



## COURSE UNIT DESCRIPTION

Course unit title	Code
<b>Fundamentals of diagnostics and treatment of oral and dental diseases II/VI</b>	

Lecturer(s)	Department(s)
<p>Coordinating: assoc. prof. Rūta Bendinskaitė</p> <p>Others: prof. dr. Vytautė Pečiulienė, prof. dr., HP Alina Pūrienė, assoc. prof. Saulius Drukteinis, assoc. prof. Rasmūtė Manelienė, , assist. prof. Estera Miliūnienė, lect. Daiva Janavičienė, lect. Diana Kibickaja, assist. prof. Eglė Nedzinskienė, teaching assist. Eglė Jonaitytė-Urbonė, teaching assist. Paulius Tušas, lect. Greta Aidukaitė, lect. Modesta Domeikaitė, lect. Jūratė Žekonienė, lect. Giedrius Krukonis, assist. prof. Arūnas Rimkevičius, lect. Jurga Zubaitė-Maliuk, assist. prof. Rokas Borusevičius, lect. Rolandas Pletkus, prof. dr. Vygas Rutkūnas, lect. Vytenis Almonaitis, prof. dr. Tomas Linkevičius, assist. prof. Rita Trumpaitė-Vanagienė, assist. prof. A. Gedrimienė, assoc. prof. dr. E. Vindašiūtė-Narbutė, lect. P. Andrijauskas, teaching assist. J. Pletkus, lect. J. Dirsė</p>	Vilnius University Faculty of Medicine Institute of Odontology Centre of Clinical Odontology

Cycle	Level of the course unit	Type of the course unit
Integrated studies	II/VI	Compulsory

Mode of delivery	Period of delivery	Language of instruction
Face-to-face	2 Year, 4 semester	English

Prerequisites and corequisites	
<p><b>Prerequisites:</b></p> <p>A student must have completed the following courses: human anatomy, human physiology, Human biology and fundamentals of genetics in dentistry, Fundamentals of microbiology. Oral ecosystem, public health and dental public health, Latin language and specialty language, Fundamentals of pathology. Fundamentals of diagnostics and treatment of oral and dental diseases I/VI</p>	<p><b>Corequisites (if any):</b></p> <p>It is recommended to study parallel: Fundamentals of radiology: general and dental radiology, Pharmacology. Clinical pharmacology and laboratory medicine.</p>

Number of ECTS credits allocated to the course unit	Total student's workload	Contact hours	Self-study hours
15	400	253	147

Purpose of the course unit Programme competences to be developed
<p>Purpose of the course unit – to develop the ability to demonstrate a sound theoretical knowledge and understanding of the periodontal tissue anatomy, histology and physiology; aetiology, epidemiology and pathogenesis of dental caries and periodontal diseases; classification, diagnostic and differential diagnostic methods of dental caries, endodontic and periodontal diseases, the principles of the treatment planning of dental caries and endodontic diseases; to develop the ability to choose them independently and apply in practice. To develop the ability to demonstrate a sound theoretical knowledge and understanding of principles and algorithms of management of endodontic emergencies, pain control and local anaesthesia in endodontic, endodontic pharmacology and peculiarity of endodontic treatment in patients with systematic diseases. To develop the ability to demonstrate a sound theoretical knowledge and</p>

