



COURSE UNIT DESCRIPTION

Course unit title	Code
Fundamentals of diagnostics and treatment of oral and dental diseases I/VI	

Lecturer(s)	Department(s)
Coordinating: assoc. prof. Saulius Drukteinis Others: prof. dr. Vytautė Pečiulienė, prof., HP Alina Pūrienė, assoc. prof. Rasmūtė Manelienė, assoc. prof. Rūta Bendinskaitė, lect. Estera Miliūnienė, lect. Vaida Zaleckienė, lect. Daiva Janavičienė, lect. Giedrė Janaruskaitė, lect. Rolandas Pletkus, prof. dr. Vygandas Rutkūnas, lect. Vytenis Almonaitis, prof. dr. Tomas Linkevičius, lect. Rita Trumpaitė Vanagienė, lect. A. Gečiauskaitė, assist. prof. dr. E. Vindašiūtė-Narbutė, assist. prof. Vilija Berlin, lect. J. Pletkus, lect. P. Andrijauskas	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	I/VI	Compulsory

Mode of delivery	Period of delivery	Language of instruction
Face-to-face	2 Year, 3 semester	English

Prerequisites and corequisites	
Prerequisites: 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	Corequisites (if any): It is recommended to study parallel: Fundamentals of pathology

Number of ECTS credits allocated to the course unit	Total student's workload	Contact hours	Self-study hours
15	402	240	162

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 tooth clinical anatomy, histology and embryology, aetiology, epidemiology and pathogenesis of endodontic diseases. To develop the ability to demonstrate a sound theoretical knowledge and understanding of instruments, methods and techniques used in endodontology and cariology, how to choose and apply them in practice. To develop the ability to perform endodontic and dental caries treatment procedures in phantom teeth. To develop the ability to organise self-study, choosing right strategy to perform the tasks.</p> <p>To develop a professional attitude of dental specialty students, self-sufficiency and familiarisation, knowledge and competency to evaluate healthy stomatognathic system, train ability to communicate with patients; to work using interdisciplinary approach and 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 occupational risk factors in dentistry and occupational disorders of dentists, their prevention and the basic requirements for work in dentistry and their application.</p>		
Learning outcomes of the course unit	Teaching and learning methods	Assessment methods
Must be competent at demonstrating appropriate information	Collecting	Testing (open-ended and closed-

