

In the Name of God



Islamic Republic of Iran

Ministry of Health, Treatment and Medical Education

The secretariat of the educational council for dentistry and specialty
courses of studies

Curriculum of Oral and Maxillofacial Pathology Postgraduate Program

Revised in 2013

Introduction:

Due to the rapid development of the world and Iran and over more than 30 years of post graduate dentistry courses in the country, post graduate curriculum revision is necessary and inevitable. One of the most important science of the second half of the twentieth century which is extended in the science of dentistry, oral and maxillofacial is pathology. This major has tried to find a logical connection between anatomical findings and symptoms of different diseases and tissues around the mouth. On the other hand, can certainly say that once some basic researches in other majors of the field of dentistry is upon oral and maxillofacial pathology respectively.

Accordingly, in order to coordinate with other majors of medical sciences and promote the development of knowledge and practical skills in specialized disciplines Oral and Maxillofacial pathology on national and international standards, to cite Council directive dental education, put the responsibility of overseeing post graduate curriculum to the committee comprised of veteran teachers, administrators with executive history and some righteous young experts of oral and maxillofacial pathology.

Members of this committee after a thorough review of previous curriculum, review the new requirements alongside with regard to expanding the boundaries of knowledge and research, as well as assessment and feedback from other teachers, veterans and experts in this field in the country initiate to set a new post graduate curriculum in oral and Maxillofacial pathology

In preparation of this program important principles was considered, including:

1. The goals and objectives of the post graduate courses is in line with long-term goals 20-year vision and strategic plan for the field of Oral and Maxillofacial Pathology.
2. 2. the development of new curriculum, in addition to considering the necessity for post graduate residents to have Understanding of the latest achievements of scientific and professional knowledge in the world and the

country, proper role in Diagnosis and treatment of oral diseases and surrounding tissues was considered as a key factor in sustainable development and harmonious society.

3. the development goals of the educational program was conducted in two parts:

goal: The goal of the new program of educating an expert oral and maxillofacial pathologist, is training an individual with knowledge, scientific and practical proficiency at the level of world standards, capable to provide high-quality diagnosis in his field, could provide educational and research services in accordance with international standards in the discipline.

objectives: Graduates of new post graduate curriculum of oral and maxillofacial pathology should be gain the highest skill along with world's advancing in this field in principles of diagnosis, education and research.

Definition

Oral and maxillofacial pathology is one of dentistry post graduate courses that Contains knowledge of etiology and procedure of diseases, recognition and reporting microscopical changes (histopathology) in tissues in relation to Different diseases. In fact this profession tries to find a logical relation between Anatomical findings and symptoms of various diseases in the mouth and surrounding tissues.

Also many basic researches in various dentistry majors is on this field.

Graduates who success in board exams which is held and design by the competent authorities of the Ministry of Health and Medical Education, will awarded the board degree.

Duration of the course:

According to council of dentistry and post graduate education, duration of oral and maxillofacial pathology post graduate course is 3 years (6 terms)

Characteristics of the new curriculum of oral and maxillofacial pathology

Goal

Since the core of development and in all countries, particularly in developed countries, is detailed and scientific and practical comprehensive planning, it is inevitable to determine and plan strategic objectives and principles based on education, research, diagnostic and therapeutic in Oral and Maxillofacial Pathology. Accordingly, the overall goal of this new curriculum is to train an individual at the standard national and international level of awareness, knowledge, attitudes and practical skills and belief and with expertise in the field to be able to provide diagnostic and therapeutic services.

objectives:

This new curriculum is designed in a way that the graduates will obtain at least the following capabilities:

histopathology practical basic based on knowledge of anatomy, histopathology, cell biology and pathology principles.

Introduction with different aspects of undergraduate histopathology.

Obtaining specific knowledge in various diseases of the oral cavity and surrounding tissues.

Obtaining diagnostic expertise in oral and maxillofacial diseases at The microscopic and macroscopic level.

Understanding new and improved technologies and equipment in order to select suitable techniques for diagnosis of lesions of the mouth, jaw and face.

Obtaining The ability to adjust the biopsy reports in the Gross and microscopic level.

Obtaining Knowledge of protection, health and occupational safety in the laboratory.

Obtaining management skills to manage an Oral Pathology laboratory.

Ability to education, research and access to scientific resources.

Gain insight on education and research general topics relating to pathology and other related sciences.

Gain awareness and attitudes regarding professional standards and ethics and medical law.

Combination of this course:

The new post graduate curriculum of oral and maxillofacial pathology contains 3 parts basic sciences, related sciences and specialized sciences. This is designed in a way that the resident gains necessary Attitude, knowledge and skill for diagnostic services by the end of the course. Moreover, is able to provide educational-researching services at international standards level.

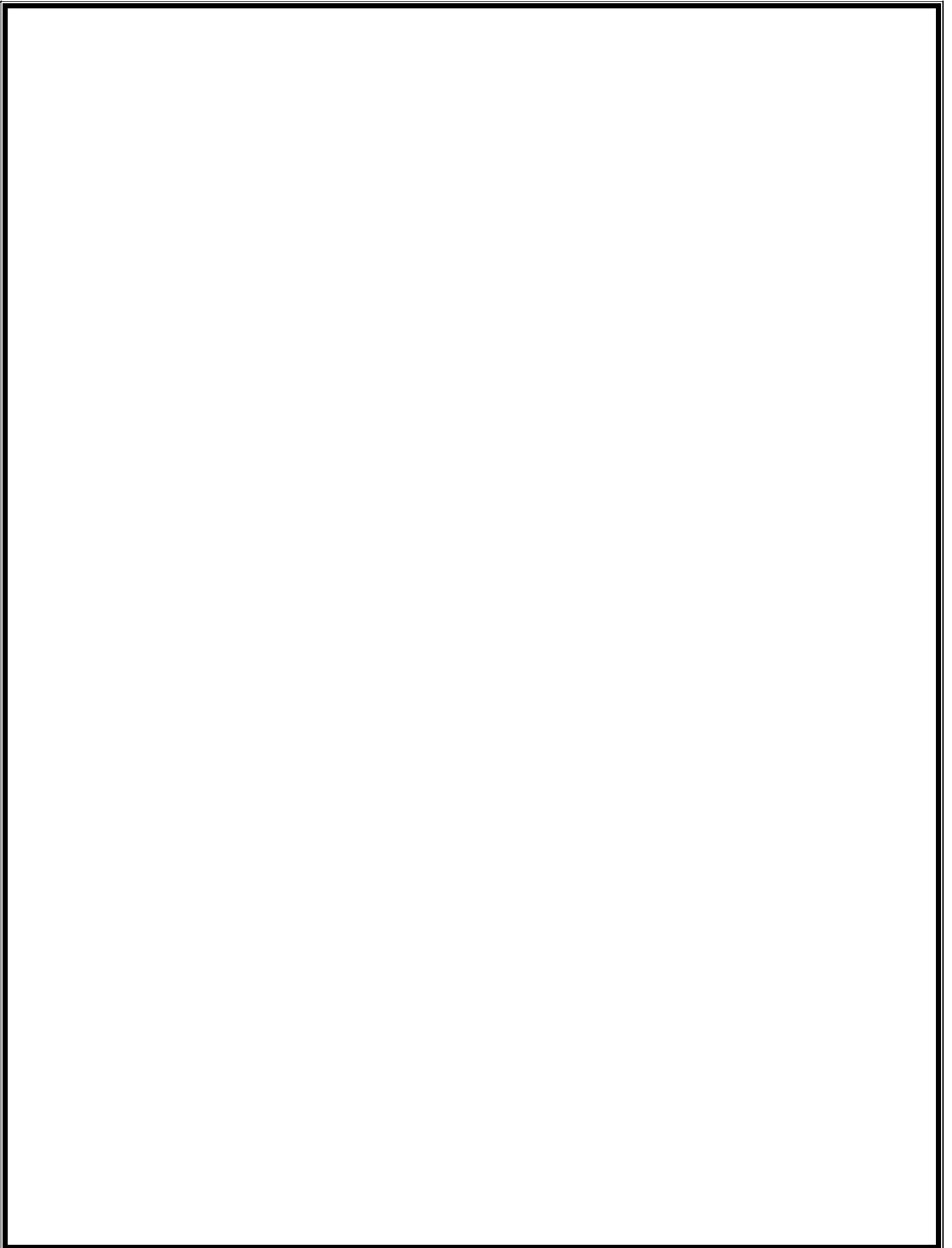
It is worth noting that The new curriculum has been adjusted in such a way that Resident learn principles and issues of general pathology and histology at first and then specialized contents of the field. While related science knowledge and learning will take place gradually until the end of course.

