiation safety
2. Familiarity with infection control in radiology
3. Familiarity with intra oral radiograph techniques application and comparison, localization and landmarks
4. Familiarity with various extra oral techniques application and anatomic landmarks (panoramic, cephalometry, TMJ, paranasal sinuses and scar)
5. Familiarity with special radiographic techniques (digital imaging, sonography, CT scan, MRI and nuclear medicine)
6. Familiarity with interpretations and radiographic patterns of various oral and maxillofacial lesions

*Interpretation of CBCT and TMJ radiographs will be taught to the residents in practical part
Unit Title: Diagnosis and treatment plan interdepartmental seminar
Unit Code: 10

Number and type of unit: 1 theoretical-practical (0.5 unit theoretical, 0.5 unit practical)
Educational hours during the course: 26h

Aims: Fortification of diagnosis and treatment plan skills of patients with complicated multidisciplinary problems, criticizing the treatment plan and performed treatment based on evidence, increasing multidisciplinary contact skills

Subtitles:
- Every resident is out to present a multidisciplinary case
- Attendings of restorative, endodontics, orthodontics, oral medicine, periodontics and oral and maxillofacial surgery will take part in the sessions such as suits the case
Unit Title: TMJ disorders  

Unit Code: 11

Number and type of unit: 1.5 theoretical-practical (0.5 unit theoretical, 1 unit practical)

Educational hours during the course: 26h

Amis: Familiarity with TMJ disorders and its classification, occlusion correction on cast and fabrication of splint on diagnostic casts

Subtitles:
1. Functional anatomy and biomechanics of masticatory systems
2. Functional neuroanatomy and physiology of masticatory muscles
3. TMJ disorders etiology
4. Signs and symptoms of TMJ disorders
5. Taking history and examination of TMJ disorders
6. TMD diagnosis
7. Familiarity with splint types
8. Performing of occlusal adjustment on mounted casts on the articulator
9. Fabrication of occlusal splint with different designs on diagnostic casts

*The resident will diagnose at least 3 patients with TMJ disorders in addition to passing the theoretical principles of TMD after completion the documents.
Unit Title: TMJ disorders 2

Number and type of unit: 1.5 theoretical-practical (0.5 unit theoretical, 1 unit practical)

Educational hours during the course: 26h

Amis: Familiarity with TMJ disorders and its classification, occlusion correction on cast and fabrication of splint on diagnostic casts

Subtitles:
1. Functional anatomy and biomechanics of masticatory systems
2. Functional neuroanatomy and physiology of masticatory muscles
3. TMJ disorders etiology
4. Signs and symptoms of TMJ disorders
5. Taking history and examination of TMJ disorders
6. TMD diagnosis
7. Familiarity with splint types
8. Performing of occlusal adjustment on mounted casts on the articulator
9. Fabrication of occlusal splint with different designs on diagnostic casts

*The resident will diagnose at least 3 patients with TMJ disorders in addition to passing the theoretical principles of TMD after completion the documents.
Unit Title: theoretical Occlusion 1

Number and type of unit: 1 theoretical unit
Educational hours during the course: 17h

Aims: Evaluation of occlusion /craniofacial relation, diagnosis and treatment of occlusion disorders

Subtitles:
1. Occlusion determining factors
2. TMJ and masticatory muscles anatomy
3. CR and its recording
4. Occlusion classification
5. Vertical dimension
6. Neutral zone
7. Range of movement
8. Anterior guidance
9. Mandibular anterior teeth restoration
10. Long centric
11. Occlusal plan
12. Posterior occlusion

Educational method: seminar
Unit Title: theoretical Occlusion 2

Number and type of unit: 1 theoretical unit
Educational hours during the course: 17h

