Attachment No. 3		Course program of the first cycle of studies
1.	Course title	Gnathology
2.	Code	DMMUD4
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 Dental Prosthodontics			
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. Aneta Mijoska - teacher in charge (teachers and associates from the Department of Prosthodontic Dentistry)			
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:	The student will become familiar with the issues of occlusion in dentistry, functional anatomy, and biomechanics of the masticatory system, characteristics of pathological occlusion-dysfunction of the orofacial system. They will acquire knowledge about the neurophysiological concepts of pain in craniomandibular dysfunctions, the causes of functional disorders of the masticatory system, anamnestic-diagnostic protocols, and therapeutic procedures.			
12.	Detailed course content by chapters and units, with learning outcomes for each chapter	Theoretical teaching – lectures 1. Chapter – Introduction to gnathology, anatomy, and physiology of the stomatognathic system from the aspect of gnathology, gnathological aspects, and components of occlusion Term, history, meaning, and purpose of gnathology.....1 class Anatomy of the stomatognathic system from the aspect of gnathology. Biostatics of the stomatognathic system (physiological rest, central relation, maximum intercuspidation, occlusal relief, and plane). Physiologically optimal occlusion (optimal position of the TMJ in the glenoid fossa, physiological rest, optimal contact with the teeth during eccentric movements)……...2 classes Results of the first chapter: The student will learn about the basics and meaning of gnathology, will study the anatomy of the stomatognathic system from a gnathological aspect, will learn what optimal occlusion is, and what the relationships are between the elements in optimal positions of the lower jaw 2. Chapter - Functions of the stomatognathic system, rotation and translation, articulation and border mandibular movements (protrusion, retrusion, laterotrusion), chewing (phases, forces, and efficiency), swallowing, and speech Articulation - dynamic occlusion, movements of the lower jaw (protrusion, retrusion, lateral left and right movement), rotation and translation in the TMJ .....1 class Opening and closing the mouth, classification (anterior marginal, posterior marginal, and habitual). Anatomical determinants of the movement of the lower jaw (anterior and posterior-articular guidance).....1 class Functional movement of the lower jaw – chewing, swallowing, and speech (phases, efficiency, and regulation).....1 class Results of the second chapter: The student will learn about the functional stomatognathic system, will learn about the movements of the lower jaw in the TMJ, and its role in functions such as chewing, swallowing, and speech 3. Chapter – Functional analysis of the stomatognathic system and prerequisites for ensuring optimal occlusal conditions; Use of the facial arch Functional analysis of the stomatognathic system (anamnesis, examination, diagnostic methods (visual, tactile methods, and use of occlusal indicators) .....1 class Analysis of occlusion in the occlusal, frontal, sagittal, and transverse planes,			

		vertical dimension.....1 class Use of the facial arch and transfer of models to an articulator, Bennett's movement. Occluders and articulators (types, classification, use), articulator with intermediate values). .....1 class Results of the third chapter: The student will learn how to perform an examination and functional analysis of the occlusion, and will learn of the technique for transmitting information from the cheek arch to the articulator 4. Obstacles and irregularities in the function of the stomatognathic system – occlusal disease, traumatic occlusion, parafunctional activities, tooth wear, TM dysfunctions, myofascial syndrome Diagnosis and classification of diseases of the stomatognathic system (occlusal disease, traumatic occlusion, abrasion, parafunctions, bruxism, occlusal periodontal disease).....2 classes TMJ dysfunctions, diseases of the joint, muscles (myofascial syndrome), tension headache, and migraine……...1 class Results of the fourth chapter: the student will learn how to diagnose and classify occlusal disorders, will learn what dysfunctions of the temporomandibular system are, what the symptoms of the disease are, and how the type and the extent of the disorder are determined. 5. Therapy of obstructions and occlusions, and irregularities in the function of the stomatognathic system Application of a conservative approach in the treatment of occlusal disease and TMD - pharmacotherapy, physical therapy, relaxation methods, cognitive approach, psychosocial treatment, neuromodulators.....1 class Reversible and irreversible therapeutic methods - selective scaling, prosthodontic, orthodontic treatment.....1 class Types of occlusal intraoral splints, mechanism of action of methods for the treatment of TMD (repositioning and stabilization splints).....1 class Results of the fifth chapter: The student will learn when and what types of therapeutic methods are applied to various problems with occlusion and TMD. They will also gain knowledge about the selection of an appropriate therapeutic splint for the treatment, and protocols for the treatment of reduced vertical dimension Total: .....15 classes Exercises - seminars 15 classes		
13	Interrelation of subjects	Gnathology and TMJ Dysfunctions		
14.	Detailed description of the teaching and working methods for the subject	Learning methods: interactive teaching (theoretical), working in small groups - seminars, and other forms set by the joint ECTS criteria		
15.	Total available time	90 classes		
16.	Forms of teaching activities	16.1.	Lectures - theoretical teaching. classes	15 classes
		16.2.	Exercises (laboratory, auditorium), seminars, teamwork: classes	15 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	To receive a signature, the student must fulfill the obligations during the theoretical classes and seminars. To take the final exam, they must pass the given test.		
19	Method of assessment			
	19.1.	Tests: points	30 points	
	19.2.	Seminar paper/project, written and oral presentation: points	10 points	
	19.3.	Final exam: points	60 points	
20	Grading criteria (points/grade)	till 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.	Ljuben N. Guguvchevski	Basics of gnathology	InForma, Skopje	2005
	22.2.	Additional literature			
		Ord. No.	Author	Title	Publisher	Year
		1.	Hamish Thomson	Occlusion	John Wright and Sons USA	1995
		2.	Ajanovic M.	Basics of gnathology	University of Sarajevo, Faculty of Dentistry	2015
		3.	Jeffrey Okeson	Management of TMD and occlusion, 6th edition	Elsevier, Mosbey USA	2008