<p>understanding of methods used for removal of dental plaque and calculus and apply them on phantom teeth. To develop the ability to organize self-study, choosing right strategy to perform the tasks.</p> <p>Purpose – to develop a professional attitude of dental specialty students, self-sufficiency and familiarisation, knowledge and competency to diagnose and treat teeth crown defects and partial secondary edentulism by means of FP properly and on time; to train ability to communicate with patients irrespective of their social and cultural background, to effectively present the treatment plan, procedures, alternatives and possible complications to the patients, to continue to seek additional knowledge and skills throughout the careers.</p> <p>To develop the ability to demonstrate a sound theoretical knowledge and understanding about of the application of the basic principles of ergonomics in the clinical dental practice.</p>		
Learning outcomes of the course unit	Teaching and learning methods	Assessment methods
Will be competent at demonstrating appropriate information literacy to acquire and use information from library and other databases and display the ability to use this information in a critical, scientific and effective manner.	Collecting information from scientific sources, preparation of essay, lectures	Testing (open-ended and closed-ended items), essay
Will acquire knowledge in periodontal tissues anatomy, histology and physiology, aetiology, epidemiology and pathogenesis of periodontal diseases	Collecting information from scientific sources, preparation and presentation of essay, lectures, practice	Testing (open-ended and closed-ended items), essay, assessment of practical work  Exam at the end of semester
Will acquire knowledge in diagnostic and differential diagnostic methods of endodontic and periodontal diseases, will be able to choose them independently. Will know the principles of the treatment planning of endodontic diseases.		
Will acquire knowledge in principles and algorithms of management of endodontic emergencies.		
Will acquire knowledge in principles and methods of pain control and local anaesthesia in endodontics.		
Will acquire knowledge in endodontic pharmacology and peculiarity of endodontic treatment in patients with systematic diseases and disorders.		
Will be competent to fill different type cavities in phantom teeth using rubberdam		
Will acquire knowledge and be competent to choose dental materials for caries treatment		
Will acquire knowledge about fundamentals of enamel and dentin adhesion and be competent to use it in practice.		
Will be familiar with hand instruments and power driven devices for plaque and calculus removing, be competent to use them in the preclinical course, be competent with sharpening.		
Will be competent to effectively, interactively and reflectively communicate with the patients and their families, regardless of age, social and cultural background, explaining diagnostic, treatment and prophylactic features of the periodontal diseases.		
Will be knowledgeable about ethical and law standards communicating with patient respectively and constructively; Will be knowledgeable about medical documentation and hygiene standards.	Lectures, analysis of clinical cases, self-study, consultations, clinical practice	Tests (multiple-choice questions, short note) Pre-clinical minimal requirements
Will be knowledgeable about stages of patient examination, indications and contraindications for prosthodontic treatment and rationale of treatment planning, mouth preparation for fixed prostheses (FP), different types of FPs.	Lectures, analysis of clinical cases, self-study, consultations, laboratory work, clinical practice	Tests (multiple-choice questions, short note): Tasks during the involving lectures; Clinical task (slow clinical case and OSCE evaluation) Paper preparation
Will be knowledgeable about clinical and laboratory stages of FP fabrication and relevant dental materials		
Will be knowledgeable about follow-up, corrections of FP, possible complications and their solutions		
Will be able to do a comprehensive examination of oral status while using proper diagnostic instruments and measures; to	Lectures, discussions in	Clinical task (slow clinical case and OSCE evaluation)

evaluate prognosis of individual teeth and plan the design of FP.	small groups (problem-based learning), analysis of clinical cases, self-study, consultations, clinical practice	Pre-clinical minimal requirements
Will be able to prepare teeth for different kinds of fixed reconstructions, to restore endodontically treated teeth, to make provisional restorations.		
Will be able to make alginate impressions and diagnostic casts, mount the casts on articulator and to analyse them		
Will be familiar with the design and establishment of an ergonomic dental office/clinic.	Collecting information from scientific sources, practice	Testing (open-ended and closed-ended items)
Will be familiar with the application of the basic principles of ergonomics in the dental practice.	Collecting information from scientific sources, practice	Testing (open-ended and closed-ended items)

\* - list of minimal clinical requirements is presented in Appendix 1.

Topics	Contact work hours						Time and tasks of self-study		
	Lectures	Consultations	Seminars	Practice	Laboratory work	Practical training	Total contact hours	Self-study	Tasks
Classification of endodontic diseases	2			10			12	8	To prepare and present an essay on classification of endodontic diseases
Diagnosis, differential diagnosis, case selection and treatment planning of endodontic diseases.	2		2	12			16	8	To prepare and present an essay on new diagnostic methods and devices used in endodontology
Management of endodontic emergencies. Pain control and local anesthesia in endodontics.	2			12			14	8	To prepare and present an essay on newest strategies and algorithms of endodontic pain control
Endodontic pharmacology. Peculiarity of endodontic treatment in patients with systematic diseases and disorders	2			10			12	8	Collecting, reading and analysis of the scientific literature
Dental materials for direct tooth restoration	2			10			12	6	To prepare and present an essay on direct dental materials
Adhesion in dentistry	2			12			14	6	To prepare and present an essay on adhesion in dentistry
Direct anterior restorations	2			12			14	6	To prepare and present an essay on the methods of the direct composite restoration.
Direct posterior restorations. Complex restoration.	2			10			12	20	
Anatomy, histology and physiology of periodontal tissues	2			12			14	5	Collecting, reading and analysis of the scientific literature
Etiology and risk factors of periodontal diseases	2			14			16	5	Collecting, reading and analysis of the scientific literature
Clinical examination of patients with periodontal diseases	2			12			14	5	Prepare the examination according to <a href="http://www.periodontalchart-online.com/lt/">http://www.periodontalchart-online.com/lt/</a>
Methods used for removal of dental plaque and calculus. Hand and engine driven devices and instruments, sharpening	2			12			14	5	Analysis of the instruments sharpening methods and devices
Full cast and metalceramic crowns. Materials, indications and contraindications. Principles of preparations.	2		2	4			8	6	