The content of the course are:

Basic science lessons:

These lessons are substructure of related and specialized sciences and the purpose is relearning, reminding and deepening the issues that some were mentioned in pre graduate dentistry course.

This course includes the common and specialized basic science.



Common basic sciences

| Code | Course | Units | | | Hours | | | | Prerequisite |
|-------|--------------------------------------|-----------------|-----------|--------------|-----------------|-----------|--------------|-------|--------------|
| | | Theoretic al | Practical | Worksho p | Theoretic al | Practical | Worksho p | Total | |
| 1 | Medical Education(1) | - | - | 1 | - | - | 51 | 1 | |
| 2 | Medical Education(2) | - | - | 2 | - | - | 102 | 2 | |
| 3 | Research Methodology & EBD | - | - | 2 | - | - | 102 | 2 | |
| 4 | Clinical Photography | - | - | 1 | - | - | 51 | 1 | |
| 5 | Medical Emergency | - | - | .05 | - | - | 24 | 0.5 | |
| 6 | Medical Regulation & Ethics | - | - | 1 | - | - | 51 | 1 | |
| 7 | Infection Control & Patient`s safety | - | - | 1 | - | - | 51 | 1 | |
| 8 | Clinical Management & Governance | - | - | 1 | - | - | 51 | 1 | |
| Total | | - | - | 9.5 | - | - | 483 | 9.5 | |

These courses are elective but the resident should at least select one.

Specialized basic sciences

| Code | Course | Units | | | Hours | | | Total | Prerequisite s |
|------|--|-----------------|-----------|--------------|-----------------|-----------|--------------|-------|-------------------|
| | | Theoretic al | Practical | Worksho p | Theoretic al | Practical | Worksho p | | |
| 9 | Theoretical general pathology | 4 | - | - | 68 | - | - | 4 | |
| 10 | Theoretical head and neck anatomy | 2 | - | - | 34 | - | - | 2 | 14 &15 |
| 11 | Basic immunology | 1 | - | - | 17 | - | - | 1 | |
| 12 | Theoretical oral histology | 1 | - | - | 17 | - | - | 1 | 14&15 |
| 13 | Practical oral histology | - | 1 | - | - | 34 | - | 1 | 12 |
| 14 | Theoretical general histology | 1 | - | - | 17 | - | - | 1 | |
| 15 | Practical general histology | - | 1 | - | - | 34 | - | 1 | 14 |
| 16 | Theoretical molecular biology | 1 | - | - | 17 | - | - | 1 | |
| 17 | Practical molecular biology | - | 2 | - | - | 68 | - | 2 | |

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|-------|----|---|---|-----|-----|---|----|---|
| total | 10 | 4 | - | 170 | 136 | - | 14 | - |
|-------|----|---|---|-----|-----|---|----|---|

Faculty related sciences

| Code | Course | Units | | | Hours | | | Total | Prerequisites |
|-------|---|-------------|-----------|----------|-------------|-----------|----------|-------|---------------|
| | | Theoretical | Practical | Workshop | Theoretical | Practical | Workshop | | |
| 18 | Principles of personal safety in laboratory | - | - | 1 | - | - | 51 | 1 | |
| 19 | Theoretical oral medicine | 1 | - | - | 17 | - | - | 1 | |
| 20 | Practical oral medicine | - | 1 | - | - | 34 | - | 1 | 19 |
| 21 | Practical oral and maxillofacial surgery | - | 1 | - | - | 34 | - | 1 | |
| 22 | Theoretical oral radiology | 1 | - | - | 17 | - | - | 1 | |
| total | | 2 | 2 | 1 | 34 | 68 | 51 | 5 | - |

Hospital related sciences

| Code | Course | Units | | | Hours | | | Total | Prerequisites |
|-------|--|-------------|-----------|----------|-------------|-----------|----------|-------|---------------|
| | | Theoretical | Practical | Workshop | Theoretical | Practical | Workshop | | |
| 23 | Hospital theoretical and practical general pathology | 17 | | - | 1 semester | | - | 17 | 9,36,37 |
| 24 | ENT pathology | - | 1 | - | - | 34 | - | 1 | |
| 25 | Dermatopathology | - | 2 | - | - | 68 | - | 2 | 14,15 |
| 26 | Dermatology | - | 1 | - | - | 34 | - | 1 | 9 |
| 27 | Clinical ENT | - | 1 | - | - | 34 | - | 1 | - |
| 28 | Neuropathology | - | 1 | - | - | 34 | - | 1 | 9 |
| 29 | Hematopathology | - | 1 | - | - | 34 | - | 1 | 9,14,15 |
| 30 | Hematology | - | 1 | - | - | 34 | - | 1 | 9,14,15 |
| total | | 25 | | - | - | 850 | - | 25 | - |

Specialized sciences

| Code | Course | Units | | | Hours | | | Total | Prerequisites |
|------|--|-------------|-----------|----------|-------------|-----------|----------|-------|---------------|
| | | Theoretical | Practical | Workshop | Theoretical | Practical | Workshop | | |
| 31 | Theoretical specialized oral and maxillofacial pathology 1 | 3 | - | - | 51 | - | - | 3 | |
| 32 | Theoretical specialized oral and maxillofacial pathology 2 | 2 | - | - | 34 | - | - | 2 | 31 |
| 33 | Theoretical specialized oral and maxillofacial pathology 3 | 3 | - | - | 51 | - | - | 3 | 32 |
| 34 | Theoretical specialized oral and | 4 | - | - | 68 | - | - | 4 | 33 |

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|----|--|---|---|---|----|-----|---|---|----|
| | maxillofacial pathology 4 | | | | | | | | |
| 35 | Theoretical specialized oral and maxillofacial pathology 5 | 5 | - | - | 85 | - | - | 5 | 34 |
| 36 | Practical specialized oral and maxillofacial pathology 1 | - | 3 | - | - | 102 | - | 3 | |
| 37 | Practical specialized oral and maxillofacial pathology 2 | - | 3 | - | - | 102 | - | 3 | 36 |
| 38 | Practical specialized oral and maxillofacial pathology 3 | - | 3 | - | - | 102 | - | 3 | 37 |
| 39 | Practical specialized oral and maxillofacial pathology 4 | - | 3 | - | - | 102 | - | 3 | 38 |
| 40 | Practical specialized oral and maxillofacial pathology 5 | - | 5 | - | - | 170 | - | 5 | 39 |
| 41 | Literature review 1 | 2 | - | - | 34 | - | - | 2 | 4 |
| 42 | Literature review 2 | 2 | - | - | 34 | - | - | 2 | 41 |

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|-------|---|----|----|---|-----|------|-----|----|-------|
| 43 | Literature review 3 | 2 | - | - | 34 | - | - | 2 | 42 |
| 44 | Passage report writing 1 | - | 2 | - | - | 68 | - | 2 | |
| 45 | Passage report writing 2 | - | 4 | - | - | 136 | - | 4 | 44 |
| 46 | Passage report writing 3 | - | 4 | - | - | 136 | - | 4 | 45 |
| 47 | Passage report writing 4 | - | 4 | - | - | 136 | - | 4 | 46 |
| 48 | Thesis 1 | - | - | 2 | - | - | 102 | 2 | |
| 49 | Thesis 2 | - | - | 2 | - | - | 102 | 2 | 48 |
| 50 | Thesis 3 | - | 2 | - | - | 68 | - | 2 | 49 |
| 51 | Thesis 4 | - | - | 2 | - | - | 102 | 2 | 50 |
| 52 | Thesis 5 | - | - | 2 | - | - | 102 | 2 | 51 |
| 53 | Participation in practical oral pathology education 1 | - | 1 | - | - | 34 | - | 1 | 14,15 |
| 54 | Participation in practical oral pathology education 2 | - | 1 | - | - | 34 | - | 1 | 53 |
| total | | 23 | 35 | 8 | 391 | 1394 | 48 | 66 | - |

Unit title: Medical Education (1)

Unit code: 1

Number and type of unit: 1 workshop unit

Educational hours within the course duration: 51h

Prerequisite: none

Aims:

The aim of the Medical Education (1) and (2) units is for the residents to obtain the necessary ability to take part in the education and evaluation of theoretical, workshop, preclinical and clinical courses in their specialty field.