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.	information from scientific sources, preparation of essay, lectures	ended items), essay
Will acquire knowledge in teeth anatomy, histology and embryology, age characteristics of teeth anatomy.	Collecting information from scientific sources, preparation and presentation of essay, lectures, practice	Testing (open-ended and closed-ended items), essay, assessment of practical work
Will acquire knowledge in aetiology, epidemiology and pathogenesis of endodontic diseases.		
Will acquire knowledge and be competent to choose instruments for endodontic and caries treatment.		
Will be competent to prepare cavities in different surfaces of the phantom teeth and to fill them with different materials, will be able to finish and polish them.		
Will acquire knowledge in access cavities preparation for endodontic treatment and be able to prepare them in phantom teeth of different groups. Will be able to isolate teeth with rubber dam		
Will acquire knowledge in techniques and methods of cleaning, shaping and obturation of the root canal system and be able to perform it in phantom teeth and plastic training blocks.		
Student will have knowledge of mistakes of endodontic and cavity preparation and obturation, will have knowledge how to prevent it.	Collecting information from scientific sources, lectures, practice	Testing (open-ended and closed-ended items)
Will be familiar with: 1) the components of stomatognathic system, their function and interactions; 2) the concepts of articulation and occlusion; the form and functions of occlusal surfaces, the factors of occlusal surface determination; 3) the kinematic jaw movements registration and simulation methods and necessary instruments for that; 4) the stages of taking impression for diagnostic cast production to the dentate patient and fabrication of diagnostic models.	Lectures, analysis of clinical cases, self-study, consultations, clinical practice	Clinical tasks; Clinical minimal requirements; Presentation preparation.
Will be knowledgeable about: 1) follow hygiene standards required for competences to be developed; 2) take an alginate impression for diagnostic model's production; produce diagnostic models; 3) use face bow; register the central relation in manual pattern; 4) articulate the diagnostic casts according to facebow data and the central jaw relation register to an average means articulator; 5) register the movements of lower jaw; program average means articulator according to excentral lower jaw movements bite registers.		
Will be familiar with professional risk factors in dentistry and occupational disorders of dentists, their prevention.	Collecting information from scientific sources, practice	Testing (open-ended and closed-ended items)
Will be familiar with the basic requirements for proper work in dentistry.	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
Teeth anatomy, histology and embryology, age characteristics of teeth anatomy.				8			8	8	To study teeth crowns anatomy and to make it from plastic material
Instruments and filling materials in cariology	2			10			12	6	
Fundamentals of cavity preparation	2			10			12	6	To prepare and present an essay on the steps of the tooth preparation
Adhesion and direct restorations	2			10			12	6	
The principles of cavity restoration	2			10			12	6	To prepare and present an essay on the steps of the direct tooth restoration
Aetiology and pathogenesis of endodontic diseases			2	10			12	8	
The principles of endodontic access cavity preparation. Rubber dam.				10			10	6	To study techniques of tooth isolation with rubber dam and to demonstrate them on phantom teeth
Endodontic instruments and devices	2			10			12	8	
Cleaning and shaping of the root canal system	2			12			14	8	To prepare and present an essay on intracanal medicaments and its characteristics
Obturation of the root canal system	2			12			14	8	To prepare and present an essay on thermoplastic root canal obturation techniques
The anatomy of stomatognathic system, main principles of patient's stomatognathic system examination.	2	2	2	6			12	7	Prepare presentation about patient functional examination and examination criteria.
The main positions of lower jaw. The movements of lower jaw	2			6			8	7	To draw Posselt's envelopes in a sagittal and frontal projections To draw Bennet's motion describing angles.
The form and functions of occlusal surfaces. The factors of evaluation occlusal relief. The types of teeth contacts. The laws of excentral occlusion and maximal intercuspation.	4			6			10	7	In a provided diagram to draw connections between teeth cusps and opposing dentition. To draw occlusal compass.
Impressions for diagnostic models and models: purpose and producing methods.	2			6			8	7	Using Vilnius university library databases prepare PowerPoint (or similar) presentation about advantages and disadvantages of different instruments used to diagnose and simulate occlusion.
Face bow. Lower jaw positions registration.	2	2		6			10	7	
Articulators, possibilities for use. Articulating diagnostic models, articulator programming.	4		2	6			12	7	Analyze possibilities of fully adjustable articulator.
Contact with a patient and treatment planning.	2			6			8	7	
Evaluation of the abutment teeth and preparative treatment before prosthodontics. Instruments and preparation principles.	2			6			8	7	
Influence of the preparation on the tooth tissues. Types of fixed restorations, biomechanics. Basics of	2		2	6			10	6	

preparation for FPD (bridges).									
Full cast and metal ceramic restoration. Composition and structure, indications and contraindications. Preparation.	2			6			8	6	
Zirconium ceramic restoration. Composition and structure, indications and contraindications. Preparation.	2			6			8	6	
Inlays, onlays and laminate veneers. Composition and structure, indications and contraindications. Preparation.	2			6			8	6	
Occupational risk factors in dentistry. Occupational disorders of dentists: physical and psychological health disorders, prevention.				4			4	4	Reading and analysis of the literature on the corresponding topic.
Basic requirements for correct and ergonomic practice. Correct position of the patient chairs, dentist chairs and their positions.				4			4	4	Reading and analysis of the literature on the corresponding topic.
Magnification in dentistry. Proper lighting, ergonomic instruments and devices. Handling of the instruments: pencil, modified pencil, palm type. Hands, finger rest.				4			4	4	Reading and analysis of the literature on the corresponding topic.
Total	42	4	8	186			240	162	