Subtitles:
1. criterias of stable occlusion
2. Wax up
3. Occlusion diagnosis
4. Restorative considerations in order to:
   - Resolving occlusal disorders due to attrition
   - Treating patients with deep bite
   - Treating patients with anterior overjet
   - Treating patients with anterior open bite
   - Treating patients with edge to edge occlusion
   - Treating patients with splayed anterior teeth
   - Treating patients with cross bite
   - Treating patients with crowding
   - Treating patients with arch complex disorders
Unit Title: Practical Occlusion I(preclinic)                                      Unit Code: 15

Number and type of unit: 1 practical unit
Educational hours during the course: 34h

Aims: Familiarity with theoretical and practical basis of functional wax up

Subtitles:
  1. Performing diagnostic wax up in order to produce processed temporary
  2. Performing functional wax up
Unit Title: Theoretical implant 1

Number and type of unit: 1 theoretical unit
Educational hours during the course: 17h

Aims: Familiarity with implantology science

Subtitles:
1. Introduction to dental implants
2. Implant components` terminology
3. Radiographic techniques
4. Stress and its roll in implants
5. Prosthodontic aspects of implant
6. Diagnosis and treatment
7. Bone density
8. Treatment plan suitable to implant site and number
9. Aesthetic and biomechanical considerations in relation to implant size
10. Available bone related to implant
11. Practical considerations related to implant
12. Preimplant prosthodontics
13. Diagnostic casts and surgical templates
14. Edentulous mandible –implant supported overdenture
Unit Title: Theoretical implant 2

Number and type of unit: 1 theoretical unit
Educational hours during the course: 17h

Aims: Familiarity with clinical and laboratory process of various implant supported prosthesis and subsequent treatment

Subtitles:
1. Fully edentulous mandible treatment plan for fixed restorations
2. Various treatment plans for missed teeth restoration
3. Maxillary implant consideration(fixed prosthesis and overdenture)
4. Treatment plan for posterior and edentulous region of upper jaw with implant
5. Treatment plan for fully and partially edentulous arches
6. Medical considerations in patients seeking implants
7. Implant treatment pharmacology
8. Implant related anatomic considerations
9. Infection spreading in head and neck
10. Implant related biomaterial
11. Implant related biomechanic considerations
12. Bone physiology metabolism and biomechanic
13. A review to implant surface characteristics
14. Bone response to mechanical forces
15. Single tooth restoration in anterior and posterior region
16. Surgical regeneration
Unit Title: Implant preclinic

Unit Code: 18

Number and type of unit: 1.5 theoretical-practical units (1 theoretical unit, 0.5 practical unit)
Educational hours during the course: 34h

Aims: Familiarity with theoretical and practical surgical and prosthodontic principles

Subtitles:
1. History and reason of dental implants use
2. Periodontal characteristics of implant and tooth comparison
3. Generic terminology in dental implants (three different systems catalogues will be taught)
4. Surface texture, soft tissue integration, Osseo integration
5. Surgical techniques in dental implants
6. Prosthetic choices in dental implants
7. Diagnostic radiology techniques and importance of available bone in implant treatment
8. Diagnostic casts and surgical guides
9. Diagnosis and treatment plan from the aspect of surgery in dental implants in easy cases
10. Diagnosis and treatment plan from the aspect of prosthodontics in dental implants in easy cases
11. Classification and treatment plan of fully and partially edentulous ridges
12. Implant supported overdenture treatment techniques
13. Implant supported fixed prosthesis treatment techniques
14. Implant preservation and follow up

*performing the surgical and prosthodontic process of at least three systems on model and fabrication of a surgical stent
Unit Title: Practical implant 1-A  
Number and type of unit: 1practical unit  
Educational hours during the course: 34h  
Aims: Learning treatment techniques of implant supported prosthesis (removable and fixed)

Unit Title: Practical implant 1-B  
Number and type of unit: 1practical unit  
Educational hours during the course: 34h  
Aims: Learning treatment techniques of implant supported prosthesis (removable and fixed)

