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UČNI NAČRT PREDMETA / COURSE SYLLABUS	
Predmet:	**Fiksna protetika 1.**
Course title:	**Fixed Prosthodontics 1.**

Študijski program in stopnja Study programme and cycle	Študijska smer Study option	Letnik Year of study	Semester Semester
Dentalna medicina/Dental Medicine 2. stopnja/2nd cycle		**3**	**6.**

Vrsta predmeta / Course type Obvezni/ Compulsory

Univerzitetna koda predmeta / University course code:

Predavanja Lectures	Seminar Seminar	Vaje Tutorial	Klinične vaje Clinical training	Druge oblike študija Other forms of study	Samost. delo Individual work	ECTS
45	**15**	**45**			**15**	**4**

Nosilec predmeta / Lecturer: **Red. prof. dr. sc. Ivone Uhač/Ivone Uhač, DMD, PhD**

Jeziki / Languages:		
	Predavanja / Lectures:	slovenščina/slovene
	Vaje / Tutorial:	slovenščina/slovene

Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:

Prerequisits:

Vsebina:

Definicija, namen in področje uporabe fiksne protetike. Klinično in predklinično delovno mesto, oprema in instrumenti v protetični ordinaciji. Razvrstitev kron. Osnova brušenja zob v izdelavi popolnih kron. Napake in komplikacije pri brušenju. Varstvo izbrušenega zoba – začasni nadomestki. Individualna lita nadgradnja. Konfekcijske nadgradnje. Laboratorij dentalne medicine, delovno mesto zobnega tehnika, aparati in instrumenti. Modeli za študij, delo in nadzor ter materiali za njihovo izdelavo. Artikulator v fiksni protetiki. Voski v fiksni protetiki. Izdelava voskastega nadomestnega in litega sistema. Naložba, materiali in postopki. Plemenite in neplemenite zlitine za izdelavo fiksne protetike. Litje, lastnosti litega nadomestka, obdelava odlitka, zapleti. Povezovanje istih in/ali različnih vrst kovin. Laboratorijska izdelava estetskega dela nadomestka – akrilni in keramični materiali ter tehnologija izdelave. S steklom okrepljeni kompoziti v fiksni protetiki. Popolni keramični sistemi in tehnologija izdelave.

Content (Syllabus outline):

Definition, purpose and scope of fixed prosthodontics. Clinic and preclinic workplace, equipment and instruments in a prosthodontics' practice. Crown classification. Tooth preparation basics in making of a total crown. Mistakes and complications of tooth preparation. Protection of a prepared tooth – provisional restoration. Cast post and core. Prefabricated post and core. Dental medicine laboratory, workplace of a dental tehnician, appliances and instruments. Materials used for study, work and control models. Articulators in fixed prosthodontics. Waxes in fixed prosthodontics. Making of wax models and casting system. Investment, materials and procedures. Noble and non-noble alloys for fixes prosthodontic restorations. Casting, casted restoration features, cast processing, complications. Connecting the same/different metals. Aesthetic part of the restoration and laboratory production – acrilate and ceramic materials and production technology. Glass reinforced composites in fixed prosthodontics. Total ceramic systems and production technology.

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Temeljni literatura in viri / Readings:

- Shillingburg HT.et al. Fundamentals of fixed prosthodontics, 4th ed. Quintessence Pub. Co. 2012.
- HagiwaraY. Color Atlas of Fixed Prosthodontics, Quintessence Pub. Co. 2013.

Cilji in kompetence:

Cilj predmeta je sprejetje osnovnih znanj in spretnosti s področja fiksne protetike, tehničnih, tehnoloških in laboratorijskih postopkov, ki se uporabljajo pri izdelavi fiksnega protetskega dela, s posebnim poudarkom na postopkih brušenja zob in odtisih ter pomožnih in gradivnih materialov, ki se uporabljajo pri izdelavi nadomestka. Cilj je pridobivanje znanj in veščin za uspešno povezovanje kliničnega in laboratorijskega dela. S predkliničnim delom na modelih in simulatorjih se študenti usposabljajo za teoretični in praktični začetek kliničnega dela pri predmetu Fiksna protetika 2.

