

REQUIREMENTS

Semmelweis University Faculty of Dentistry Department of Conservative Dentistry
Name of the subject: Restorative Dentistry and Endodontics V. Credit value: 3 Lessons (in hours): 42 lectures: 0 practices: 3 seminars:- Type of the course: <u>compulsory</u> obligatory elective elective Frequency of announcement (per semester or year): per year (10th semester)
Academic year: 2024/2025 2nd Semester - ascending system
Subject code¹:
Subject Leader Name: János Vág DMD, PhD Contact: Department of Conservative Dentistry, 1088 Budapest, Szentkirályi u. 47. Phone: +361-317-1598 Function: clinical director, university professor
The objective of the subject and its place in the medical curriculum: Thorough patient examination, taking of medical and dental history, stomato-oncological screening, establishing the diagnosis, preparing of a treatment plan, removal of calculus, routine application of isolation procedures, preparation and restoration of simple and more complex cavities, root canal treatment of single and multiple rooted teeth and final restoration with onlays or single crowns, and revision of root canal fillings.
Location of the subject (address of lecture hall, seminar room etc.): SE FOK Oktatási Centrum területe. Konzerváló Fogászati Klinika, 1088 Budapest, Szentkirályi u. 47.
Competences acquired on successful completion of the subject: The provisions of EMMI Decree 18/2016.
Prerequisite(s) for enrolment in or learning of the subject: <ul style="list-style-type: none">- Prosthodontics IV.- Restorative Dentistry and Endodontics IV.
The number of students required to start a course (minimum, maximum), the way students are selected: -
How to apply for the course: Via the Neptun system
Detailed topic of the subject ²: (to facilitate credit recognition in other institutions) The subject is taught three practical hours per week, no lectures. During the practicals, students will be involved in a wide range of activities in the field of restorative and endodontic dentistry, both independently and in the context of clinical care, under the supervision of a tutor. The students work in pairs and take turns to assist each other.
Courses (obligatory and elective) which in part or entirely overlap the topics of above course:

Upon successful completion of the course, students will be able to handle complex patient care tasks requiring more sophisticated and complex care with greater confidence and independence, both in Restorative Dentistry and Endodontics and in Clinical Dentistry.

Specific coursework required for successful completion of the subject³: -

Attendance requirements and the possibility of making up for absences:

Attendance at the practicas is compulsory, with no absence exceeding 25% of the exercises at any one time. A delay of less than 15 minutes in three practicas will constitute one absence. A delay of more than 15 minutes for any practice will be counted as an absence. There will be no substitutions. No excuse for absence is required.

Method of checking acquired knowledge during the study period⁴:

Students must arrive for the practicas prepared and are regularly checked and assessed orally and/or in writing by the supervisor.

The work carried out on the practicas will be monitored and assessed by the practice leaders at each stage.

Signature requirements for the semester:

A minimum attendance of 75% is required for all practices, with no absence exceeding 25% of the practices for any given title.

Signature of the semester is conditional on a sufficient level of continuous and consistent theoretical preparation and a sufficient level of practical performance. Both the theoretical and practical grade point averages must separately achieve a 2.0 grade point average.

By week 11, a photo-documented report of the student's work must be submitted to the practice leader.

Type of the exam: Final exam

Requirements of the exam⁵:

The final exam consists of three parts.

1. Students draw one from each of the three questions. Each question is evaluated by a mark (3 marks, 20-20-20% of the final mark).

2. Students presents three photo-documented clinical treatments of their own works, which they had carried out during the five semesters of Restorative Dentistry and Endodontics, or during the two semesters of clinical dentistry, or during the summer internship at the Department of Conservative Dentistry. Each case is evaluated by a mark (3 marks, 10-10-10 % of the final mark).

The three treatments to be presented are:

- Multi-surface composite filling
- a CAD/ CAM inlay or crown
- Completed root canal treatment of a single or multi-rooted tooth

3. The third component of the final exam is the analysis of an intraoral radiograph. The student must determine what teeth are visible, what diagnosis can be made and what treatment is required (1 mark, 10% of the final mark).

If any part of the examination failes (does not reach 2.0), the final exam fails as well.

Exam questions are available on the Moodle interface.

List of final exam items:

Questions A

1. Concept, localization, and progression of caries on the anatomical crown
2. Histology of caries (enamel, dentin, and root caries)
3. Manual and mechanically powered preparation equipments and instruments (micromotor, turbine, burs)
4. Isolation of teeth, methods and tools

5. Classification of cavities by Black, the basis of classification. Cavity design methods, nomenclature
6. Rules and steps of cavity design for aesthetic direct restoration
7. Class I cavity preparation for a composite filling
8. Class II cavity preparation for a composite filling
9. Class III cavity preparation for a composite filling
10. Class IV cavity preparation for a composite filling. Treatment of crown fractures of anterior teeth.
11. Class V cavity preparation and cavities prepared for cervical lesions for filling
12. Purpose and type of the fillings. Requirements for filling materials. Classification of filling materials.
13. Application of liners, bases and temporary filling. Polishing, removal and toxicology of amalgam fillings
14. Glass-ionomer cement and other polymeric materials (composition, indication and application)
15. Composites - materials science (composition, classification, properties)
16. Theory and clinical application of the adhesive technique
17. Matrices and matrix systems
18. Clinical technique for the preparation of class III and IV composite direct restoration
19. Clinical technique for the preparation of class I and V composite direct restoration
20. Clinical technique for the preparation of class II composite direct restoration