Subtitles: At the end of the course A &B residents are expected to fulfill these requirements:
1. Treating 15 units of fixed implant supported prosthesis and 2 patients with implant supported removable prosthesis
2. Presence in diagnosis and treatment plan session of the patient and filling the document
3. Preparing study casts, stent and slides of the treatment
4. Presence in operation room in order to observe or perform the surgery, help and comment about changes in treatment plan
5. Follow up of tissue regeneration process till the patient is ready for prosthesis
6. Performing prosthodontic treatment and delivering it to the patient
7. Patient follow up after delivering the prosthesis

*All residents are obligated to fill and deliver the completed patient document with related slides to department’s postgraduate officer after mentor’s approval

Unit Title: Practical implant 2-A  
Number and type of unit: 1practical unit  
Educational hours during the course: 34h  
Aims: Learning more complex techniques in fixed and removable implant supported prosthesis

Unit Title: Practical implant 2-B  
Number and type of unit: 1practical unit  
Educational hours during the course: 34h  
Aims: Learning treatment techniques of implant supported prosthesis (removable and fixed)

Subtitles: At the end of the course A &B residents are expected to fulfill these requirements:
1. Treating 15 units of fixed implant supported prosthesis and 3 patients with implant supported removable prosthesis and performing surgery of an easy case
2. Presence in diagnosis and treatment plan session of the patient and filling the document
3. Preparing study casts, stent and slides of the treatment
4. Presence in operation room in order to observe or perform the surgery, help and comment about changes in treatment plan
5. Follow up of tissue regeneration process till the patient is ready for prosthesis
6. Performing prosthodontic treatment and delivering it to the patient
7. Patient follow up after delivering the prosthesis

* All residents are obligated to fill and deliver the completed patient document with related slides to department`s postgraduate officer after mentor`s approval.

Unit Title: Implant literature review Unit Code: 23

Number and type of unit: 1 theoretical unit
Educational hours during the course: 17h

Aims: Criticizing reliable national and international articles in the field of implant supported prosthesis in order to acquire new knowledge of research methods and related basic science

Subtitles:
1. Familiarity with available materials and methods in articles to help clinical judgments
2. Familiarity with recent research topics related to implant supported prosthesis

*Article selection is on the attending and articles published in journals that are determined by the secretariat of the educational council for dentistry and specialty courses of studies for board exams have priority.
Unit Title: Partial prosthesis literature review

Number and type of unit: 1 theoretical unit
Educational hours during the course: 17h

Aims: Criticizing reliable national and international articles in the field of partial prosthesis in order to acquire new knowledge of research methods and related basic science

Subtitles:
1. Familiarity with available materials and methods in articles to help clinical judgments
2. Familiarity with recent research topics related to partial prosthesis
Unit Title: Fixed prosthesis literature review

Number and type of unit: 1 theoretical unit
Educational hours during the course: 17h

Aims: Criticizing reliable national and international articles in the field of fixed prosthesis in order to acquire new knowledge of research methods and related science and dental material

Subtitles:
1. Familiarity with available materials and methods in articles to help clinical judgements
2. Familiarity with recent research topics related to fixed prosthesis
Unit Title: Complete prosthesis literature review

Number and type of unit: 1 theoretical unit
Educational hours during the course: 17h

Aims: Criticizing reliable national and international articles in the field of complete prosthesis in order to acquire new knowledge of research methods and related science

Subtitles:
1. Familiarity with available materials and methods in articles to help clinical judgements
2. Familiarity with recent research topics related to complete prosthesis
Aims: Criticizing reliable national and international articles in the field of dental prosthesis in order to acquire new knowledge of research methods related to fixed and removable complete and partial prosthesis, implant, occlusion, maxillofacial prosthesis and dental material to prepare for board exam

Subtitles:
1. Familiarity with available materials and methods in articles to help clinical judgements
2. Familiarity with recent research topics related to dental prosthesis
Unit title: Thesis (1) to (5)  
Unit code: 28-32  
Unit number: 10 practical-workshop units  
Educational hours: 476 h

Thesis (1) - Aim: Selection of research subject with in the area of specialty.  
This course is held in two work shop units and must be taken to account in the educational program. The research subject will be chosen with the assistance of the relevant supervisor throughout the work shop sessions. Field research must be done out of work shop time and the outcome of it must be presented during the work shop sessions. The resident must have gathered his/her documents to present the proposal by the end of the semester. The proposal must be preregistered in the research council and the evidence suggesting that the resident has passed the course by the dead line must be handed to postgraduate director.