Subtitles

1. The role of the faculty members in the field of education
2. Principles of teaching-learning
3. Types of learning
4. Skills regarding the process of teaching
5. Characteristics and duties of faculty
6. Lesson plan
7. Educational aims
8. Principles of preparing educational contents
9. Speech
10. The text of questions and answers
11. Small group education
12. Different methods of group training
13. Roll fulfillment and simulation
14. Clinical education
15. Educational aids
16. Smart boards
17. PowerPoint preparation

Unit title: Medical Education (2)

Unit code: 2

Number and type of unit: 2 workshop units

Educational hours within the course duration: 102h

Prerequisite: none

Aims:

The aim of the Medical Education (1) and (2) units is for the residents to obtain the necessary ability to take part in the education and evaluation of theoretical, workshop, preclinical and clinical courses in their specialty field.

Subtitles

1. Specific lesson plans
2. Student evaluation and its methods
3. Multiple-choice questions
4. Descriptive questions
5. Level classification of exam questions
6. Evaluation
7. Dops design
8. OSCE exams
9. Oral exam
10. Question analysis
11. Plan evaluation
12. Course planning
13. Log book
14. Port folio
15. Perspectives based on learning ability
16. Standard patent
17. Integration in education

Unit title: Research methodology and EBD
 Number and type of unit: 2 workshop units
 Educational hours within the course duration: 102h
 Prerequisite: none

Unit code: 3

Aims:

Acquisition of knowledge and familiarity with the methods of research in the field of education and skill acquirement in order to publish the results of research.

Subtitles:

| | Content | Method of learning-teaching | Duration (hours) |
|----|---|-------------------------------------|------------------|
| 1 | Principles of research and evidence-based dentistry and designing questions in evidence-based dentistry | Problem oriented lecture | 3 |
| 2 | A review of the scientific resources | Problem oriented lecture | 3 |
| 3 | Search engines and important and practical sites in dentistry | Workshop | 6 |
| 4 | Familiarity with resource management software for all types of studies in dentistry | Practical | 9 |
| 5 | Types of studies in dentistry | Interactive lectures | 3 |
| 6 | Descriptive studies | Lecture, discussion in small groups | 3 |
| 7 | Indicators of health and disease measurement | Problem oriented lecture | 3 |
| 8 | Indicators of measuring correlation | Problem oriented lecture | 3 |
| 9 | Principles of analytical-observational studies | Lecture | 3 |
| 10 | Interventional studies | Problem oriented lecture | 3 |
| 11 | Review studies | Lecture | 3 |

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| 12 | Evaluation of diagnostic tests | Problem oriented lecture | 3 |
| 13 | Errors and causation | Problem oriented lecture | 3 |
| 14 | Principles of descriptive statistics | Problem oriented lecture | 6 |
| 15 | Estimation and hypothesis testing | Problem oriented lecture | 6 |
| 16 | Critical evaluation | Lecture | 3 |
| 17 | Prioritization and topic selection and proposal | Lecture, discussion in small groups | 3 |
| 18 | Objectives, hypothesis and variables and research management and ethics | Lecture, discussion in small groups | 3 |
| 19 | Methods of data collection and questionnaires | Lecture, discussion in small groups | 3 |
| 20 | Sampling and sample size calculation | Lecture, discussion in small groups | 3 |
| 21 | Research Errors – Bias | Problem oriented lecture | 3 |
| 22 | Interactions and research errors – confounding | Problem oriented lecture | 3 |
| 23 | Special considerations in cohort studies and case-control studies | Lecture, discussion in small groups | 3 |
| 24 | Special considerations in interventional studies | Lecture, discussion in small groups | 3 |
| 25 | Special considerations in evaluating diagnostic tests | Lecture, discussion in small groups | 3 |
| 26 | Qualitative studies | Problem oriented lecture | 3 |
| 27 | Familiarity with statistical tests used in dentistry | Problem oriented lecture | 6 |

Unit title: Clinical photography *

Unit code: 4

Number and type of unit: 1 workshop unit

Educational hours within the course duration: 51h

Prerequisite: none

Aims:

Familiarity with types of cameras and taking specialized photographs from dental patients and storing them.

Minimum skills expected:

The resident must be continuously proficient regarding the steps needed in emergencies and must apply them on standardized patient. For this purpose, a flowchart of emergency treatments must be displayed by residents.

Subtitles

| | Content | Method of learning-teaching | Duration (hours) |
|---|--|-----------------------------|------------------|
| 1 | Familiarity with types of standard and proper cameras and learning how to use cameras and a fulcrum | Workshop | 1 |
| 2 | Familiarity with a types of retractors, mirrors and how to use them | Workshop | 1 |
| 3 | Portrait and profile photography | Workshop | 1 |
| 4 | Intra-oral and extra-oral photography | Workshop | 1 |
| 5 | Taking photographs from radiographs and casts | Workshop | 1 |
| 6 | Familiarity with 3 dimensional pictures and how to prepare them | Workshop | 1 |
| 7 | Familiarity with the resolution of possible problems established during the workshop and group photography | Workshop | 1 |

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| 8 | Executing standard photographs and their analysis | Workshop | 3 |
| 9 | Taking 3 dimensional graphs and analyzing them | Workshop | 3 |
| 10 | Superimposing photographs and radiographs | Workshop | 1 |
| 11 | Familiarity with storage of images (two-dimensional and three-dimensional) | Workshop | 1 |
| 12 | Familiarity with software related to photography and editing pictures | Workshop | 1 |
| 13 | Power point slide presentation | Workshop | 1 |

Main reference:

Mastering Digital Dental Photography, 2006 Ed.

Unit title: Medical emergencies

Unit code: 5

Number and type of unit: 0.5 workshop unit

Educational hours within the course duration: 24h

Prerequisite: none

Aims:

Skill acquisition in the diagnosis and treatment of common medical emergencies in dental clinics in Skill Labs and learning on training models

Subtitles

1. How to obtain medical history and its role in the prevention and diagnosis of emergencies and examinations
2. Equipment and facilities in emergencies
3. Common emergencies and their management, including hypersensitivity reactions, respiratory problems and changes in the level of consciousness
4. CPR
5. Circulation – Airway- Breathing techniques
6. Application of drugs in medical emergencies
7. Practical skills in medical emergencies (injection, serum therapy ...)
8. Familiarity with emergency materials and facilities in the department and shared facilities in the school

☒ It is recommended that sessions be held as 3h workshop sessions and this course be taught by Oral and Maxillofacial Surgeons (which can be organized in collaboration with the Department of Emergency Medicine)

Unit title: Medical Regulation and Ethics

Unit code: 6

Number and type of unit: 1 workshop unit

Educational hours within the course duration: 51h

Prerequisite: none

Aims:

Empowering residents in morality theories, their professional obligations towards the society and the legal rights of patients and colleagues. During this course the recognition skills of residents regarding ethical issues and their analysis is strengthened so that they can make the best decisions considering ethical and legal regulations in educational and research environments as faculty members and researchers and during service delivery as a therapist.

