

		1.	Trifunovikj D. et al.	Dental prosthetics- preclinical	Zavod za udzbenike- Belgrade	2005
		2.				
		3.				

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Annex no. 3		First cycle study program			
1.	Title of courses	Oral Histology and Physiology			
2.	Code	PDTMHF1			
3.	Study Program	Professional Dental Technicians			
4.	Organizer of the study program (unit, i.e. institute, department, division)	UKIM - Faculty of Dentistry – Skopje, Department of Oral and Periodontal Diseases			
5.	Degree (first, second, third cycle)	First Cycle			
6.	Academic year/semester	Year	1	semester	2
7.	Course load expressed in ECTS credits	4			
8.	Teacher (in case of multiple teachers, a responsible teacher is appointed)	Prof. Dr. Kjiro Ivanovski and teachers from the Department of Oral and Periodontal Diseases			
9.	Course language	English			
10.	Necessary prerequisites for listening to and passing the course	/			
11.	Course objectives (competencies) and learning outcomes:	After mastering the pre-math program, students will be able to know the structure and function of the cells and tissues of the orofacial region, as well as the basic principles of their integration into the functional whole of the oral cavity. Introducing students to the physiological processes in the oral cavity, which are important for dental technicians.			
12.	Detailed content of the course by chapters and units with learning outcomes for each chapter	Chapter 1 - From molecule to cell. The cell as the basic structural and functional unit of the organism 3 classes <i>Outcomes of the 1st chapter: Students will acquire basic knowledge of the molecular and cellular organization of living organisms. Will understand the cell as the basic structural and functional unit of the organism.</i> Chapter 2 - Histological structure and physiology of muscle tissue and nerve fibers. Physiology of reflexes 4 classes <i>Outcomes of the 2nd chapter: Students will learn the histological structure and function of muscle tissue and nerve fibers. They will be able to explain their role in physiological processes. They will understand the physiology, anatomical-histological basis of reflexes.</i> Chapter 3 - Analyzers - Receptors in the oral cavity and nerve fibers, mechanoreceptors, chemoreceptors, thermoreceptors, sense of taste			

		 2 classes <i>Outcomes of the 3rd chapter: Students will identify the different receptors in the oral cavity and their physiological role. They will understand how mechano-, chemo-, and thermoreceptors and the sense of taste participate in perception.</i> Chapter 4 – Basic histological and physiological characteristics of epithelial tissues and connective tissue. Biological mineralization, structure and role of bone tissue 4 classes <i>Outcomes of the 4th chapter: Students will identify the types of epithelium and their morphological and functional characteristics. They will gain knowledge about the histological structure of the oral mucosa. They will understand the structural and functional characteristics of connective tissue and the process of biological mineralization of bone tissue. They will be able to describe the structure and role of bone tissue.</i> Chapter 5 – Basic histological and biochemical characteristics of hard dental tissues 4 classes <i>Outcomes of the 5th chapter: Students will gain knowledge about the histological structure, morphological and functional characteristics of hard dental tissues. They will understand their role in the health, functionality and stability of teeth.</i> Chapter 6 – Salivary glands - Histological characteristics of the salivary glands and mechanism of saliva secretion 4 classes <i>Outcomes of the 6th chapter: Students will be introduced to the histological structure of the salivary glands. They will understand how their organization enables saliva secretion. They will understand the mechanism of saliva secretion and the physiology of the salivary glands. They will be able to explain the processes that regulate saliva secretion.</i> Chapter 7 – Salivary proteins. Self-cleaning in the oral cavity and maintenance of physiological pH values in patients with prosthetic replacements 4 classes <i>Outcomes of the 7th chapter: Students will learn the types and functions of salivary proteins. They will understand their role in protecting and maintaining oral health. They will master the concept of self-cleaning in the oral cavity and the physiological regulation of salivary pH.</i> Chapter 8 - Maintaining the integrity of oral structures, salivary mucin and its importance in patients with prosthetic replacements 3
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		classes <i>Outcomes of the 8th chapter: Students will understand the importance of salivary mucin for the integrity of oral structures. They will learn to explain its function in patients with prosthetic replacements.</i> Chapter 9 – Salivary Immunoglobulins and the Importance of Saliva in Maintaining Oral Health 2 classes <i>Outcomes of the 9th chapter: Students will learn the basic characteristics of salivary immunoglobulins and their protective role. They will understand how saliva contributes to maintaining oral health.</i> Total 30 classes <i>Exercises:</i> 1. Introduction to the work and rules for working in a physiological-biochemical laboratory – 1 class 2. Laboratory equipment and devices for conducting experiments in the biochemical laboratory, pipetting and preparation of solutions - 2 classes 3. Resting membrane potential (LabAxon) – 1 class 4. Neuronal action potential (LabAxon) – 1 class 5. Analyzers – taste, touch and heat senses – 1 class 6. Collection of unstimulated and stimulated saliva – 1 class 7. Demonstration of the action and determination of the activity of salivary amylase. Influence of various factors on the activity of salivary amylase – 2 classes 8. Viscosity of saliva – 1 class 9. Mucin precipitation – Molisch's test, qualitative detection of proteins in saliva and colored reactions to proteins – 3 classes 10. Quantitative determination of proteins, calcium and phosphates in saliva – 2 classes Total.....15 classes						
13	Interrelationship of courses	Anatomy and physiology of the masticatory system Periodontics and oral medicine Oral Hygiene Oral diseases prevention Promotion of oral health						
14.	Detailed description of the teaching and working methods for the subject	- Presentation of the methodological units by the professor; - Discussion in class about the methodological units; - Activities at the end of each lecture to check the acquired knowledge; - Solving homework assignments that will be assigned once a week through the Forms tool, via Microsoft Teams; - Interactive practical teaching - conducting experiments by students, making calculations, recording results and drawing conclusions; - Training the student to perform various salivary tests.						
15.	Total available classes fund	120 classes						
16.	Forms of teaching activities	<table> <tr> <td>16.1.</td><td>Lectures - theoretical teaching, classes</td><td>30</td></tr> <tr> <td>16.2.</td><td>Exercises (laboratory, classroom),</td><td>15</td></tr> </table>	16.1.	Lectures - theoretical teaching, classes	30	16.2.	Exercises (laboratory, classroom),	15
16.1.	Lectures - theoretical teaching, classes	30						
16.2.	Exercises (laboratory, classroom),	15						