Thesis (2)- Aim: Registration of research subject.  
This course is held in two work shop units and the resident must participate in sessions held in collaboration with statistical consultant and/or statistic experts or epidemiologists. The resident must complete his/her proposal by the end of the semester and must register it in the relevant site. Meetings must also be held with the supervising professor during these sessions.

Thesis (3)- Aim: Performing the research.  
This course is held in two practical and must be taken to account in the educational program. The time and manner of performance of this unit is up to the supervisor and can be organized in continuous or interrupted sessions. The supervisor must inform the postgraduate director of the department about the progress so that other educational programs can be coordinated. If the research requires more time than one semester, the measures that must be taken during that semester should be confirmed by the supervisor.

Thesis (4)- Aim : writing the thesis and relevant article.  
It is a two unit work shop course must be taken to account in the educational program. The resident should statistically analyze data, extract the results and write the thesis under the supervision of the supervisor and statistical consultant. The resident is obliged to write and submit at least one paper to a valid journal. If the research is to be done in more than one semester, the resident must analyze and extract the primary results.

Thesis (5)- Aim: Defense of thesis  
This is a two unit work shop course that should be considered in the educational program. The resident must complete the thesis, present his findings and defend the thesis. 54

Notice: It is apparent that all researches may not follow this sequence and timing and may require more time. It is possible to extend the performance to reschedule the dead line only with the confirmation of the vice dean of research.
Unit Title: Theoretical fixed prosthesis

Number and type of unit: 1.5 theoretical units
Educational hours during the course: 26h

Aims: Basic familiarity with fixed prosthesis and treatment method of teeth under RCT treatment and review to board exam references

Subtitles:
1. Familiarity with principles of fixed prosthesis and diagnosis
2. Familiarity with treatment plan in fixed prosthesis
3. Familiarity with principles of occlusion
4. Periodontal considerations in fixed prosthesis
5. Familiarity with biomechanical principles of tooth preparation, introducing, burs and their application
6. Familiarity with full veneer preparation
7. Familiarity with partial veneer preparation
8. Familiarity with all ceramic crowns preparation
9. Restoration of RCT teeth
10. Implant supported fixed prosthesis
11. Tissue management and impression making
Unit Title: Theoretical fixed prosthesis

Number and type of unit: 1.5 theoretical units
Educational hours during the course: 26h

Aims: Familiarity with principles of fixed prosthesis in the field of impression making, fabrication of metal core and temporary restorations and reviewing board exam references

Subtitles:
1. Familiarity with temporary restoration
2. Familiarity with cast and die
3. Familiarity with record registration and transferring cast to articulator
4. Familiarity with types of pontics and edentulous ridges
5. Familiarity with wax patterns and metal core designing
6. Familiarity with principles of alloys and casting
7. Familiarity with try-in, metal core polishing and crown cementation
8. Familiarity with importance of follow up and resolving problems after delivery
9. All ceramic restorations
10. Resin bonded fixed dental prosthesis
11. Fiber reinforced composite fixed prosthesis
12. Connections in fixed prosthesis
13. Polishing
14. Staining and glazing
15. Cements and cementing methods
16. Post-delivery care
Unit Title: Practical fixed prosthesis1 (preclinic)  Unit Code: 35

Number and type of unit: 5 practical units
Educational hours during the course: 170h

Aims: Familiarity with theoretical and practical principles of different tooth preparation and conducting laboratory process of fixed prosthesis

