

22.	Literature					
	22.1.	Required literature				
		Ord. No.	Author	Title	Publisher	Year
		1.	Popovska L, Muratovska I	Clinical caryology and therapeutic procedures	'Gjurgja'	2017
	22.2.	Additional literature				
		Ord. No.	Author	Title	Publisher	Year
		1.	Mount GJ, Hume WR.	Preservation and restoration of tooth structure	Mosby International Ltd.	1998
		2.	Summit JB, Robbins JW, Hilton TJ, Schwartz RS	Fundament of surgical dentistry: a contemporary approach	Quintessence Publishing Co, Inc	2006
		3.	Walmsley D., Walsh T. et all.	Restorative dentistry	Elsevier limited	2007
		4.	Edwina M. Kidd et all. Pickard's	Manual of Surgical dentistry.	Oxford University Press	2003
		5.	Mjør IA;	Pulp and dentine biology in restorative dentistry.	Quintessence publishing, Hanover Park, USA,	2002.

Attachment No. 3		Course program of the first cycle of studies			
1.	Course title	Dental radiology			
2.	Code	DMMDR4			
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 Pediatric and Preventive Dentistry			
5.	Degree (first, second, third cycle)	Integrated First and Second Cycle Studies			
6.	Academic year/semester	Year	4	Semester	7
7.	Course workload expressed in ECTS credits	4			
8.	Teacher	Prof. Dr. Marija Stevanovikj Prof. Dr. Aleksandar Dimkov			
9.	Language in which the curriculum is conducted	English			
10.	Necessary prerequisites for taking and passing the course	Completed all mandatory third year courses and passed all mandatory second year courses			
11.	Course objectives (competences) and learning outcomes:	Objectives of the course program (competences): after attending theoretical and practical classes and passing the exam, the student acquires knowledge and skills about the methods of creating X-rays, the methods of performing and processing X-rays, the harmful effects and protection from X-ray radiation, interpretation of X-rays, competent reading and interpretation of normal radiography of the dental and jaw structures and knowledge about the correct diagnosis of pathological conditions in the orofacial region.			
12.	Detailed course content by chapters and units, with learning outcomes for each chapter	Course content: Chapter 1. Fundamentals of dental radiography and radiology Basic physical principles of ionizing radiation; X-ray tube; generation of X-rays.....2 classes Biological effects of X-ray radiation and protection from X-ray radiation.....2 classes Types of X-ray imaging in the orofacial region; Performing intraoral, extraoral,			

	and special imaging; Processing X-ray images.....2 classes Normal X-ray anatomy of teeth and supporting tissues, Normal X-ray anatomy of the upper and lower jaws, and Interpretation of X-rays.....2 classes Results from chapter 1: Students will learn of the physical principles of X-rays, biological effects associated with X-rays, X-ray equipment construction, infection control measures, types of radiology equipment and images, image storage and processing methods, image development procedures, and types of X-rays of the orofacial region. Students will also learn about the normal X-ray structure of the teeth, the supporting apparatus, the alveolar ridge, the upper and lower jaws, and all anatomical structures of interest to the dentist. Chapter 2. X-ray diagnostics of carious lesions, tooth irregularities, irregularities in the development of the maxillofacial bones, osteoresorptive and osteosclerotic processes of the bones, regressive and resorptive processes, as well as impacted teeth. X-ray diagnostics of carious lesions.....2 classes Irregularities of the teeth by number, size, shape, and structure.2classes Irregularities in the development of the maxillofacial bones and osteoresorptive and osteosclerotic processes of the bones.....2 classes Regressive, resorptive processes and impacted teeth.....2 classes Results from chapter 2: Students acquire basic knowledge about X-ray diagnostics of dental caries, about tooth irregularities, about irregularities of the face and jaws with reference to cleft lip and palate, about regressive processes, and about all types of resorptive processes. Students also gain knowledge about the methods of proper placement, angulation, exposure, and development of X-ray images in the diagnosis of the aforementioned pathological processes, including computed tomography imaging CON-bim. Chapter 3. Radiology of endodontium, traumas of teeth and jaws, tumors, cysts, TMJ, and salivary glands Radiology of endodontium and foreign bodies in jaws and teeth.....4 classes X-ray diagnostics of dental traumas2 classes X-ray diagnostics of traumas of the upper and lower jaw2 classes X-ray diagnostics of tumors in the jaws.....2 classes X-ray diagnostics of cysts.....2 classes X-ray diagnostics of pathological changes of the salivary glands and X-ray diagnostics of pathological changes of the TMJ2 classes Results from chapter 3: Students will learn about X-ray diagnostics of all physiological and pathological changes of the endodontium, will learn about the etiology of traumas of the dento-maxillary apparatus and their X-ray diagnostics, about the types of tumors - benign and malignant, about the role of X-ray diagnostics of cysts, including computed tomography CON-bim. They will be introduced to the pathological changes of the salivary glands and sialography, as well as the types of projections that are important in the interpretation of pathological changes in the TMJ. Total30 classes Practical teaching-exercises Introduction to ionizing radiation; X-ray; creation of X-rays....2 classes Methods of protection from X-ray radiation.....2 classes Types of X-rays in the orofacial region; performing intraoral, extraoral, and special images; Processing of X-ray images2 classes Display of X-ray images with normal X-ray anatomy of teeth and supporting tissues, normal X-ray anatomy of the upper and lower jaw, and interpretation of X-ray images2 classes Diagnosis of carious lesions.....2 classes Analysis of images with irregularities of teeth by number, size, shape, and structure.....2 classes Display and analysis of images with irregularities in the development of the maxillofacial bones.....2 classes Display and analysis of X-ray images with regressive, resorptive processes and
--	---