			seminars, teamwork: classes			
		16.3.	Practice: classes			
17.	Other forms of activities	17.1.	Project work: classes			
		17.2.	Individual work: classes	15		
		17.3.	Homework - tasks	60		
		Attendance of 80% of the lecutres and all practical exercises completed				
18	Signature requirements					
19	Method of the evaluation					
	19.1.	Tests: points (2 X 20 points)	50 points			
	19.2.	Seminar work/project, written and oral presentation: points	10 points			
	19.3.	Final exam: points	40 points			
20	Evaluation criteria (points/grade)		up to 59 points	5 (five) (F)		
			from 60 to 68 points	6 (six) (E)		
			from 69 to 76 points	7 (seven) (D)		
			from 77 to 84 points	8 (eight) (C)		
			from 85 to 92 points	9 (nine) (B)		
			from 93 to 100 points	10 (ten) (A)		
21.	Method of monitoring the quality of teaching	Self-evaluation by students, control of assistants in carrying out practical teaching and assessment of the achieved success of students, as well as the pass rate of students who have passed the course				
22.	Literature					
	22.1.	Compulsory literature				
		Serial number	Author	Title	Publisher	Year
		1.	Ivanovski, Kj. Mitikj K., Stefanovska E.	Oral histology and physiology	Faculty of Dentistry - Skopje	2023
		2.	Ivanovski Kj.	Pack of materials for exercises in the class Oral Histology and Physiology	Kjiro Ivanovski	2019
		3.				
	22.2.	For further reading				
		Serial number	Author	Title	Publisher	Year
		1.	Danilovikj V. Radojkovikj G.	Oral Histology and Embriology	Zavod za udzbenike	2012
		2.	Krshljak E.	Oral Physiology	Zavod za udzbenike	2009
		3.	Dejanova B.	Physiology practicum – for students of dentistry	Ss. Cyril and Methodius University Medical Faculty Skopje	2012

		4.	Ten Cate's Oral Histology: Development, Structure, and Function 10 th edition	Nancy A	Elsevier	2024
		5.	Orban's Oral Histology, Embryology and Physiology, 16th Edition	Kumar G S	Elsevier	2023

Serial number: 13

Annex no. 3		First cycle study program			
1.	Title of courses	Materials, Devices and Instruments in Orthodontic Technique			
2.	Code	PDTEOT1			
3.	Study Program	Professional Dental Technicians			
4.	Organizer of the study program (unit, i.e. institute, department, division)	UKIM - Faculty of Dentistry – Skopje, Orthodontics Department			
5.	Degree (first, second, third cycle)	First Cycle			
6.	Academic year/semester	Year	1	semester	2
7	Course load expressed in ECTS credits	3			
8.	Teacher (in case of multiple teachers, a responsible teacher is appointed)	Prof. Dr. Natasha Tosheska Spasova and teachers from the Department of Orthodontics			
9.	Course language	English			
10.	Necessary prerequisites for listening to and passing the course	/			
11.	Course objectives (competencies) and learning outcomes:	Introducing students to orthodontic dental techniques, basic appliances, instruments, and dentistry and dental materials.			
12.	Detailed content of the course by chapters and units with learning outcomes for each chapter	Theoretical teaching Chapter 1 - Introduction to orthodontic dental technique, appliances, instruments and dental materials Introduction to orthodontic dental technique, basic appliances, instruments and dentistry and dental materials. 1 class Classification and properties of dental materials. 1 class Biocompatibility of dental materials. 1 class <i>Outcomes of the 1st chapter: The student will be introduced to orthodontic dental technique, basic appliances, instruments and dentistry and dental materials.</i> Chapter 2 - Introduction to imprinting materials, plaster, wax, acrylate, metals, alloys, screws and wires in orthodontic technique Imprinting materials (hard, plastic and elastic) 1 class Plaster, waxes, cements. 1 class Metals, dental alloys, screws and wires in orthodontic technique. 1 class Acrylates, polymerization. 1 class Materials for the manufacture of fixed orthodontic appliances			