Subtitles:
1. Mounting the casts in semi-adjustable articulators
2. Customized occlusal table and flag
3. Determining the anterior guidance and occlusal plan adjustment
4. Partial coverage, inlay, onlay, laminate preparation
5. Familiarity with impression making and cast fabrication and die mobilization
6. Post preparation
7. Temporary restoration preparation
8. Working cast fabrication
9. Wax up and frame work designing
10. Cylindering and casting
11. Soldering
12. Porcelain investment (PFM)
13. Familiarity with new porcelains laboratory process
14. Log book presentation

- At the end of the course the residents are obligated 1 unit of crown, 1 unit post and 3 units bridge with their laboratory process
Unit Title: Practical fixed prosthesis2

Number and type of unit: 4 practical units
Educational hours during the course: 136h

Aims: Conducting clinical process of fixed prosthesis treatment

Subtitles:
1. Conducting 4 single crown cases
2. Conducting 1 three unit posterior bridge case
3. Preparing 4 unit of casting post
4. Conducting 1 case of six unit anterior bridge
5. Follow up of 2 fixed cases that has been treated in the last semester

*In multidisciplinary cases the resident could either observe or conduct the treatment according to the department post graduate officer’s opinion.
Unit Title: Practical fixed prosthesis 3-A
Number and type of unit: 2 practical units
Educational hours during the course: 68h
Aims: Conducting clinical process of complicated fixed prosthesis cases

Unit Title: Practical fixed prosthesis 3-B
Number and type of unit: 2 practical units
Educational hours during the course: 68h
Aims: Conducting clinical process of complicated fixed prosthesis cases

Subtitles: At the end of the course A & B residents are expected to fulfill these requirements:

1. Conducting a full case of fixed prosthesis
2. Upper and lower anterior and posterior crown treatment (10 units)
3. Treating 1 case of fixed prosthesis with non-rigid connector
4. Treating 1 case of partial prosthesis abutment crown
5. Follow up of 2 complicated cases treated in the last semesters
6. Aesthetic treatment (laminate, inlay, onlay, full ceramic) (10 units)

*In multidisciplinary cases the resident could either observe or conduct the treatment according to the department post graduate officer’s opinion.
Unit Title: Practical fixed prosthesis 4-A  Unit Code: 39

Number and type of unit: 2.5 practical units
Educational hours during the course: 85h

Aims: Conducting clinical process of advanced fixed prosthesis cases

Unit Title: Practical fixed prosthesis 4-B  Unit Code: 40

Number and type of unit: 2.5 practical units
Educational hours during the course: 85h

Aims: Conducting clinical process of advanced fixed prosthesis cases

Subtitles: At the end of the course A & B residents are expected to fulfill these requirements:
1. Conducting 1 case of full mouth prosthesis
2. Treating with all ceramic restorations (laminate, inlay, onlay, full ceramic) (10 units)
3. Treating other advanced cases (4 units) such as:
   - Root amputation, Forcation Management
   - Forced eruption, Onlay Fixed Partial Denture
4. Follow up of 2 complicated cases treated in the last semesters

*The residents are obligated to treat at least 2 multidisciplinary cases during the course
Unit Title: Theoretical partial removable prosthesis 1

Number and type of unit: 1.5 theoretical units
Educational hours during the course: 26h

Aims: Familiarity with partial edentulous classifications and components of partial denture

Subtitle:
1. Familiarity with the classification of partial edentulous arches
2. Partial denture components
3. Mechanical principles of partial prosthesis
4. Examinations and evaluations of diagnostic findings
5. Surveyor and designing
6. Familiarity with I-bar in partial prosthesis design
7. Implant supported partial prosthesis
8. Mouth preparation
9. Laboratory process of frame work fabrication
Unit Title: Theoretical partial removable prosthesis 2
Unit Code: 42

Number and type of unit: 1.5 theoretical units
Educational hours during the course: 26h