Full ceramic crowns. Materials, indications and contraindications. Principles of preparations.	2			6			8	5	
Inlays, onlays and laminate veneers. Materials, indications and contraindications. Principles of preparations.	2			4			6	5	
Comparison of different materials for fixed restorations, advantages and disadvantages	2		2	4			8	5	To observe clinical stages of fixed prosthesis fabrication in the clinical classes of senior students
Restoration of endodontically treated teeth	2			4			6	5	
Centric relation and clinical determination of centric relation position	2			4			6	4	To prepare a paper about clinical and laboratory stages of certain fixed prosthesis fabrication, describing alternative types of restorations, their advantages and disadvantages based on scientific literature.
Interocclusal height determination and registration, diagnostic wax up and mock in treatment planning	2			4			6	4	
Impression materials and retraction Impression for fixed restorations: conventional and digital methods	2			6			8	4	
Provisional restorations and colour shades and selection	2			8			10	3	
Cementation and occlusion of fixed restorations. Failures and complications of fixed restorations	6			7			13	4	
Design and installation of an ergonomic dental office.				4			4	4	Reading and analysis of the literature on the corresponding topic.
Four-handed dentistry: aspiration, tissue retraction, use of an airflow handpiece during the assistant's work, exchange of instruments between the doctor and the assistant, sequence of instruments				4			4	4	Reading and analysis of the literature on the corresponding topic.
Application of basic ergonomic principles in the dental practice.				2			2	4	Reading and analysis of the literature on the corresponding topic.
Total	48		6	199			253	147	

Assessment strategy	Weight (%)	Assessment period	Assessment criteria
<b>Accumulative assessment</b> <b>(all components of the cumulative score must be maintained at no less than 5)</b> <b>Obligatory attendance of seminars and practice</b>			
Test	60%	During semester	<p>The test consists of open-ended questions or a clinical situation or definition.</p> <p>The test is carried out during the practice, at least 1 week after the lecture corresponding to the test questions. Students are introduced to the subject of written tests and lectures in advance.</p> <p>The overall test score is written by summing up the points of the individual questions and dividing it by the number of questions.</p> <p>The minimum passing score for each test is 5.0. Failed tests are allowed to be retaken once during the semester. The grade for the test is the average of the first attempt and the second attempt. If this average is less than 5, but the second attempt is 5.0 or more, 5 points are written.</p> <p>The total score of the test is written at the end of the semester, summing up the average of all the test scores performed and dividing it by the number.</p>
Essay or presentation	10%		<ul style="list-style-type: none"> <li>- clarity of ideas, quality of arguments (2 points);</li> <li>- structure of essay (2 points);</li> <li>- style and quality of scientific language (2 points);</li> <li>- quality (valid and reasonable) of conclusions (2 points).</li> <li>- visual quality of material presented (2 points).</li> </ul>