Assessment strategy	Weight (%)	Assessment period	Assessment criteria
Accumulative assessment (all components of the cumulative score must be passed above score 5) Obligatory attendance of seminars and practice			
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. Failed tests are allowed to be retaken once during the semester.</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"> - clarity of ideas, quality of arguments (2 points); - structure of essay (2 points); - style and quality of scientific language (2 points); - quality (valid and reasonable) of conclusions (2 points). - visual quality of material presented (2 points). <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 for presentation:</p> <ul style="list-style-type: none"> - Structure, coverage, quality of visual material (2 points); - Clarity of presented knowledge, argumentation, raising of key questions (2 points); - Presentation of conclusions and analysis (2 points); - Clinical recommendations (2 points); - Discussion, management of questions, time managements (2 points). <p>Minimal passing score – 5.</p>
Assessment of practical work	30%		<p>Assessment methods 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 and minimal requirements are presented in</p>

			the appendix. Minimal passing score – 5.
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Accumulative assessment will constitute 25% of final assessment, which will be calculated by the formula:

$FA = ((CA1 + CA2) / 2 + EX) / 2$ where:

FA- final assessment

CA1, CA2 - accumulative assessments from two semesters

EX - exam score

Author	Year of publication	Title	No of periodical or vol. of publication	Publication place and publisher or Internet link
Required reading				
Mahmoud Torabinejad, Richard E Walton, Ashraf F. Fouad	2015	Endodontics: Principles and Practice, 5th ed. Chapters: 1-3, 13-19.		https://www.clinicalkey.com#!/browse/book/3-s2.0-C20110051827
Stephen Cohen, Kenneth M. Hargreaves	2016	Pathways of the Pulp, 11th ed. Chapters: 5-7, 12-15.		https://www.clinicalkey.com#!/browse/book/3-s2.0-C20110085009
Roberson T.M	2006	Sturdevant's art and science of operative dentistry. 5th ed. P.17-64, 134-242, 281-364, 459-622, 689-844.		St. Louis, MOSBY
S. Rosenstiel, M.F. Land, J. Fujimoto et al.	2015	Contemporary Fixed Prosthodontics. 5th ed.	03-81; 110-144 p.	St. Louis, Mosby
Okeson, Jeffrey P.	2003	Management of tempomandibular disorders and occlusion	1-127 p.	St. Louis, Mosby
M. Oliver Ahlers	2000	Simulation of occlusion in restorative dentistry	37-229 p.	Hamburg, DentaConcept
Herluf Skovsgaard	2013	Dancing hands		Quintessence publishing
Recommended literature				
Stephen Cohen, Kenneth M. Hargreaves	2016	Pathways of the Pulp, 11th ed. Skyriai: 5-7, 12-15.		https://www.clinicalkey.com#!/browse/book/3-s2.0-C20110085009
J. Lindhe, N. P. Lang, T. Karring.	2015	Clinical Periodontology and Implant Dentistry, 6th edition 3-50;695-757		Blackwell Munksgaard
Shwartz R.S.	2006	Fundamentals of Operative Dentistry: A Contemporary Approach, p. 251-302.		Quintessence
Herbert T. Shillingburg, Jr. Et al.	1977	Fundamentals of fixed prosthodontics. 3. ed.	11-73 p.	Chicago, Quintessence Pub.
Hokwerda O., Ruijter R., Shaw S.	2006	Adopting a healthy sitting working posture during patient treatment.		http://www.esde.org/docs/adopting_healthy_sitting_posture_during_patient_treatment.pdf
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.
Articles and books related to subject available through subscribed databases of Library of Vilnius University: http://www.mb.vu.lt/istekliai/				