Aims: Acquiring knowledge about principles, anatomy and physiology of edentulous period, treatment plan and mouth preparation

Subtitle:
1. Fitting the framework
2. Impression taking methods in tooth and tissue born partial prosthesis
3. Occlusal relations registration
4. Partial prosthesis try-in
5. Partial prosthesis delivery
6. Post -delivery problems
7. Preservation and repair of partial prosthesis
8. Temporary prosthesis
9. Other forms of partial prosthesis
10. Attachments in partial prosthesis
Number and type of unit: 1.5 theoretical units
Educational hours during the course: 26h

Aims: Acquiring knowledge about principles, anatomy and physiology of edentulous period, treatment plan and mouth preparation

Subtitle:
1. Edentulous forms
2. Biomechanics of edentulous forms
3. Effect of aging in edentulous forms
4. Complete denture side effects
5. TMJ disorders
6. Nutritional considerations in prosthetic patients
7. Diagnosis and treatment plan
8. Pre-prosthetic surgeries
9. Immediate dentures
10. Overdenture
11. The art of making contact with edentulous patient during the treatment
12. Materials used in treatment of edentulous patients
13. Fabrication of substitute in rest areas of maxillary denture
14. Fabrication of substitute in rest areas of mandibular denture
15. Determining the arch form and status
Unit Title: Theoretical complete removable prosthesis 2  

Unit Code: 44

Number and type of unit: 1.5 theoretical units
Educational hours during the course: 26h

Aims: Familiarity with impression taking and articulator jaw relations, occlusion, teeth selection and arrangement

Subtitle:
1. Biological and clinical aspects
2. Artificial teeth selection and arrangement, occlusion in edentulous patients
3. First try-in appointment
4. Speech considerations in complete dentures
5. Wax up and denture fabrication
6. Single denture
7. Complete denture retention
8. Maxillofacial prosthesis for edentulous patients
9. Fabrication of more durable complete dentures
10. Application implant supported prosthesis
11. Osseointegration science
12. Implant supported overdenture clinical process
13. Supported fixed prosthesis clinical process
14. Resolving problems and errors
15. Implant prosthesis in edentulous patients
Unit Title: Theoretical maxillofacial prosthesis 1
Unit Code: 45

Number and type of unit: 1.5 theoretical units
Educational hours during the course: 26h

Aims: Familiarity with cancer causes and subsequent treatment, acquired defects of the lower jaw, hard and soft palate and their treatment

Subtitle:
1. Mental management of patients with maxillofacial prosthesis
2. Radiotherapy
3. Resin-bonded maxillofacial prosthesis
4. Nasoalveolar molding in primary treatment steps of lip and palate cleft
5. Treating edentulous patients with maxillary resection
6. Treating edentulous patients with mandibular resection
7. Soft tissue lesions treatment
8. Clinical considerations in palatal lift prosthesis
9. Intra osseous implants’ effect in maxillofacial prosthesis
10. Diagnostic considerations in prosthetic treatment of patients with mandible resection
11. Prosthetic treatment of patients with mandibular resection
12. Implant application in lower jaws undergone radiotherapy
13. Prosthetic treatment after complete or partial tongue resection
14. Treatment of patients with sleeping disorder due to upper airways disorder with extra oral appliance
Unit Title: Theoretical maxillofacial prosthesis 2

Number and type of unit: 1.5 theoretical units
Educational hours during the course: 26h

Aims: Familiarity with soft palate lesions, cleft palate, facial lesions reconstruction, cranial implants and auxiliary appliances

Subtitle:
1. Clinical aspects of facial prosthesis fabrication
2. Staining techniques of facial prosthesis
3. Eye prosthesis fabrication
4. Craniofacial implants
5. Maxillofacial prosthesis literature review
Unit Title: Practical removable prosthesis 1 (preclinic)                      Unit Code: 47

Number and type of unit: 6 practical units
Educational hours during the course: 204h

