Attachment No. 3		Course program for the first cycle of studies
1.	Course title	Preclinical Endodontics

2.	Code	DMMPE4			
3.	Study program	Dentistry - integrated first and second cycle of studies			
4.	Organizer of the study program (unit, i.e., institute, department, division)	UKIM - Faculty of Dentistry – Skopje, Department of Endodontics and Restorative dentistry			
5.	Degree (first, second, third cycle)	Integrated First and Second Cycle Studies			
6.	Academic year/semester	Year	4	semester	8
7	Course workload expressed in ECTS credits	6			
8.	Teacher (in case of multiple teachers, designated teacher in charge)	Teacher in charge: Prof. Vasilka Rendjova *All professors from the department will be included in the instruction			
9.	Language in which the curriculum is conducted	English			
10.	Necessary prerequisites for taking and passing the course	To complete all compulsory subjects from the third year and to pass all compulsory subjects from the second year			
11.	Course objectives (competences) and learning outcomes:	The student is introduced to the anatomical and morphological characteristics of the endodontic space, as well as the methods, techniques, materials and instruments necessary for performing a successful endodontic procedure. The knowledge acquired from theoretical and practical instruction will enable the student to correctly and fully apply them in clinical settings.			
12.	Detailed course content by chapters and units with learning outcomes for each chapter	Theoretical instruction – lectures Chapter 1: - Introductory notes and developmental stages of endodontics…2 classes - Morphological and histological characteristics of the endodontic space ……2 classes - Endodontic access cavity preparation……..2 classes - Endodontic hand instruments …….2 classes - Endodontic instruments – rotary,mechanical and ultrasonic…….2 classes - Root canal instrumentation techniques (manual and mechanical). …….2 classes - Chemical treatment of the root canal – irrigation agents and techniques . ……..2 classes - Determination of root canal length …….1 class - Modern techniques of root canal preparation with Ni-Ti instruments……2 classes Learning outcomes: Introduction to the morphology of the endodontic space of all teeth and the basic differences in the morphology of individual groups of teeth. Introduction to the type, method of manufacture, and use of manual and mechanical endodontic instruments, and indications for their use and instrumentation techniques. Chapter 2: -Materials for temporary root canal obturation….. 2 classes -Materials for permanent root canal obturation……. 2 classes - Root canal obturation techniques……..2 classes -Principles of endodontic therapy when working on vital and non-vital teeth…..2 classes -Sterilization and working field isolation…… 2 classes -Radiography in endodontics……2 classes -Dental and medical history and preparation for endodontic treatment.....1 class Learning outcomes: Introduction to chemical agents for root canal irrigation, their properties and modern approaches to their application; types and properties of materials and techniques for temporary and permanent root canal fillings, side effects and their indications; sterilization and the application of radiography in endodontics. Total: .....30 classes			

		Practical teaching - exercises -Introduction to the endodontic procedure, introduction to the principles of work……2 - Anatomy by groups of teeth 2 - Endodontic instruments (manual and mechanical), indications and difference in their clinical use…….. 2 - Plan of endodontic therapy, basic stages of work in the endodontic procedure, and morphological analysis of the root canals of the teeth. 2 - Principles of preparation of an access cavity by morphological groups of teeth (incisors, premolars, and molars in the upper and lower jaw) 4 - Introduction to the design and dynamics of work with hand endodontic instruments (reamers, files). 2 - Techniques and methods of root canal preparation with hand instruments (Step - Back, Crown - Down) on acrylic models (single-root and multi-root teeth) 7 - Demonstration and application of techniques and methods of root canal preparation with mechanical rotary instruments (on acrylic models and extracted teeth). 4 - Root canal irrigation agents (NaOCl, EDTA), irrigation technique, the importance of irrigation in the endodontic procedure. 2 - Odontometry - technique for determining the working length of the root canal and radiography of a tooth with an instrument in the canal. Electroodontometry. 2 - Medications and method of application in the root canal of the tooth. 2 - Obturation of root canals, purpose and tasks (obturation technique on models and extracted teeth - classical method). 6 - Application of other techniques for root canal obturation. 4 - Establishing a dry working area during endodontic treatment, demonstrating all parts and methods for placing the rubber dam and its application on laboratory models. 2 - Devitalization technique and method of work, indications and means. 2 Total .....45 classes		
13	Interrelation of subjects	Clinical endodontics, Dental materials		
14.	Detailed description of the teaching and working methods for the subject	Interactive teaching, teamwork, laboratory exercises that include working in small groups with demonstration of instruments and methods used in endodontic therapy, and presentation and performance of endodontic procedures on models by students		
15.	Total available time	180 classes		
16.	Forms of teaching activities	16.1.	Lectures - theoretical teaching classes	30 classes
		16.2.	Exercises (laboratory, auditorium), seminar paper, teamwork: classes	45 classes
		16.3.	Practice: classes	
17.	Other forms of activities	17.1.	Project assignments: classes	
		17.2.	Independent assignments: classes	
		17.3.	Home study – assignments	105 classes
18	Signature requirements	Attendance at 60% of theoretical classes and 80% of practical classes		
19	Grading method			
	19.1.	Tests: points	15+15	
	19.2.	Seminar paper/project, written and oral presentation: points	6-10	
	19.3.	Final exam: points	36-60	
20	Grading 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 instruction	Self-evaluation by students, control by assistants in carrying out practical instruction, and assessment of the students' success, as well as the pass rate of students who		

			have passed the course			
22.	Literature					
	22.1.	Required literature				
		Ord. No.	Author	Title	Publisher	Year
		1.	Apostoloska Sonja, Rendjova Vasilka	Endodontics	Maring, Skopje	2014
	22.2.	Additional literature				
		Ord. No.	Author	Title	Publisher	Year
		1.	V. Gopikrishna	Grosman's endodontic practice 14th edition	Wolters Kluwer	2021
		2.	Arnaldo Casteluci	Endodontics	Edra	2022