Questions B

1. Classification (inlay/onlay/overlay/endocrown/veneer/tabletop) and materials for indirect restorations.
2. Cavity preparation for direct and indirect restorations. Similarities and differences.
3. Indications, contraindications, materials and clinical steps for preparing metal inlays
4. Indications, contraindications, materials and clinical steps for preparing aesthetic (composite, ceramic, hybrid) indirect restorations. Dome concept
5. Digital and analogue impression technique for indirect restorations. Indication and application of sulcus retraction.
6. Chairside CAD/CAM technology. Basics of design and milling
7. Cementation of aesthetic indirect restorations (material science of adhesive cement, surface treatments of the tooth and the restoration, clinical steps of cementation)
8. Patient admission and treatment plan (general rehabilitation and sequence of restorative and endodontic dental treatments)
9. Equipment in the dental surgery, ergonomics, four-handed treatment, infection control
10. Caries diagnostic tools
11. Indications, contraindications and methods of tooth whitening. Possible side effects and their prevention.
12. Endodontic treatment of accidentally damaged teeth
13. Restorative and endodontic treatment for patients requiring special care. Odontogenic focal infection.
14. Surgical interventions in restorative dentistry and endodontics (crown lengthening, drainage, resection, hemisection, bicuspidation, amputation).
15. Aesthetic and functional restoration of root canal treated teeth (post and core buildup, single crown, endocrown, indirect restorations)
16. Evaluation of endodontic outcome, revision of unsuccessfully treated teeth.
17. Orthograde retreatment of failed root canal treatments.

Questions C

1. History taking, patient examination and treatment plan in endodontics
2. Tools for diagnosis in endodontics
3. Anatomy and histology of the pulp. Description of the pulp chamber.
4. Anatomy of the root apex and the periapex.
5. Pulpal and periapical diseases: diagnostic terminology, pathogenesis and microbiology
6. Differential diagnosis of pulpal and periapical diseases
7. Pathology, symptoms, diagnosis and therapy of pulpal diseases

8. Pathology, symptoms, diagnosis and therapy of acute (symptomatic) and chronic (asymptomatic) apical periodontitis and condensing osteitis
9. Pathophysiology, symptoms, diagnosis and therapy of acute and chronic apical abscess.
10. Concept, purpose, indication, contraindication and limitation of root canal therapy.
11. Preventive endodontics: the importance of pulp protection. Vital pulp therapies.
12. Emergency procedures in endodontics
13. Manual and mechanical instruments used in root canal treatment
14. Microbiological aspects of endodontics. Antiseptic solutions, drugs and their use in root canal treatment.
15. Access openings (trepanation) and pulp extirpation
16. Importance and methods of working length determination
17. Endodontic hand instruments and their use. Orifice opening and shaping
18. Preparation of the root canal using the step-back technique. Apical stop/apical seal.
19. Purpose, protocol and technique of root canal irrigation and local medication in endodontic treatment
20. Other manual and mechanical root canal preparation techniques (beyond the step-back)
21. Procedural errors during root canal preparation
22. Root canal obturation techniques (cold and warm guttapercha techniques)
23. Lateral condensation/compaction.

Grading of courses⁶:

The semester signature is a prerequisite for applying for the final exam.

The grading for the final exam is a five-point scale. Theoretical items (three questions) account for 60% of the total exam grade, case reports for 30% and the evaluation of the X-ray image contributes 10% to the final exam grade. If any part of a multi-part exam is unsatisfactory, the result of the exam, and therefore the mark, is also unsatisfactory.

How to apply for the exam:

Via the Neptun system

Possibilities to retake the exam:

Via the Neptun system, according to the current university study and exam regulations.

Textbook and recommended literature:

1. Ritter AV, Boushell LW, Walter R: Sturdevant's Art and Science of Operative Dentistry. 7th ed. St. Louis, Mosby, 2018.
2. Torabinejad M, Walton RE, Fouad AF: Endodontics. Principles and Practice. 5th ed. St.Louis, Missouri, Saunders/Elsevier 2014
3. Hargreaves KM, Berman LH: Cohen's Pathways of the Pulp. 11th ed. St. Louis, Missouri, Mosby/Elsevier 2015

Signature of course lecturer:

János Vág, DMD, PhD

Signature of head of department:

János Vág, DMD, PhD

Date of submission:

Opinion of OKB:

Notes from the Dean's Office:

Signature of Dean:

¹ Filled out by the Dean's Office following approval

² Detailed and numbered for each week of theoretical and practical lessons one by one, indicating the names of lecturers and instructors

³ Eg. field practice, medical chart analysis, survey conducting, etc.

⁴ Eg. homework, report, midterm exam etc. Topics, dates, method of retake and replacement.

⁵ List of topics in case of theoretical exam, thematic and method in case of practical exam.

⁶ Method of inclusion of theoretical and practical exams. Method of inclusion of midterm assessments.