1	Subject	**PRECLINICAL FIXED PROSTHETIC DENTISTRY**			
2	Code	DPF304			
3	Study Program	Study Program of Integrated studies in dental medicine			
4	Organizing Institution (Unit, Institute, Chair, Department)	Ss. Cyril and Methodius University, Faculty of Dentistry, Department of Prosthetic Dentistry			
5	Educational degree (first or second cycle)	Integrated study			
6	Study year/semester	3/5 and 6	7	Number of credits	9
8	Teacher	Prof. dr. Nikola Gigovski and Prof. dr. Biljana Kapusevska			
9	Preconditions	Passed all compulsory courses of 1 and 2 semester. Signatures of 3 and 4 semester courses			
10	Teaching goals: The goal is for the student to gain knowledge of the principles and techniques for manufacturing dental crowns in the dental laboratory. The student will learn the basic principles and methods for modeling and manufacturing dental bridges from a technical point of view, while also getting acquainted with modern methods and systems for manufacturing.				
11	**Brief content**				

Theoretical course	Class
1.1 Fixed prosthodontics and their historical development, dental crowns, types and characteristics of the dental crowns.	1
1.2 Basic principals in pontic preparation, preparation margins, introduction into different types of impression materials.	1
1.3 Working models with different types of removable abutments.	1
1.4 Preparation of dental pontics, methods for manufacturing copings with wax foil, plastic (Adapta System), by applying wax or dipping the abutment in melted wax	1
1.5 Modeling the occlusal and axial surfaces	1
1.6 Investing, casting and divesting	1
1.7 Modeling veneers with composite materials	1
1.8 Atypical crowns	1
1.9 Crowns with metal made by galvanizing and sintering	1
1.10 Introduction to fully ceramic crowns, Jacket crowns	1
1.11 Modern types of fully ceramic crowns	1
1.12 Telescopic crowns, their modification, Kerber's cone crowns	1
1.13 Crowns with posts that are cemented in the root canal: Richmond crowns, post and core	1
1.14 Protective crowns	1
1.15 Exam	1
2.1 Basic characteristics, definition, conditions for manufacturing and components of dental bridges	1
2.2 Types, modeling and manufacturing of dental bridges (with wax foil and prefabricates) depending on their location	1
2.3 Manufacturing and modeling frontal and lateral dental bridges (maxillary and mandibular)	1
2.4 Preparation before casting and casting the dental bridges	1
2.5 Divesting and polishing dental bridges	1
2.6 Modeling and manufacturing alternative dental bridges	1

	2.7 Modeling, methods and manufacturing fully ceramic dental bridges				1
	2.8 Modeling and manufacturing cantilever and extended dental bridges				1
	2.9 Modeling and manufacturing circular dental bridges				1
	2.10 PFM (porcelain fused to metal) dental bridges, characteristics, modeling and manufacturing frontal and lateral PFM dental bridges				1
	2.11 Investing, divesting and conditioning ceramic dental bridges				1
	2.12 Modeling veneers of PFM bridges – choosing color, applying ceramic and processing the ceramic in furnaces				1
	2.13 Basic characteristics, types and manufacturing fully ceramic bridges				1
	2.14 Modeling veneers using gnathological principal using wax				1
	2.15 Exam				1
	Total				30
	Practical lessons:				Class
	1.Introduction into the instruments and machines in a dental lab used in manufacturing dental crowns				5
	2. Pontic preparation and impressions on a model				5
	3. Casting working models				5
	4. Modeling dental crowns				5
	5. Investing, casting and divesting				5
	6. Modeling veneers				5
	7. Modeling maxillary bridges in the lateral region				5
	8. Modeling mandibular bridges in the lateral region				5
	9. Modeling maxillary bridges in the frontal region				5
	10. Modeling mandibular bridges in the frontal region				5
	11. Modeling fully ceramic bridges (demonstration using wax prefabricates)				5
	12. Modeling PFM bridges (demonstration of modeling veneers with ceramics)				5
	13. Preparation before investing, investing and casting				5
	14. Divesting, polishing and modeling ceramic veneers				5
	15. Manufacturing protective acrylic bridges				5
	Total				90
	Seminars				Class
	Elaboration of topics from the relevant material, presentation of the topics by the students and active involvement of the students until discussion of the given topic.				10
12	Methods of studying: class room oriented lectures, interactive lectures, group work, practical training, seminar paper				
13	Total available time		270 classes		
14	Organization of the course		30 classes - theoretical course, 90 classes- practical course, 10 classes - seminars, 140 classes - home individual learning and other activities		
15	Forms of	15.1.	Theoretical course	30 classes	

	teaching activities	15.2.	Practical course, seminars	Practical course- 90 classes Seminars – 10 classes
16	Other forms of activities	16.1.	Project tasks	
		16.2.	Individual tasks	10 classes
		16.3.	Individual (home) learning	130 classes
17	Method of assessment	17.1.	Tests	18 -30 points
		17.2.	Active participation, seminar paper/project (oral/written presentation)	12-20 points
		17.3.	Final (oral) exam	30-50 points
18	Grading criteria (points / grade)	Up to 60 points		5 (five) (F)
		from 61 to 67 points		6 (six) (E)
		from 68 to 75 points		7 (seven) (D)
		from 76 to 84 points		8 (eight) (C)
		from 85 to 93 points		9 (nine) (B)
		from 94 to 100 points		10 (ten) (A)
19	Requirement for signature and taking the final exam	The student is required to actively follow all of the planned activities. Conditional criteria for assessment of knowledge: In order to get a signature, the student should obtain minimum points in both theoretical and practical courses, and to present seminar paper; In order to take the final exam, the student should obtain the minimum points from activity and test; If the student has not obtained the minimum points in the continual assessments, he/she in next exam session will have paper part of the exam (40 points) and final exam (60 points)		
20	Language of the course	Macedonian		
21	Method for evaluation of the quality of education	Anonymous student's evaluation of the subject, teachers and collaborators involved in the educational activities		

22 Literature

22.1. **Mandatory textbooks**

No.	Author	Title	Publisher	Year
1	Mirchev E.	Preclinical fixed prosthodontics	Studentski zbor, Skopje	2001
2	Bajevska J.	Dental ceramics	Faculty of Dental Medicine	2014
3	Mirchev E.	Dental technology – non-metal and metal	Prosvetno delo, Skopje	1987
4	Kapusevska B.	Technology of fixed prosthodontics (dental bridges)	Magnasken, Skopje	2013
5	Kapusevska B.	Bruxism and occlusal parafunctions (general)	Tanasan, Skopje	2014
6	Kapusevska B.	Bruxism and occlusal parafunctions (specialized)	Tehnosan, Skopje	2015

	22.2.	**Additional literature**				
		No.	Author	Title	Publisher	Year
		1	Valmsli D.A. et al	Restorative dentistry	Ars Lamina, Skopje	2010
		2	Trifunovikj D. et al	Preclinical dental prosthodontics		2000
		3	Smit J.B., Robins J.B., Hilton T.J., Shwarc R.S.	Basics in restorative dentistry – a modern approach	Ars Lamina, Skopje	2011
		4	James B. Smith	Basics in restorative dentistry	Ars Lamina, Skopje	2011
		5	Joey D. da Silva, David A. Mitchel, Lora Mitchel, Paul Branton	Oxford American Handbook of Clinical Dentistry	Ars Lamina, Skopje	2012