Objectives and competences:

The aim of this course is to acquire basic knowledge and skills in fixed prosthodontics, technical, technological and laboratory procedures that are used in the making of a fixed prosthodontic restoration with a special review on tooth preparation, impression taking and materials that are used to make a fixed prosthodontic restoration, all for the purpose of acquring knowledge and skills for a successful connection between clinical and laboratory work. With preclinical work on models and simulators, students are theoretically and practically being trained for clinical work on the course Fixed prosthodontics 2.

Predvideni študijski rezultati:

Znanje in razumevanje:
Študent bo sposoben:
• Razlikovati in opisati opremo in instrumente ter analizirati njihovo uporabo tako v protetski ordinaciji kot tudi v laboratoriju za dentalno medicino.
• Razlikovati in opisati vrste kron.
• Teoretično opisati osnovna načela brušenja zoba za popolno krono ter pridobljena znanja uporabiti v praktičnem delu na modelih in simulatorjih pacienta.
• Razlikovati oblike in velikost brusnih sredstev, izbrati sveder za vsako posamezno ploskev zoba in jih uporabiti.
• Opisati in uporabiti postopke brušenja na vratu zoba.
• Oceniti nepravilnosti in komplikacije kot posledice nepravilnih tehnik priprave in uporabe neprimernih brusnih sredstev.
• Upoštevati in jasno opredeliti lastnosti odtisnih materialov, utemeljiti njihovo uporabo in ustrezno tehniko odjema odtisa glede na vrsto odtisnega materiala in vrsto protetskega materiala.
• Izbrati in uporabiti ustrezno žlico v skladu z odtisnim materialom in tehniko odtisa.
• Opisati in uporabljati tehnike izdelave začasnih nadomestkov.
• Opisati in uporabljati tehnike priprave in odtisa zoba za individualne nadgradnje.
• Razlikovati vrste konfekcijskih nadgradenj s prednostmi in pomanjkljivostmi vsakega med njimi.
• Razlikovati aparate in instrumente ter njihovo uporabo v laboratoriju za dentalno medicino.

Intended learning outcomes:

Students will be able to:

- Differentiate and describe equipment and instuments and analyze their application in a prosthodontics' practice as well as in a laboratory of dental medicine.
- Differentiate and describe types of crowns.
- Theoretically describe basic principles of tooth preparation for total crowns and apply the previously acquired knowledge on practical work with models and patient simulators.
- Differentiate shapes and sizes of burrs, choose the right burr for each tooth surface and use them.
- Describe and apply principles of tooth preparation on the cervical part of the tooth.
- Evaluate mistakes and complications as a consequnce of irregular preparation techniques and usage of inadequate burrs.
- Compare and define features of impression materials, argumentate their usage and impression technique depending on the type of impression material and type of prosthodontic restoration.
- Choose and apply an adequate impression tray depending on the type of impression material and impression technique.
- Describe and apply production techniques of provisional restorations.
- Describe and apply preparation and impression techniques for cast post and cores.
- Differentiate types of prefabricated post and cores with their advantages and disadvantages.

