

	22.1.	Compulsory literature				
		Serial number	Author	Title	Publisher	Year
		1.	Evdokija Jankulovska	Anatomy and morphology of jaws and teeth	Faculty of Dentistry - Skopje	2001
		2.	Stenley J. Nelson	Wheeler's Dental Anatomy, Physiology & Occlusion 10 th edition	Elsevier	2015
	22.2.	For further reading				
		Serial number	Author	Title	Publisher	Year
		1.	Richne C. Scheid, Gabriela Weis	Woelfel's Dental Anatomy Eighth edition	Lippincott Williams & Wilkins	2011
		2.				
		3.				
		4.				
		5.				

Serial number: 3

Annex no. 3		First cycle study program				
1.	Title of courses	Technology of Dental Materials 1				
2.	Code	PDTMTM1				
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 Dental Prosthetics				
5.	Degree (first, second, third cycle)	First Cycle				
6.	Academic year/semester	Year	1	semester	1	
7.	Course load expressed in ECTS credits	5				
8.	Teacher (in case of multiple teachers, a responsible teacher is appointed)	Prof. Dr. Sasho Jovanovski and teachers and associates from the Department of Dental Prosthetics				
9.	Course language	English				
10.	Necessary prerequisites for listening to and passing the course	None				
11.	Course objectives (competencies) and learning outcomes:	Students will acquire professional knowledge about the technology of modern dental materials used in the dental laboratory for the production of prosthetic, orthodontic and maxillofacial restorations, and thus use the acquired professional knowledge for proper assessment when choosing the most appropriate material as well as their implementation in everyday practice when producing all types of dental restorations.				
12.	Detailed content of the	Theoretical teaching:				

	course by chapters and units with learning outcomes for each chapter	Chapter 1 - History of dental materials, early beginnings from prehistoric times, the first modern materials and technologies to the present day 1 class - Introduction to dental materials, classification, biocompatibility, requirements and standards that need to be met 1 class - Physical properties of materials 1 class - Mechanical properties of materials 1 class - Chemical properties of materials 1 class - Internal structure of dental materials and their biocompatibility 1 class - Heat sources in the dental laboratory 1 class <i>Learning outcomes of the first chapter: the student will be introduced to the history of dental materials and their development, the classification of dental materials, biocompatibility and the requirements for their standards that they should meet as modern dental materials and ways of their use. The student will study the mechanical, physical and chemical properties of dental materials as well as the various heat sources and their application in everyday work in the dental laboratory</i> Chapter 2 - Modern materials for making models 1 class - Plaster types, preparation and making of a working model 1 class - Waxes in a dental laboratory and their division into natural and dental, waxes for fixed and mobile constructions, obtaining waxes and their dimensional changes 1 class <i>Outcomes of the second chapter: The student will be introduced to the application of different types of plaster when preparing studio and working classical and modern models, as well as the application of different types of waxes in a dental laboratory and their division into natural and dental, waxes for fixed and mobile constructions, obtaining waxes and their dimensional changes.</i> Chapter 3 - Dental metals and alloys - classification, constituent components and types 1 class - Materials Technology - Metallurgy, working with metals and alloys 1 class <i>Outcomes of the third chapter: the student will be introduced to metal technology and metallurgy, working with dental metals and alloys, their classification, constituent components, and all their different uses in the dental laboratory.</i> Chapter 4 - Types and classification of fireproof filling materials and their use 1 class - Types of doubling materials 1 class - Imprinting materials 1 class <i>Outcomes of the fourth chapter: the student will be introduced to the different types of fireproof filling materials as well as the types of doubling materials and their application in the dental laboratory. The student will study the use and division of the materials for imprinting depending on their properties, their application for the different laboratory phases in the</i>
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		<i>production of prosthetic restorations.</i> Total 15 classes <i>Exercises:</i> <i>Exercises in the first and second chapter: 15 classes</i> <i>Exercises in the third and fourth chapter: 15 classes</i> Total 30 classes			
13	Interrelationship of objects	Course relation to Technology of dental materials 2			
14.	Detailed description of the teaching and working methods for the subject	Theoretical teaching, interactive teaching, practical teaching (exercises), seminar work and other forms foreseen by the common ECTS criteria			
15.	Total available classes fund	150 classes			
16.	Forms of teaching activities	16.1.	Lectures - theoretical teaching: classes	15	
		16.2.	Exercises (<u>laboratory</u> , classroom), <u>seminars</u> , teamwork: classes	30	
		16.3.	Practice: classes		
17.	Other forms of activities	17.1.	Project work: classes		
		17.2.	Individual work: classes	25	
		17.3.	Homework - tasks	80	
18	Signature requirements	Attendance to at least 60% of lectures, completed program for laboratory exercises and seminars;			
19	Method of the evaluation				
	19.1.	Tests: points			30
	19.2.	Seminar work/project, written and oral presentation:			20
	19.3.	Final exam: points			50
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
	1.	Kovachevska Gordana, Aneta Mijoska	Dental materials - dental and clinical	Faculty of Dentistry	2019

	22.2.	For further reading				
		Serial number	Author	Title	Publisher	Year
		1.	Phillips	Science of dental materials	Elsevier	2003
		2.	Craig's	Restorative dental materials	Elsevier	2008

Serial number: 4

Annex no. 3		First cycle study program			
1.	Title of courses	Dental Laboratory Equipment			
2.	Code	PDTMLE1			
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 Dental Prosthetics			
5.	Degree (first, second, third cycle)	First Cycle			
6.	Academic year/semester	Year	1	semester	1
7.	Course load expressed in ECTS credits	6			
8.	Teacher (in case of multiple teachers, a responsible teacher is appointed)	Prof. Emilija Bajraktarova Valjakova, PhD and teachers from the Department of Dental Prosthetics			
9.	Course language	English			
10.	Necessary prerequisites for listening to and passing the course	None			
11.	Course objectives (competencies) and learning outcomes:	The student will become familiar with the legal regulations for opening a dental laboratory, the devices and instruments necessary for the functioning of the laboratory and for the manufacture of prosthetic (fixed and mobile) dentures and orthodontic appliances.			
12.	Detailed content of the course by chapters and units with learning outcomes for each chapter	Theoretical teaching: 1. Space and equipment of the dental laboratory 2 classes <i>Learning outcomes: The student is introduced to the legal norms for opening a dental laboratory - required space and equipment, as well as the constituent elements of a dental technician's workplace. Special emphasis is dedicated to ergonomics in order to save labor.</i> 2. Technical motor, handpiece, aspirator and instruments and devices for increasing the field of view 2 classes <i>Learning outcomes: The student is introduced to different models of technical motors and attachments within the workplace, aspirators for the purpose of protecting the dental technician, as well as various possibilities for increasing the working field: magnifying glasses, stereomicroscope.</i> 3. Instruments and devices for working with plaster 2 classes <i>Learning outcomes: The student is introduced to the instruments used when working with plaster: a cup and spatula, a plaster knife, plaster cutting pliers and a filling table, a scalpel, a modeling saw, plaster cutters and separators, as well as devices for vacuum mixing plaster, a vibrator and a plaster trimmer.</i> 4. Instruments for making working models and removable dental			