		program from the first cycle				
		impacted teeth.....2 classes Radiology of endodontium and foreign bodies in jaws and teeth.....4 classes X-ray diagnostics of dental traumas.....2 classes X-ray diagnostics of traumas of the upper and lower jaw.....2 classes X-ray diagnostics of tumors in the jaws.....2 classes X-ray diagnostics of cysts.....2 classes X-ray diagnostics of pathological changes in the salivary glands and X-ray diagnostics of pathological changes in the TMJ.....2 classes Results of performing the exercises: the student acquires knowledge and skills about the methods of performing and processing X-rays, about harmful effects and protection from X-ray radiation, interpretation of X-rays, competent reading and interpretation of normal X-rays of the dental-jaw structures, and knowledge about the correct diagnosis of pathological conditions in the orofacial region. Total30 classes				
13	Interrelation of subjects	Connection with Basics of Clinical Radiology				
14.	Detailed description of the teaching and working methods for the subject	Interactive teaching, clinical exercises, demonstration and performance of digital imaging, presentation of the X-ray laboratory, methods of intraoral and extraoral imaging, analysis of intraoral and extraoral imaging with diagnosis, differential diagnosis and therapy plan, as well as X-ray monitoring of the treatment processes in some patients.				
15.	Total available time	120 classes				
16.	Forms of teaching activities	16.1.	Lectures - theoretical teaching. Classes		30 classes	
		16.2.	Exercises (laboratory, lecture), seminars, teamwork: classes		30 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		60 classes	
18	Signature requirements					
19	Method of assessment					
	19.1.	Tests: points			40 points	
	19.2.	Seminar paper/project, written and oral presentation: points			10 points	
	19.3.	Final exam: points			50 points	
20	Grading criteria (points/grade)		from 59 points		5 (five) (F)	
			60 to 68 points		6 (six) (E)	
			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 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.	Stevanovikj M.	Dental radiology	Faculty of Dentistry – Skopje	2015
		2.	E Whites	Essentials of Dental Radiography and Radiology	Churchill Livingstone	2013
	22.2.	Additional literature				
		Ord. No.	Author	Title	Publisher	Year

	1.	Joel Iannucci, Laura Jansen Howerton	Dental Radiography: Principles and Techniques 6th Edition	Elsevier	2021
	2.	Zadravec Krolo	Dental Radiology	Medicinska naklada d.o.o. Zagreb	2016

Attachment No. 3		Course program of the first cycle of studies			
1.	Course title	Community Dentistry			
2.	Code	DMMCD4			
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 Pediatric and Preventive Dentistry			
5.	Degree (first, second, third cycle)	Integrated First and Second Cycle Studies			
6.	Academic year/semester	Year	4	Semester	7
7.	Course workload expressed in ECTS credits	3			
8.	Teacher	Prof. Dr. Mira Jankulovska			
9.	Language in which the curriculum is conducted	English			
10.	Necessary prerequisites for taking and passing the course	All compulsory subjects from the third year have been completed and all compulsory subjects from the second year have been passed.			
11.	Course objectives (competences) and learning outcomes:	Objectives of the course program (competences): after attending theoretical and practical classes and passing the exam, the student acquires knowledge and skills about the public health aspects of oral diseases, oral diseases as a social medical problem, characteristics of social medical diseases, prevalence and organization of the dental service, basic knowledge about organizing the healthcare system of the Republic of North Macedonia, knowledge of medical administration, indicators of oral health and oral diseases, public health aspects of oral epidemiology, knowledge and skills in the promotion of oral health, social factors and oral health, skills for planning and organizing dental preventive programs, campaigns, community activities, technological solutions and laws.			
12.	Detailed course content by chapters and units, with learning outcomes for each chapter	Content of the subject program: Chapter 1. Law on Health Care Regulation of the dental health care system in the Republic of North Macedonia, Law on Health Care, management of systems - system of dental healthcare, right to healthcare, principles of healthcare, healthcare activity, types of healthcare. 3 classes. Network of healthcare institutions, healthcare workers and associates, evaluation of the quality of dental health care, tasks, organization, standards, norms, protocols 4 classes Results from chapter 1. Students learn about the regulation of the dental health care system in the Republic of North Macedonia and the Law on Health Care as the basic legal act for regulating health care in the country, as well as the definition of health care. They acquire knowledge about the types of health care, the network and levels of health care, the appropriate formation of health care institutions, and their activities at all three levels of health care. Chapter 2. Preventive Dental Health Care Definition, meaning, tasks, and levels of Preventive dentistry, Preventive dental health care and public health measures to preserve and promote oral health: programs by population groups, campaigns, community activities, technological solutions, laws3 classes Results from chapter 2. Students acquire basic knowledge about the meaning, tasks, and levels of preventive dental care, planning and organizing preventive programs, individual, mass, and integrated, by population age groups recommended by the			