Subtitles

| | Content | Method of learning-teaching | Duration (hours) |
|---|--|-----------------------------|------------------|
| 1 | General and practical ethics and professionalism | Workshop | 1 |
| 2 | Altruism, respect, job sublimity and justice | Workshop | 1 |
| 3 | Honor and honesty, conscientiousness | Workshop | 1 |
| 4 | History and moral philosophy, and the four principles of bioethics | Workshop | 1 |
| 5 | Ideologies and moral theories | Workshop | 1 |
| 6 | Diagnostic tools in ethical decision making | Workshop | 1 |
| 7 | Informed consent, acquittal and determination of substitute decision-making capacity | Workshop | 1 |
| 8 | Confidentiality and speaking the truth | Workshop | 1 |

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| 9 | The relationship of dentist with other members of the health | Workshop | 1 |
| 10 | Principles of office management, medical documentation, communication of dentists with patients | Workshop | 1 |
| 11 | Familiarity with the medical council, dental regulations, responsibility, medical malpractice and errors, atonement | Workshop | 1 |
| 12 | Understanding the implications of certification, and the rules of court proceedings | Workshop | 1 |
| 13 | Conflict of interest | Workshop | 1 |
| 14 | Ethics in educational environments | Workshop | 1 |
| 15 | Islamic jurisprudence traditions and its relation to ethics in dentistry | Workshop | 1 |
| 16 | Challenges in medical ethics | Workshop | 1 |
| 17 | Integrated case presentation | Case presentation and literature review | 1 |

Unit title: Infection Control & Patient's Safety

Unit code: 7

Number and type of unit: 1 workshop unit

Educational hours within the course duration: 51h

Prerequisite: none

Aims:

For residents to understand and perform methods and skills of patient safety in dental clinics and hospitals.

Subtitles

1. Patient safety
2. The importance of human factors in patient safety.
3. Understanding complex and effective systems in patient care and safety
4. Establishment and use of effective teams
5. Lessons from past mistakes to avoid future risks
6. Recognition and management of health risks
7. Ways to improve quality in order to improve safety
8. Increasing communications between patients, staff, and supervisors
9. Care, prevention and infection control
10. Immunity and safety in infectious diseases
11. Increase and improvement of drug safety
12. Microbiology of common infectious diseases in dentistry and their transmission
13. * Participation in educational departments and implementing given trainings

In teamwork each resident discusses related issues.

*This section is evaluated by faculty members in 5 integrated sessions during the resident's clinical interventions in the department while implementing given trainings. Additional clinical training is also presented. It is expected that the trained issues become institutionalized in residents and in future semesters faculty members monitor it and affect it in their evaluation.

Reference:

Patient Safety Curriculum Guide, Multi-professional Edition, World Health Organization Publications, available in the following website:

http://whqlibdoc.who.int/publications/2011/9789241501958_eng.pdf

Unit title: Clinical Management and Governance

Unit code: 8

Number and type of unit: 1 workshop unit

Educational hours within the course duration: 51h

Prerequisite: none

Aims:

Understanding the models and tools of management of service quality, needs of service excellence, patient safety, management and evaluation exert, believing the need to improve the quality of oral health services through the establishment of models and tools for quality management including models of clinical service governance.

Minimum practical skills expected:

It is expected that in the end of this course residents demonstrate management of clinical services while providing oral health care and in higher semesters demonstrate it automatically.

Subtitles

| | Content | Method of learning-teaching | Duration (hours) |
|-----|---|-----------------------------|------------------|
| 1 | Quality and methods for its improvement | Workshop | 1 |
| 2 | Management of the quality of oral health care | Workshop | 1 |
| 3 | Governance of clinical services and its prerequisites | Workshop | 1 |
| 4 | Models and tools of quality management | Workshop | 1 |
| 5 | Patient safety | Workshop | 1 |
| 6 | Clinical efficacy | Workshop | 1 |
| 7 | Concepts of clinical efficacy and evidence based dentistry and clinical audit | Workshop | 1 |
| 8 | Interaction with patients, concomitant and community | Workshop | 1 |
| 9 | Education, training and managing staff | Workshop | 1 |
| *10 | Improvement of the quality | Workshop | 5 |

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|-----|--|----------|---|
| | of services of the specialty | | |
| *11 | Evaluating the substantiation and performance of clinical governance concepts in the specialty | Workshop | 3 |

Unit title: theoretical general pathology

Unit code: 9

Number and type of unit: 4 theoretical units

Educational hours within the course duration: 68h

Prerequisite: none

Presenter: pathology department of medical school

Aims: Familiarity with basic principles of diseases` physiopathology in general pathology

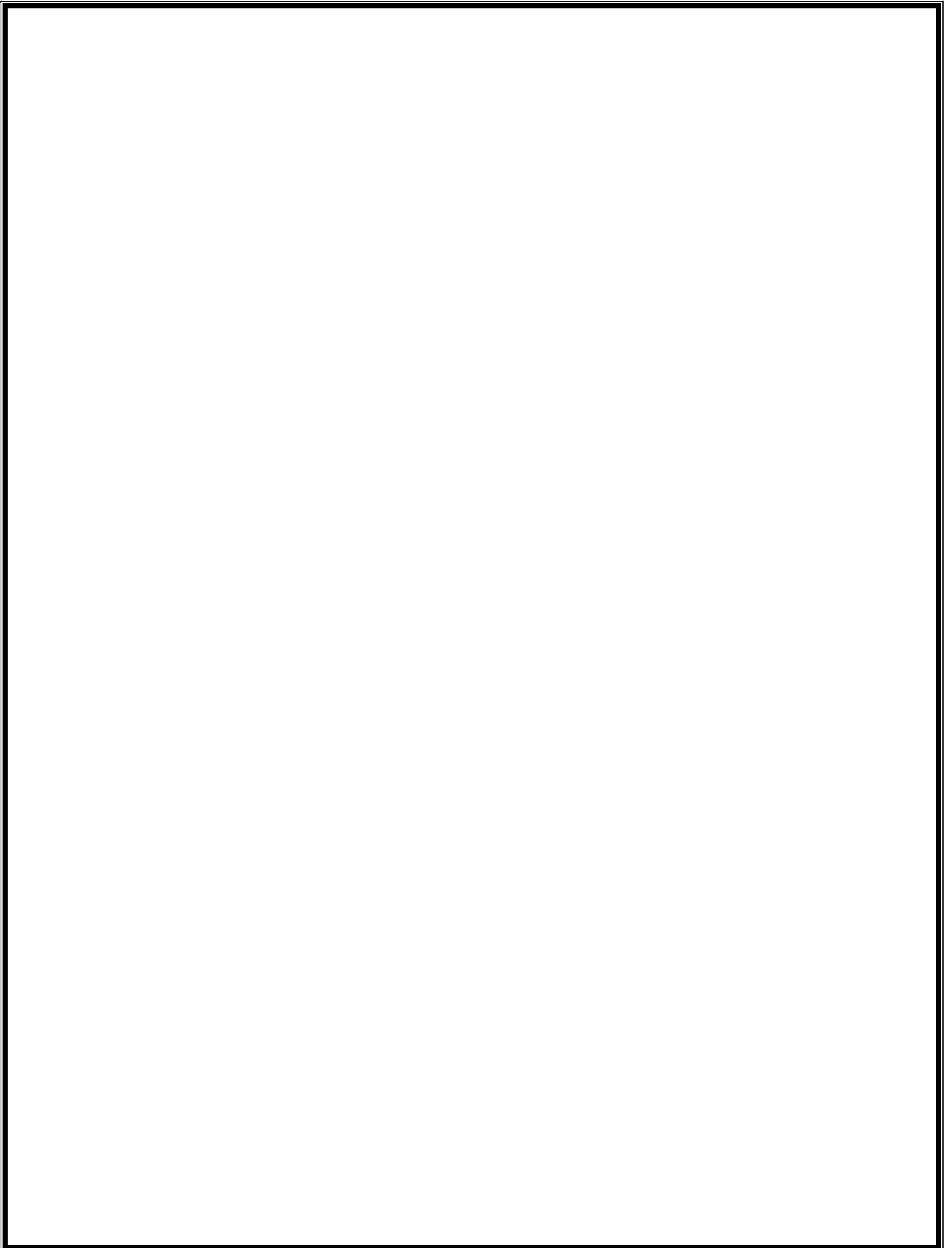
Subtitles: familiarity with general pathology:

- Cell
- Inflammation
- Tissue healing
- Hemodynamic disorders
- Genetic disorders
- Immune system disorders
- Neoplasia
- Infectious diseases
- Metabolic, environmental and nutritional disease

Educational method:

- Small group Discussion
- Programmed Lecture
- Lecture

Evaluation method: written exam



Unit title: theoretical head and neck anatomy

Unit code: 10

Number and type of unit: 2 theoretical units

Educational hours within the course duration: 34h

Prerequisite: theoretical and practical general pathology

Presenter: anatomy department

Aims: Familiarity with oral and maxillofacial structures and their development and growth, recalling and deepening the regional anatomy science and applicable anatomy of head, neck and face

Subtitles: familiarity with applicable anatomy of these structures:

- Oral cavity
- Muscles and their attachment in oral and perioral regions
- Submandibular region
- Sublingual region
- Pharyngeal region
- Nose
- Maxillary and paranasal sinuses
- Salivary glands
- TMJ
- Visceral spaces and cervical muscles and lymphatic chains
- Maxillofacial bones

Educational method:

- Text review
- Lecture
- Programmed lecture

Evaluation method: according to the presenter department

Unit title: basic immunology

Unit code: 11

Number and type of unit: 1 theoretical unit

Educational hours within the course duration: 17h

Prerequisite: none

Presenter: immunology department

Aims: Familiarity with basic principles of immunology

Subtitles:

- Familiarity with general immunology principles including: immune system components, innate and acquired immunology , Cellular and humoral immunology , Complement system, Immune response regulation, Hypersensitivity reaction, autoimmunity
- Familiarity with immunologic response of dental pulp and periapical tissues and periodontium and saliva
- Familiarity with immunology of tumors

Educational method:

- Text review
- Lecture
- Programmed lecture

Evaluation method: written exam

Unit title: theoretical oral histology

Unit code: 12

Number and type of unit: 1 theoretical unit

Educational hours within the course duration: 17h

Prerequisite: theoretical and practical general histology

Presenter: histology department

Aims: Familiarity with growth and development of fetus and histologic view of oral cavity and adjunct structures tissues

Subtitles: familiarity with histologic characteristics of:

- dental bud and various dental structures
- oral various regions` mucosa
- salivary glands
- bone
- Paranasal sinuses

Educational method:

- Text review
- Lecture
- Programmed lecture

Evaluation method: written exam

Unit title: practical oral histology

Unit code: 13

Number and type of unit: 1practical unit

Educational hours within the course duration: 34h

Prerequisite: theoretical oral histology

Presenter: histology department

Aims: Familiarity with growth and development of fetus and histologic view of oral cavity and adjunct structures tissues

Subtitles: lamella observation:

- Fetus head and face
- Dental bud and development
- Enamel
- Dentinopulpal system
- Periodontium
- Oral mucosa
- Salivary glands
- Bone
- Paranasal sinuses
- TMJ

Educational method: lamella observation

Evaluation method: lamella exam

Unit title: theoretical general histology

Unit code: 14

Number and type of unit: 1 theoretical unit

Educational hours within the course duration: 17h

Prerequisite: none

Presenter: histology department

Aims: Familiarity with principles of general histology

Subtitles: familiarity with histology of

- Cell structure principles
- Muscle
- Bone
- Skin
- Nervous system
- Blood cells
- Connective tissue
- Lymphatic nodes and drainage

Educational method:

- Text review
- Lecture
- Programmed lecture

Evaluation method: written exam

Unit title: practical general histology

Unit code: 15

Number and type of unit: 1 practical unit

Educational hours within the course duration: 34h

Prerequisite: none

Presenter: histology department

Aims: Familiarity with theoretical general histology subtitles` microscopic view

Subtitles: observation of lamella:

- Overall cell morphology
- Muscle
- Bone
- Skin and specialized mucosa
- Nervous system
- Blood cells
- Connective tissue

Educational method: lamella observation

Evaluation method: lamella exam

Unit title: theoretical molecular biology

Unit code: 16

Number and type of unit: 1 theoretical unit

Educational hours within the course duration: 17h

Prerequisite: none

Presenter: genetics department, immunology department

Aims: Familiarity with molecular basis of cell biologic activities, RNA and DNA function and protein biosynthesis

Subtitles:

1. Familiarity with molecular structure of DNA and RNA
2. Familiarity with protein synthesis
3. Familiarity with types of alternations and chromosome disorders (mutations, mendelic disorders and multi factorial inheritance)
4. Molecular biology and a radio-oncogenes cancer genetics, tumor suppressor genes, genes influencing cell proliferation, cell cycle, mutations influencing genome stability and control

Educational method: lecture

Evaluation method: written exam

Unit title: practical molecular biology

Unit code: 17

Number and type of unit: 2 practical units

Educational hours within the course duration: 68h

Prerequisite: none

Presenter: genetics department, immunology department

Aims: Familiarity with conventional and modern methods in molecular biology and their application in diseases diagnosis

Subtitles: familiarity with these techniques

1. PCR
2. Gel Electrophoresis
3. Flow cytometry IHC
4. Immunofluorescent
5. Macromolecule blotting & probing
 - Southern blot
 - Northern blot
 - Western blot
 - Eastern blot
6. DNA microarray
7. FISH

In situ hybridization

Educational method: observation of laboratory process

Evaluation method: according to the presenter department

Unit title: laboratory personal safety principles

Unit code: 18

Number and type of unit: 1 workshop unit

Educational hours within the course duration: 51h

Prerequisite: none

Presenter: professional health department

Aims: Familiarity with component and application of laboratory equipment, maintenance and personal safety and infection control

Subtitles:

1. Personal safety principles, laboratory materials preservation and application principles
2. Personal safety against laboratory material
3. Personal safety against sharp equipment
4. Microtome application principles
5. Infection control principles
6. Laboratory trash disposal principles

Education method:

1. engagement lecture
2. lecture
3. demonstration

Evaluation method: according to the presenter department

Unit title: theoretical oral medicine

Unit code: 19

Number and type of unit: 1 theoretical unit

Educational hours within the course duration: 17h

Prerequisite: none

Presenter: oral medicine department

Aims: familiarity with applicable aspects of oral diseases diagnosis

Subtitles

1. Familiarity with applicable pharmacology
2. familiarity with lab test order
3. familiarity with prescription
4. familiarity with clinical examination interpretation
5. oral manifestation of systemic diseases

Educational method: lecture

Evaluation method: written exam

Unit title: practical oral medicine

Unit code: 20

Number and type of unit: 1 practical unit

Educational hours within the course duration: 34h

Prerequisite: theoretical oral medicine

Presenter: oral medicine department

Aims: observation of various oral diseases` clinical manifestation and differential diagnosis

Subtitles:

1. familiarity and conducting the intra and extra oral examinations including hard and soft tissues, salivary glands, lymphatic nodes and muscles of the neck, TMJ
2. practical familiarity with the process of differential diagnosis based on lesions` clinical signs and Para clinical findings(radiography-lab)
3. practical familiarity with process of case presentation
4. practical familiarity with oral manifestations of systemic diseases

Educational method: presence and observation in clinic –case presentation

Evaluation method: log book

Unit title: practical oral and maxillofacial surgery

Unit code: 21

Number and type of unit: 1 practical unit

Educational hours within the course duration: 34h

Prerequisite: none

Aims: familiarity with clinical manifestation and surgical principles of oral lesions

Subtitles:

1. presence in oral and maxillofacial clinic with the purpose of familiarity with examination, differential diagnosis and biopsy of lesions
2. presence in oral and maxillofacial surgery ward with the purpose of familiarity with treatment process
3. presence in oral and maxillofacial surgery OR to observe hospital surgeries of lesions under general anesthesia
4. presence in morning report

Educational method: presence in the department, clinic and OR and observing the patients and examination and treatment