			<p>An essay is prepared on given topic. Teacher assesses an essay and it is presented in the cyberspace.</p> <p>The final score is written at the end of the semester as an average score of all essays prepared.</p> <p>Assessment criteria:</p> <ul style="list-style-type: none"><li>- Structure, coverage, quality of visual material (2 points);</li><li>- Clarity of presented knowledge, argumentation, raising of key questions (2 points);</li><li>- Presentation of conclusions and analysis (2 points);</li><li>- Clinical recommendations (2 points);</li><li>- Discussion, management of questions, time managements (2 points).</li></ul> <p>Minimal passing score – 5.</p>
Assessment of practical work	30%		<p>Assessment methods and minimal requirements of practical work please find in the attachment Clinical or pre-clinical station will be assessed by 4-5 clearly defined criteria. Final score will be calculated as average score of each station assessments. Evaluation criteria are presented in the appendix.</p> <p>Minimal passing score – 5.</p>
<p style="text-align: center;"><b>Exam</b> (both components must be at least 5 points)</p>			
Test	50%	During examination session	<p>Closed-ended and open - ended questions. 50% type I, one correct answer from 4, 40% type II, 2-3 correct answers from 5, 10% type III clinical situation or description. Every answer is evaluated 0 or 10 points.</p> <p>Total points for test: the sum of all points divided from number of questions. Examination is considered to be passed if 50%. and more points are collected..</p>
Assessment of practical work (OSCE evaluation)	50%		<p>91-100 percent - 10 (excellent); 81-90 percent - 9 (very good); 71-80 percent - 8 (good); 61-70 percent - 7 (average); 56-60 percent - 6 (satisfactory); 50-55 percent - 5 (weak); 41-49 percent - 4 (unsatisfactory); 31-40 percent - 3 (unsatisfactory); 21-30 percent - 2 (unsatisfactory); 11-20 percent - 1 (unsatisfactory); 0-10% - 0 (not rated).</p> <p>Assessment methods of practical work please find in the attachment</p>
<p style="text-align: center;"><b>Final assessment</b></p>			
Exam	50%	During examination session	<p>The examination score consists of the average of the sum of the points of the theoretical and practical part of the exam. The criteria for assessing practical skills are set out in the Annexes.</p>
Accumulative score	50%		<p>Accumulative score: the average of sum of all scores received for all tests, essays and assessments of practical work during 2 semesters</p>

Author	Year of publication	Title	No of periodical or vol. of publication	Publication place and publisher or Internet link
<b>Required reading</b>				
Mahmoud Torabinejad, Richard E Walton, Ashraf F. Fouad	2015	Endodontics: Principles and Practice, 5th ed.		<a href="https://www.clinicalkey.com#!/browse/book/3-s2.0-C20110051827">https://www.clinicalkey.com#!/browse/book/3-s2.0-C20110051827</a>
Stephen Cohen, Kenneth M. Hargreaves	2016	Pathways of the Pulp, 11th ed.		<a href="https://www.clinicalkey.com#!/browse/book/3-s2.0-C20110085009">https://www.clinicalkey.com#!/browse/book/3-s2.0-C20110085009</a>
Ritter AV	2019	Sturdevant's art and science of operative dentistry		St. Louis, Missouri : Elsevier

Fejershov O., Kidd E.	2008	Dental caries: the Disease and Its Clinical Management. Second ed., p. 7-232, 249-352.		Wiley Blackwell
Newman, Michael G.	2015	<a href="https://www.clinicalkey.com/#!/browse/book/3-s2.0-C2012007634X">https://www.clinicalkey.com/#!/browse/book/3-s2.0-C2012007634X</a>		Elsevier
S. Rosenstiel, M.F. Land, J. Fujimoto et al.	2015	Contemporary Fixed Prosthodontics, 5th ed	209-969 p.	St. Louis, Mosby
Herluf Skovsgaard	2013	Dancing hands		Quintessence publishing
<b>Recommended literature</b>				
Shwartz R.S.	2006	Fundamentals of Operative Dentistry: A Contemporary Approach, p. 187-228.		Blackwell Munksgaard
J. Lindhe, N. P. Lang, T. Karring.	2015	Clinical Periodontology and Implant Dentistry. 6th edition, 1, 7, 29 chapters		Wiley-Blackwell
Herbert T. Shillingburg, Jr. Et al.	1997	Fundamentals of fixed prosthodontics. 3. ed.	73-309 p.	Chicago, Quintessence Pub.
Fradeani M, Barducci G	2004	Esthetic rehabilitation in fixed prosthodontics: Prosthetic treatment	277-435 p.	Chicago, Quintessence Pub.
Hokwerda O., Ruijter R., Shaw S.	2006	Adopting a healthy sitting working posture during patient treatment.		<a href="http://www.esde.org/docs/adopting_healthy_sitting_posture_during_patient_treatment.pdf">http://www.esde.org/docs/adopting_healthy_sitting_posture_during_patient_treatment.pdf</a>
Bethany Valachi	2009	Practice dentistry pain free: evidence-based strategies to prevent pain and extend your career		Posturedentics Press
Mansueto MA, Overton JD.	2007	A clinician's guide to purchasing surgical loupes.		Tex Dent J. 2007 Feb;124(2):174-86.
Sources related to subject available through subscribed databases of Library of Vilnius University: <a href="http://www.mb.vu.lt/istekliai/">http://www.mb.vu.lt/istekliai/</a> <a href="https://www.clinicalkey.com">https://www.clinicalkey.com</a>				