Aims: Practical familiarity with removable prosthesis fabrication process in preclinic and treating simple cases

Subtitle:
1. Familiarity with various articulators, occlusal record and face bow registration
2. Conducting laboratory process of complete denture fabrication on phantom and acquiring skill in the whole laboratory workflow including: fabrication of special tray, boxing, record base, teeth arrangement in various jaw relations, flaking process and post fabrication balance
3. Conducting laboratory process of partial denture fabrication on phantom and acquiring skill in the whole laboratory workflow including: fabrication of special tray, boxing, surveying, designing, relief, bock out, duplicating, wax up, casting, polishing
4. Clinical treatment and laboratory process of 2 complete denture and 1 partial denture cases

*The resident should present seminars according to laboratory process and related subjects*
Unit Title: Practical removable prosthesis 2

Number and type of unit: 4 practical units
Educational hours during the course: 136h

Aims: full and partial edentulous patients treatment

Subtitle:
1. Complete removable prosthesis treatment
2. Partial removable prosthesis treatment

Attention: All of the laboratory process of a complete removable prosthesis and a Partial removable prosthesis will be conducted by the resident. The resident must follow up 2 patients of previous residents.
Number and type of unit: 4 practical units
Educational hours during the course: 34h

Aims: acquiring skill in laboratory process of silicon extra oral maxillofacial prosthesis, impression taking, wax up, flaking and staining of silicon

Subtitle:
Fabrication and staining of one extra oral maxillofacial prosthesis in preclinic
Unit Title: Practical removable/maxillofacial prosthesis 3-A  
Number and type of unit: 3 practical units  
Educational hours during the course: 102h  
Aims: Treating patients with complete, partial and maxillofacial prosthesis and preparing for oral board exam

Unit Title: Practical removable/maxillofacial prosthesis 3-B  
Number and type of unit: 3 practical units  
Educational hours during the course: 102h  
Aims: Treating patients with complete, partial and maxillofacial prosthesis and preparing for oral board exam

Subtitle: At the end of the course A & B residents are expected to fulfill these requirements:
1. 5 cases of removable complete denture
2. 3 cases of partial removable denture
3. 1 case of single denture
4. 1 case of immediate complete denture
5. 1 case of overdenture
6. 3 cases of reline, rebase, surgical splint or prosthesis repair
7. 3 cases of interim surgical obturators
Aims: treating complicated patients according to the ACP index, complete, partial and maxillofacial prosthesis and preparing for oral board exam

Subtitle: At the end of the course A & B residents are expected to fulfill these requirements:
1. 4 cases of removable complete denture
2. 3 cases of partial removable denture
3. 1 case of single denture
4. 1 case of overdenture
5. 4 cases of reline, rebase, surgical splint or prosthesis repair
6. 3 cases of maxillofacial prosthesis
Number and type of unit: 1 theoretical units
Educational hours during the course: 17h

Aims: Familiarity with concepts of aesthetic related to prosthodontic treatments

Subtitle:
1. Smile design
2. Porcelain laminate veneer
3. Inlay, onlay, all ceramic complete crown
4. Principles of tooth color selection
5. Bonding
6. Function and aesthetic interference
7. Aesthetic management of the dentinogingival unit
8. Aesthetic surgery
9. Tooth whitening
10. Aesthetic in implants
Unit Title: case presentation1-A

Number and type of unit: 1 theoretical-practical unit (0.5 theoretical units, 0.5 practical units)
Educational hours during the course: 26h

Aims: improving diagnostic skills and treatment plan for complicated patients according to ACP index, criticizing it based on evidence, improving inter and intra disciplinary social skills, preparing for exam

Subtitle:
The resident is obligated to take part in every session and get familiar with case presentation criterias in board exam
Unit Title: case presentation1-B

Number and type of unit: 1 theoretical-practical unit (0.5 theoretical units, 0.5 practical units)
Educational hours during the course: 26h