Evaluation method: log book

Unit title: theoretical oral radiology

Unit code: 22

Number and type of unit: 1 theoretical unit

Educational hours within the course duration: 17h

Prerequisite: none

Presenter: oral radiology department

Aims: radiologic interpretation of oral lesions

Subtitles:

1. familiarity with radiographic interpretation based on conventional radiographic cliché view
2. familiarity with modern imaging technologies and interpretation

Educational method: engagement lecture-lecture

Evaluation method: written exam

Unit title: hospital theoretical and practical general pathology

Unit code: 23

Number and type of unit: 17 practical-hospital units

Educational hours within the course duration: 1 semester

Prerequisite: theoretical general pathology, practical oral and maxillofacial specialized pathology 1, 2

Presenter: pathology department of medical school

Aims: practical familiarity with general lesions pathologic principles and their microscopic alternations

Subtitles:

1. Practical familiarity and conducting tissue samples` preparation methods for microscopic study and independent preparation and assessment of received samples under attending's supervision
2. Practical familiarity with report writing principles in general pathology and independent reporting of received samples under attending's supervision
3. Reviewing the lamella archive of general pathology in relation to the mentioned topics in subsequent theoretical course
4. Active participation in slide seminar
5. Active participation in tumor board and CPC

Education method:

- Education by general pathology attending
- Observation of general pathology residents
- Lamella observation and participation in report writing

Evaluation method: according to the presenter department

Unit title: ENT pathology

Unit code: 24

Number and type of unit: 1 practical unit (hospital)

Educational hours within the course duration: 34h

Prerequisite: none

Presenter: ENT department

Aims: familiarity with classification and microscopic view of ENT diseases

Subtitles:

1. Observation of microscopic views of non- tumoral diseases of pharynx, nasopharynx, hypopharynx and larynx
2. Observation of microscopic view of tumoral disease diseases of pharynx, nasopharynx, hypopharynx and larynx
3. Observation of microscopic view of tumoral and non-tumoral diseases of nose and paranasal sinuses
4. Observation of microscopic view of salivary gland disease

Note: the resident is obligated to review the subsequent lamella archive in addition to routine daily samples

Educational method: lamella observation-direct lamella observation by the attending with microscope

Evaluation method: exam from lamella including microscopic description and diagnosis

Unit title: dermatopathology

Unit code: 25

Number and type of unit: 2 practical units (hospital)

Educational hours within the course duration: 68h

Prerequisite: theoretical and practical general histology

Presenter: pathology department

Aims: practical familiarity with classification of dermal and mucosal pathology and observation of pathologic views of dermatomucosal lesions

Subtitles:

1. Practical familiarity with dermatomucosal lesions classification
2. Observation of microscopic views of pigmented lesions
3. Observation of microscopic views of Vesiculobullous lesions
4. Observation of microscopic views of genodermatos lesions
5. Observation of microscopic views of epidermad lesions
6. Observation of microscopic views of dermal lesions
7. Observation of microscopic views of infectious diseases
8. Familiarity and observation of modern dermal lesions diagnostic methods such as immunofluorescence

Note: the resident is obligated to review the subsequent lamella archive in addition to routine daily samples

Education method: lamella observation

Evaluation method: exam from lamella

Unit title: dermatology

Unit code: 26

Number and type of unit: 1 practical unit (hospital)

Educational hours within the course duration: 34h

Prerequisite: theoretical general pathology

Presenter: dermatology department

Aims: practical familiarity with clinical classification of dermal and mucosal diseases and observation of their signs

Subtitles:

1. Familiarity and observation of pigmented lesions
2. Familiarity and observation of Vesiculobullous lesions
3. Genodermatos
4. Familiarity and observation of epidermis, dermis and the attachments
5. Familiarity and observation of dermal infectious diseases (microbial , viral and fungal)
6. Familiarity and observation of dermal sampling methods

Educational method: presence in the department and patient examination

Evaluation method: log book

Unit title: clinical ENT

Unit code: 27

Number and type of unit: 1 practical unit (hospital)

Educational hours within the course duration: 34h

Prerequisite: none

Presenter: ENT department

Aims: basic familiarity with ENT infectious diseases

Subtitles:

1. Familiarity with clinical manifestations of ENT infectious diseases
2. Familiarity and observation of sinus laryngoscopy and endoscopy
3. Familiarity with salivary glands diseases
4. Familiarity with clinical manifestations of pharyngeal and nasal and paranasal sinuses tumoral lesions and their signs

Educational method: presence in the clinic –observation of patient examination-
patients examination under attending`s supervision

Evaluation method: log book

Unit title: neuropathology

Unit code: 28

Number and type of unit: 1 practical unit (hospital)

Educational hours within the course duration: 34h

Prerequisite: theoretical general pathology

Presenter: pathology department

Aims: familiarity with classification and microscopic view of common CNS & PNS diseases

Subtitles:

1. Practical familiarity with CNS & PNS diseases classification
2. Observation of microscopic view of common CNS & PNS non-tumoral lesions
3. Observation of microscopic view of common CNS & PNS tumoral lesions

Note: the resident is obligated to review the subsequent lamella archive in addition to routine daily samples

Educational method: lamella observation-direct lamella observation by the attending with microscope

Evaluation method: exam from lamella including microscopic description and diagnosis

Unit title: hematopathology

Unit code: 29

Number and type of unit: 1 practical unit (hospital)

Educational hours within the course duration: 34h

Prerequisite: theoretical general pathology, theoretical and practical general histology

Presenter: oncology-hematology department

Aims: familiarity with classification and microscopic view of common blood and bone marrow diseases

Subtitles:

1. Practical familiarity with hematologic diseases classification
2. Familiarity and observation of non- neoplastic blood and bone marrow diseases
3. Familiarity and observation of neoplastic blood and bone marrow diseases

Educational method: lamella observation-direct lamella observation by the attending with microscope

Evaluation method: exam from lamella including microscopic description and diagnosis

Unit title: hematology

Unit code: 30

Number and type of unit: 1 practical unit (hospital)

Educational hours within the course duration: 34h

Prerequisite: theoretical general pathology, theoretical and practical general histology

Presenter: oncology-hematology department

Aims: practical familiarity with clinical manifestation of hematologic diseases, their classification and oral manifestation of common hematologic diseases

Subtitles:

1. Practical familiarity with hematologic diseases classification and clinical signs
2. Practical familiarity with oral manifestation of common hematologic diseases (tumoral and non-tumoral)
3. Familiarity with laboratory tests in hematologic diseases diagnosis
4. Familiarity and observation of chemotherapy principles and subsequent oral side effects

Educational method: presence in clinic-observation of patient examination by the attending

Evaluation method: log book

Unit title: theoretical specialized oral and maxillofacial pathology1 Unit code: 31

Number and type of unit: 3 theoretical units

Educational hours within the course duration: 51h

Prerequisite: none

Aims: familiarity with oral and maxillofacial specific lesions

Subtitles: familiarity and study the Neville`s book 1-7 sections

1. Oral and maxillofacial developmental defects
2. Dental disorders
3. Pulp and periapical diseases
4. Bacterial infections
5. Fungal diseases
6. Viral infections

Educational method:

- Self-directed learning
- Motivating question
- Text review
- Programmed lecture

Evaluation method: written exam

Unit title: theoretical specialized oral and maxillofacial pathology 2 Unit code: 32

Number and type of unit: 2 theoretical units

Educational hours within the course duration: 34h

Prerequisite: theoretical specialized oral and maxillofacial pathology 1

Aims: familiarity with oral and maxillofacial specific lesions

Subtitles: familiarity and study the Neville`s book 8-15 sections

1. Physical and chemical damages
2. Immunologic diseases and allergy
3. Epithelial pathology
4. Salivary glands pathology
5. Soft tissue tumors
6. Hematologic disorders
7. Bone damages
8. Odontogenic cysts and tumors

Educational method:

- Self-directed learning
- Motivating question
- Text review
- Programmed lecture

Evaluation method: written exam – presence in literature review sessions

Unit title: theoretical specialized oral and maxillofacial pathology 3 Unit code: 33

