

Study program: Integrated Academic Studies in Dental Medicine

Course title: Operative Dentistry - Preclinical

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Course status: compulsory

ECTS Credits: 10

Condition: Dental Anatomy

Course aim

Acquisition of basic knowledge and skills related to dental pathology of dental hard tissues, diagnostic and therapeutic procedures for restoration of dental crown.

Expected outcome of the course:

Biology of pulpo-dentine complex and its reaction to diverse stimuli. Etiopathogenesis of caries, diagnosis and classification of carious lesions, principles cavity preparation, principles of restoration of dental crowns, materials for temporary and final reconstruction of dental crowns and accompanying instruments to work. With the knowledge of the materials for temporary and final reconstruction of the tooth crown as well as information on safety and hormonal substrates.

- 1. Conquering the way to access patient and techniques
- 2. Mastering the practical application of hand and mechanical instruments
- 3. Mastering the skills of cavity preparation
- 4. Conquering the principles of dental crown reconstruction with adequate instruments for
- 5. Adoption of the method of preparation and application of materials for temporary and definitive closure of the cavity and application of protective and medicament base.

Course description

Theoretical education

- Biology of the pulp dentin complex (composition and morphology of enamel, dentin and cement structure the pulp
- The reaction of pulp and dentin in preparation and restorative materials. Dental plaque
- Dental caries (etiology, pathogenesis, histopathology of caries of enamel, dentin and cement. Classification of cavities. Deep cavities. Macroscopic appearance of carious lesions, diagnosis, prevention and therapy selection procedures. Caries predilection and caries immune localizations.
- Non-carious disorder of hard tooth tissue (abrasion, attrition, erosion, bruxism, tooth fracture)
- Dental records, preparation for restorative surgery (dry working field). Equipment and instruments in restorative procedure transparency. Clinical techniques for caries removal. Matrix. Polishing of direct restorations. Separation of teeth
- Application of basic Black's principles in restorative dentistry. Cavity preparation for amalgam restorations (I, II, MOD, V).
- Cavity preparation for restorative esthetic fillings (I V) classes
- Cavity preparation for the direct and indirect composite veneers
- Materials for temporary cavity closure
- Materials for lining and protection of the pulp dentin complex
- Adhesive in restorative dentistry
- Glass ionomer cements
- Composite materials
- Amalgams

Practical education:

- Introduction to the topics and methodology of exercises
- Histomorphological structure of dental tissues, enamel caries, dentin and cement
- Working place , dental chairs, handpieces , working instruments, drilling burs
- Position of the therapist during work, direct and indirect work
- Dry working field
- Black's principles and deviation from Black's principles
- Preparation of class I cavity on the occlusal surface of the premolars
- Preparation of class I cavity on the occlusal surface of the molars

-	Preparation of class	cavity on the - foramen coecum,	foramen molare
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- Preparation of class II cavities classic for amalgam, slot, tunnel
- Preparation of MOD cavities in teeth with vital pulp
- MOD cavity preparation in endodontically treated teeth
- Preparation of class III cavity
- Preparation of class IV cavity
- Preparation of class V cavity
- Cavity preparation for indirect restoration and facets
- Instrumentation for setting temporary and definitive restorations, matrices, polishers,
- Materials for temporary closure theory and application
- Protective and medicamentous bases theory and application
- Glass ionomer cements theory and application
- Placing of single-surface composite restorations. Definitive finishing of fillings
- Placing of multi- surface composite restorations. Definitive finishing of fillings.
- Placing of composite restorations in anterior teeth
- Composite sandwich technique
- Placing of single-surface amalgam fillings
- Placing of two or multi- surface amalgam fillings Finishing and polishing of amalgam fillings
- Placing MOD amalgam fillings on endodontically treated tooth. Finishing and polishing of the fillings
- Practicing the acquired skills

Literature

Compulsory

- 1. Harold O Heymann, Edward J Swift, Andre V Ritter: Sturdevant s Art and Science of Operative Dentistry. 7th Edition, Elsevier 2016.
- 2. Richard van Noort, Michele Barbour: Introduction to Dental Materials. Mosby 2013.

Num	ber of	active	classes	

Teaching methods

Theoretical, practical and Colloquium.

Student activity assessment (maximally 100 points)						
Pre-exam activities	Points	Final exam	points			
Lectures	10	Written	20			
Practices	10	Oral	40			
Colloquium	20					
Essay						

Theoretical classes: 30

Practical classes: 90