Aims: improving diagnostic skills and treatment plan for complicated patients according to ACP index, criticizing it based on evidence, improving inter and intra disciplinary social skills, preparing for exam

Subtitle:
While participating in every session, the resident is obligated to present at least 1 case`s diagnosis and treatment plan before or after the treatment. Case presentation should be in board exam format. The resident should also present a follow up case.
Unit Title: case presentation 2-A

Number and type of unit: 1 theoretical-practical unit (0.5 theoretical units, 0.5 practical units)
Educational hours during the course: 26h

Aims: improving diagnostic skills and treatment plan for complicated patients according to ACP index, criticizing it based on evidence, improving inter and intra disciplinary social skills, preparing for exam

Subtitle:
While participating in every session, the resident is obligated to present at least 1 case’s diagnosis and treatment plan before or after the treatment. Case presentation should be in board exam format. The resident should also present a follow up case.
Number and type of unit: 1 theoretical-practical unit (0.5 theoretical units, 0.5 practical units)
Educational hours during the course: 26h

Aims: improving diagnostic skills and treatment plan for complicated patients according to ACP index, criticizing it based on evidence, improving inter and intra disciplinary social skills, preparing for exam

Subtitle:
While participating in every session, the resident is obligated to present at least 1 case’s diagnosis and treatment plan before or after the treatment. Case presentation should be in board exam format. The resident should also present a follow up case.
Unit Title: case presentation 3-A

Number and type of unit: 1 theoretical-practical unit (0.5 theoretical units, 0.5 practical units)
Educational hours during the course: 26h

Aims: improving diagnostic skills and treatment plan for complicated patients according to ACP index, criticizing it based on evidence, improving inter and intra disciplinary social skills, preparing for exam

Subtitle:
While participating in every session, the resident is obligated to present at least 1 case’s diagnosis and treatment plan before or after the treatment. Case presentation should be in board exam format. The resident should also present a follow up case.
Unit Title: case presentation3-B  

Unit Code: 60

Number and type of unit: 1 theoretical-practical unit (0.5 theoretical units, 0.5 practical units)
Educational hours during the course: 26h

Aims: improving diagnostic skills and treatment plan for complicated patients according to ACP index, criticizing it based on evidence, improving inter and intra disciplinary social skills, preparing for exam

Subtitle:

While participating in every session, the resident is obligated to present at least 1 case’s diagnosis and treatment plan before or after the treatment. Case presentation should be in board exam format. The resident should also present a follow up case.
Unit Title: Applicable dental material 1  
Unit Code: 61

Number and type of unit: 1 theoretical unit  
Educational hours during the course: 17h

Aims: Familiarity with mechanical, physical and biological characteristics of the material used in prosthodontics in order to solve clinical problems

Subtitle:
1. Familiarity with mechanical, physical characteristics of the material
2. Familiarity with materials testing equipment
3. Familiarity with materials biocompatibility
4. Acquiring knowledge about plasters
5. Acquiring knowledge about waxes
6. Acquiring knowledge about amalgam
7. Acquiring knowledge about refractory dies investment
8. Acquiring knowledge about noble alloys
9. Acquiring knowledge about base metal alloys
10. Acquiring knowledge about casting process
Unit Title: Applicable dental material 2  
Unit Code: 62

Number and type of unit: 1 theoretical unit
Educational hours during the course: 17h

Aims: Familiarity with mechanical, physical and biological characteristics of the material used in prosthodontics

Subtitle:
1. Acquiring knowledge about PFM ceramics and porcelains
2. Acquiring knowledge about various polymers
3. Acquiring knowledge about denture base polymers and their application
4. Acquiring knowledge about composites
5. Acquiring knowledge about bonding method of resin based materials
6. Acquiring knowledge about soft liners and their application
7. Acquiring knowledge about impression materials
8. Acquiring knowledge about cements
9. Tissue engineering
10. Dental biomaterial

Educational method : Q&A