Number and type of unit: 3 theoretical units

Educational hours within the course duration: 51h

Prerequisite: theoretical specialized oral and maxillofacial pathology 2

Aims: familiarity with oral and maxillofacial specific lesions

Subtitles: familiarity and study the Neville`s book following sections:

1. Dermatomucoal diseases
2. Oral manifestation of systemic disease
3. Facial pains and neuromuscular disorders

Familiarity and study the Regezi book following sections:

1. Vesiculobullous diseases
2. Ulcerative lesions
3. White lesions
4. Red bluish lesions
5. Pigmented lesions
6. Verrucopapillary lesions
7. Connective tissue lesions

Educational method:

- Self-directed learning
- Text review
- Programmed lecture

Evaluation method: written exam

Unit title: theoretical specialized oral and maxillofacial pathology 4 Unit code: 34

Number and type of unit: 4 theoretical units

Educational hours within the course duration: 68h

Prerequisite: theoretical specialized oral and maxillofacial pathology 3

Aims: familiarity with oral and maxillofacial specific lesions

Subtitles: familiarity and study the Regezi book following sections

1. Salivary gland diseases
2. Lymphatic diseases
3. Jaw and neck cysts
4. Odontogenic tumors
5. Non-odontogenic benign tumors
6. Inflammatory jaw lesions
7. Malignancies of the jaws
8. Genetic and metabolic diseases
9. Dental disorders
10. Common dermal lesions of head and neck

Educational method:

- Self-directed learning
- Text review
- Programmed lecture

Evaluation method: written exam

Unit title: theoretical specialized oral and maxillofacial pathology5 Unit code: 35

Number and type of unit: 5 theoretical units

Educational hours within the course duration: 85h

Prerequisite: theoretical specialized oral and maxillofacial pathology 4

Aims: familiarity with advanced level of oral pathology theoretical subtitles

Subtitles:

- familiarity and study the Ackerman and Gnepp book following sections
Gnepp: 4th and 6th sections (oral mucosa and salivary glands lesions)
Ackerman:1st ,2nd ,3rd sections
-Introduction
-Gross Techniques in surgical Pathology
-Special Techniques in surgical Pathology

Note: these subtitles may change according to the board exam references

- Neville book review

Educational method: text reading

Evaluation method: written exam

Unit title: practical specialized oral and maxillofacial pathology 1 Unit code: 36

Number and type of unit: 3 practical units

Educational hours within the course duration: 102h

Prerequisite: none

Aims: reviewing selected slide archive

Subtitles:

- Studying one hundred lamellas of 25 common oral cavity lesions (according to the following list). These slides are prepared as an educational pack by the department. Radiographic and clinical information of the samples will be provided if necessary

| | | | |
|----|-----------------------|----|-------------------------------|
| 1 | Leukoedema | 2 | Torus |
| 3 | Incisive canal cyst | 4 | Dermoid cyst |
| 5 | Lymphoepithelial cyst | 6 | Periapical cyst |
| 7 | Periapical granuloma | 8 | Osteomyelitis |
| 9 | Tuberculosis | 10 | Actinomycosis |
| 11 | Candidiasis | 12 | Herpes |
| 13 | Reactive fibrosis | 14 | Palatal papillary hyperplasia |
| 15 | Giant cell fibroma | 16 | Pyogenic granuloma |
| 17 | PGCG | 18 | POF |
| 19 | Non-specific ulcers | 20 | Hyperkeratosis |
| 21 | Mild dysplasia | 22 | Moderate dysplasia |
| 23 | Severe dysplasia | 24 | Carcinoma in situ |
| 25 | SCC and metastasis | | |

Educational method:

- Learning from the attending
- Modular education
- Self-directed learning
- Motivating questions

Evaluation method:

- Log book, MSF, Dops exams from lamellas

Unit title: practical specialized oral and maxillofacial pathology 2 Unit code: 37

Number and type of unit: 3 practical units

Educational hours within the course duration: 102h

Prerequisite: practical specialized oral and maxillofacial pathology 1

Aims: reviewing selected slide archive

Subtitles:

- Studying one hundred lamellas of 25 common oral cavity lesions (according to the following list). These slides are prepared as an educational pack by the department. Radiographic and clinical information of the samples will be provided if necessary

| | | | |
|----|-----------------------------------|----|----------------------------|
| 1 | Verrucous carcinoma | 2 | Papilloma |
| 3 | Verruca vulgaris | 4 | BCC |
| 5 | Keratoacanthoma | 6 | Seborrheic keratosis |
| 7 | Melanoma | 8 | Nevus |
| 9 | Focal melanosis | 10 | Dentigerous cyst |
| 11 | OKC | 12 | Eruption cyst |
| 13 | COC | 14 | Lateral periodontal cyst |
| 15 | Ameloblastoma | 16 | Unicystic ameloblastoma |
| 17 | Desmoplastic ameloblastoma | 18 | Glandular odontogenic cyst |
| 19 | Odontogenic orthokeratinized cyst | 20 | AOT |
| 21 | Odontoma | 22 | Mixoma |
| 23 | Ameloblastic fibroma | 24 | pindborg tumor |
| 25 | Ameloblastic fibro odontoma | | |

Educational method:

- Modular education
- Self-directed learning
- Motivating questions
- Log book

Evaluation method:

- exams from lamellas

Unit title: practical specialized oral and maxillofacial pathology 3 Unit code: 38

Number and type of unit: 3 practical units

Educational hours within the course duration: 102h

Prerequisite: practical specialized oral and maxillofacial pathology 2

Aims: reviewing selected slide archive

Subtitles:

- Studying one hundred lamellas of 25 common oral cavity lesions (according to the following list). These slides are prepared as an educational pack by the department. Radiographic and clinical information of the samples will be provided if necessary

| | | | |
|----|--------------------------|----|-------------------------|
| 1 | Ameloblastic carcinoma | 2 | Lichen planus |
| 3 | Pemphigus | 4 | Pemphigoid |
| 5 | Lupus | 6 | Erythema multiform |
| 7 | Sarcoidosis | 8 | Mucocele |
| 9 | Mucous retention cyst | 10 | Pleomorphic adenoma |
| 11 | Carcinoma ex PA | 12 | Basal cell adenoma |
| 13 | Oncocytoma | 14 | Canalicular adenoma |
| 15 | Wartin tumor | 16 | Acinic cell carcinoma |
| 17 | Adenoid cystic carcinoma | 18 | PLGA |
| 19 | Mucoepidermoid carcinoma | 20 | Salivary duct carcinoma |
| 21 | Fibrous dysolasia | 22 | COF |
| 23 | FCOD | 24 | CGCG |
| 25 | Cementoblastoma | | |

Educational method:

- Learning from the attending
- Modular education
- Self -directed learning
- Motivating questions

Evaluation method:

- Log book , Dops

Unit title: practical specialized oral and maxillofacial pathology 4 Unit code: 39

Number and type of unit: 3 practical units

Educational hours within the course duration: 102h

Prerequisite: practical specialized oral and maxillofacial pathology 3

Aims: reviewing selected slide archive

Subtitles:

- Studying one hundred lamellas of 25 common oral cavity lesions (according to the following list). These slides are prepared as an educational pack by the department. Radiographic and clinical information of the samples will be provided if necessary

| | | | |
|----|---------------------|----|-------------------------------|
| 1 | Lipoma | 2 | Hemangioma |
| 3 | Lymphangioma | 4 | Neurofibroma |
| 5 | Schwannoma | 6 | Leiomyoma |
| 7 | lymphoma | 8 | Hodgkin`s lymphoma |
| 9 | Rhabdomyocarcoma | 10 | Leiomyosarcoma |
| 11 | Teratoma | 12 | Fibro sarcoma |
| 13 | Granular cell tumor | 14 | Langerhans cell disease |
| 15 | Cherrubism | 16 | Euing sarcoma |
| 17 | Osteoblastoma | 18 | Chondrosarcoma |
| 19 | TBC | 20 | ABC |
| 21 | Traumatic neuroma | 22 | Malignant fibrous histiocyoma |
| 23 | Burkitt lymphoma | 24 | Plasmocytoma |
| 25 | Osteosarcoma | | |

Educational method:

- Learning from the attending
- Modular education
- Self -directed learning
- Motivating questions

Evaluation method:

- Log book , Dops

Unit title: practical specialized oral and maxillofacial pathology 5 Unit code: 40

Number and type of unit: 5 practical units

Educational hours within the course duration: 170h

Prerequisite: practical specialized oral and maxillofacial pathology 4

Aims: observation of common and non-common lamella archives

Subtitles:

1. Observation of at least 200 samples of oral and maxillofacial pathology archives
2. Observation of at least 50 sample of following lesions:
 - soft tissue tumors
 - blood and lymphoid tissue
 - osseous lesions
 - salivary gland tumors
3. Observation and interpretation of daily lamellas
4. Observation and discussion of common and non-common samples
5. Passage guidance and reporting

Educational method:

- Self -directed learning

Evaluation method:

- Log book , MSF

Unit title: literature review 1

Unit code: 41

Number and type of unit: 2 theoretical units

Educational hours within the course duration: 34h

Prerequisite: none

Aims: assessment of reliable national and international articles with the purpose of acquiring new knowledge about oral pathology research methodology

Subtitles:

1. Familiarity with scientific writing
2. Familiarity with assessment and presentation of Persian and English articles
3. Familiarity with assessment and conclusion of the articles
4. Familiarity with article classifications

Note: articles are selected by the attending and the priority is with the journals determined by dental education council for the board exam. Residents should present at least 50 articles, maximum 5 of which could be focused and in seminar form.

Education method: discussion and seminar

Evaluation method: article presentation in groups and evaluation by the attending according to the checklist

Unit title: literature review 2

Unit code: 42

Number and type of unit: 2 theoretical units

Educational hours within the course duration: 34h

Prerequisite: literature review 1

Aims: assessment of reliable national and international articles with the purpose of acquiring new knowledge about oral pathology research methodology

Subtitles:

1. Familiarity with scientific writing
2. Familiarity with assessment and presentation of Persian and English articles
3. Familiarity with assessment and conclusion of the articles
4. Familiarity with article classifications

Note: articles are selected by the attending and the priority is with the journals determined by dental education council for the board exam. Residents should present at least 50 articles

Education method: discussion and seminar

Evaluation method: article presentation in groups and evaluation by the attending according to the checklist

Unit title: literature review 3

Unit code: 43

Number and type of unit: 2 theoretical units

Educational hours within the course duration: 34h

Prerequisite: literature review 2

Aims: assessment of at least 15 articles according to the plan

Subtitles:

1. Familiarity with scientific writing
2. Familiarity with assessment and presentation of Persian and English articles
3. Familiarity with assessment and conclusion of the articles
4. Familiarity with article classifications

Note: articles are selected by the attending and the priority is with the journals determined by dental education council for the board exam. Residents should present at least 50 articles

Education method: discussion and seminar

Evaluation method: article presentation in groups and evaluation by the attending according to the checklist

Unit title: passage and report writing 1

Unit code: 44

Number and type of unit: 2 practical units

Educational hours within the course duration: 68h

Prerequisite: none

Aims: familiarity with process of delivery, cutting and staining of the samples – familiarity with microscope

Subtitles:

1. Familiarity with process of delivery of the samples, collecting required clinical and Para clinical information for diagnosis , coding ,archive registration and official process
2. Familiarity with microscopic description of oral lesions
3. Familiarity with microscope types, settings, application and maintenance
4. Familiarity with cutting, passage and preparation of microscopic lamella sample
5. Familiarity with types, settings, applications and maintenance of microscopes
6. Familiarity with passage method on the model
7. Familiarity with tissue processing principles , paraffin embedding, tissue collating, block numbering, cutting and the lamella preparation and H&E staining
8. Familiarity with specific staining principles and application
9. Familiarity with specific stain`s combination
10. Familiarity with equipment and material of processing, paraffin embedding, cutting and staining
11. Familiarity with errors and types of artifacts during lamella preparation

Educational method:

- Theoretical education by the attending
- Demonstration by the attending and lab technician
- Simulation by use of mannequins

Evaluation method:

- Direct observation of practical skills(Dops)
- Multi source feedback(MSF) and recording in the log-book

Unit title: passage and report writing 2

Unit code: 45

Number and type of unit: 4 practical units

Educational hours within the course duration: 136h

Prerequisite: passage and report writing 1

Aims: sample diagnosis and reporting

Subtitles:

1. Clinical and microscopic findings integration and presentation of final diagnosis
2. Molecular diagnosis techniques indication
3. Assessment and report of at least 30 samples independently and under attending`s supervision

Education method:

- Practical education by the attending
- Lamella assessment under attending`s supervision

Evaluation method:

- Dops
- Case-based discussion
- MSF, log-boog

Unit title: passage and report writing 3

Unit code: 45

Number and type of unit: 4 practical units

Educational hours within the course duration: 136h

Prerequisite: passage and report writing 2

Aims: conducting passage procedure and report writing of received samples

Subtitles:

1. Conclusion of clinical and microscopic findings and presentation of final diagnosis
2. Molecular diagnosis technique application
3. Assessment and report of at least 30 samples independently and under attending`s supervision

Education method:

- Practical education by the attending
- Lamella assessment under attending`s supervision

Evaluation method:

- Dops
- Case-based discussion
- MSF, log-boog

Unit title: passage and report writing 4

Unit code: 47

Number and type of unit: 4 practical units

Educational hours within the course duration: 136h

Prerequisite: passage and report writing 3

Aims: conducting passage procedure and report writing of received samples

Subtitles:

1. Conclusion of clinical and microscopic findings and presentation of final diagnosis
2. Molecular diagnosis technique application
3. Assessment and report of at least 30 samples independently and under attending`s supervision

Education method:

- Practical education by the attending
- Lamella assessment under attending`s supervision

Evaluation method:

- Dops
- Case-based discussion
- MSF, log-boog

Unit title: Thesis (1) to (5)

Unit code: 48-52

Number and type of unit: ten practical-workshop units

Educational hours within the course duration: 476 h

Thesis (1) - Aim: Selection of research subject within the area of specialty.

This course is held in two workshop 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 workshop sessions. Field research must be done out of workshop time and the outcome of it must be presented during the workshop 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 deadline must be handed to the postgraduate director.

Thesis (2)- Aim: Registration of research subject.

This course is held in two workshop 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 units 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 workshop course that 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: participation in practical pathology education 1

Unit code: 53

Number and type of unit: 1 practical unit

Educational hours within the course duration: 34h

Prerequisite: theoretical and practical general histology

Aims: practical pathology education 1

Subtitles:

1. Lamella demonstration in practical oral pathology course
2. Hiring multi-media equipment in practical education
3. Understanding of pathology primary principles and its realization to students
4. Q &A ability and discussion with the students about the lamellas
5. Students practical evaluation
6. Practical pathology class management

Education method:

- Learning from the attending
- Self-directed learning

Evaluation method:

General judgement by the attending based on specific goals achievement

Note: resident`s participation in undergraduate students` education will be under the attending`s supervision and the feedback will be presented at the end of the course so that the resident would acquire skill in students` education and evaluation method and modern educational assessment methods

Unit title: participation in practical pathology education 2

Unit code: 54

Number and type of unit: 1 practical unit

Educational hours within the course duration: 34h

Prerequisite: participation in practical pathology education 1

Aims: practical pathology education 1

Subtitles:

7. Lamella demonstration in practical oral pathology course
8. Hiring multi-media equipment in practical education
9. Understanding of pathology primary principles and its realization to students
10. Q & A ability and discussion with the students about the lamellas
11. Students practical evaluation
12. Practical pathology class management

Education method:

- Learning from the attending
- Self-directed learning

Evaluation method:

General judgement by the attending based on specific goals achievement

Note: resident`s participation in undergraduate students` education will be under the attending`s supervision and the feedback will be presented at the end of the course so that the resident would acquire skill in students` education and evaluation method and modern educational assessment methods