• Primerjati vrste modelov in oceniti uspešnost njihove izdelave. • Razlikovati vrste artikulatorjev in obraznih lokov, prenesti modele v artikulator, jih individualizirati in ga uporabiti. • Opisati pravila izdelave modela iz voska, litega sistema, razlikovati vrste in lastnosti voskov in njihove uporabe ter uporabo konfekcijskih profilov iz voska. • Definirati lastnosti in uporabo materiala za vlaganje in pravila vlaganja modela iz voska. • Analizirati vrste in lastnosti plemenitih in neplemenitih litin v izdelavi fiksnega nadomestka, primerjati posamezne vrste litin in določiti njihovo uporabo v fiksni protetiki. • Opisati termično pripravo objekta in litine za odlitje ter lastnosti litega nadomestka. • Analizirati komplikacije, ki se lahko pojavijo pri odlitju. • Razporediti tehnike in materiale za spajanje kovin in opisati laboratorijske postopke snemanja in varjenja, pa tudi komplikacije, ki lahko nastanejo. • Definirati vrste, lastnosti in uporabo akrilatnih / kompozitnih materialov v fiksni protetiki. • Opisati laboratorijske tehnike izdelave akrilatnega / kompozitnega dela nadomestka. • Definirati vrste, lastnosti in uporabo keramike v fiksni protetiki. • Opisati laboratorijske tehnike izdelave keramičnega dela nadomestka. • Definirati lastnosti in uporabo s steklom okrepljenih kompozitov v fiksni protetiki. • Opisati laboratorijske tehnike izdelave nadomestkov iz s steklom okrepljenih kompozitov . • Razlikovati popolne keramične sisteme. • Definirati lastnosti in uporabo posameznih sistemov. • Opisati laboratorijsko tehniko za posamezen sistem.	• Differentiate appliances and instruments and their usage in a dental medicine laboratory. • Compare different types of models and evaluate production efficiency. • Differentiate different types of articulators and face-bows, transport models in an articulator, individualize and use it. • Describe rules of a wax model production, casting system, differentiate types and features of waxes and their usage as well as using prefabricated wax patterns. • Define features and usage od investment materials and rules for wax model investment. • Analyze types and features of noble and non-noble alloys in the making of fixed prosthodontic restorations, compare different types of alloys and define their use in fixed prosthodontics. • Describe thermical preparations of the object and alloy for casting and features of a casted restoration. • Analyze complications that can occur during the casting process. • Compare techniques and materials for connecting metals and describe laboratory procedures of soldering and welding as well as complications that can occur during the process. • Define types, features and usage of acrylate/composite materials in fixed prosthodontics. • Describe laboratory techniques of production of the acrylate/composite part of the restoration. • Define types, features and usage of ceramics in fixed prosthodontics. • Describe laboratory techniques of production of the ceramic part of the restoration. • Define features and usage of glass reinforced composites in fixed prosthodontics. • Describe laboratory techniques of production glass reinforced composite restorations. • Differentiate total ceramic systems. • Define features and usage of each ceramic system. • Describe the laboratory technique for each ceramic system.
Znanja in spretnosti so podrobneje opisane v Katalogu znanj in spretnosti.	Knowledge and skills are described in more detail in the Catalogue of Knowledge and Skills.

Metode poučevanja in učenja:	**Learning and teaching methods:**
Predavanja Seminarji Vaje	Lectures Seminars Tutorial

Načini ocenjevanja:	**Delež (v %) / Weight (in %)**	**Assessment:**

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Način (pisni izpit, ustno izpraševanje, naloge, projekt)		Type (examination, oral, coursework, project):
Seminarsko delo	**5 %**	**Seminar work**
Praktično delo	**25 %**	**Practical work**
Dva kolokvija v pisni obliki	**15 %** **15 %**	**Two written partial exams**
Pisni končni izpit	**40 %**	**Written final exam**

Reference nosilca / Lecturer's references:

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2. Gržić R, Kovač Z, Kovačević D, **Uhač I**, Delić Z. Kineziografic research of patients with cross bite. Coll Antropol. 2000, 24. Suppl; 1:57-62. **(CC)**
3. **Uhač I**, Kovač Z, Vukovojac S, Žuvić-Butorac M, Gržić R, Delić Z. The effect of occlusal relationships on the occurrence of sounds in the temporomandibular joint. Coll Antropol. 26(2002); 285-292. **(CC)**
4. Kovačević D, Delić Z, Čelebić A, Kovač Z, Gržić R, **Uhač I**, Zlatarić DK. Three month change in the radiodensity of alveolar bone supporting partial-denture abutment teeth. Coll Antropol. 2002. Dec;26 suppl:171-6. **(CC)**
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7. Kovač Z, **Uhač I**, Buković D, Ćabov T, Kovačević D, Grzić R. Oral health status and temporomandibular disorders in multiple sclerosis patients. Coll Antropol. 2005 Dec;29(2):441-4. **(CC)**
8. **Uhač I**, Kovač Z, Muhvić-Urek M, Kovačević D, Frančisković T, Šimunović-Šoškić M. The prevalence of temporomandibular disorders in war veterans with post-traumatic stress disorder. Mil Med. 2006 Nov;171(11):1147-9. **(CC)**
9. Muhvić-Urek M, **Uhač I**, Vukšić-Mihaljević Z, Leović D, Blečić N, Kovač Z. Oral health status in war veterans with post-traumatic stress disorder. J Oral Rehabil. 2007 Jan;34(1):1-8. **(CC)**
10. Simonić-Kocijan S, **Uhač I**, Braut V, Kovac Z, Pavicić DK, Fugosić V, Urek MM. Influence of chronic stress and oclusal interference on masseter muscle pain in rat. Coll Antropol. 2009 Sep;33(3):863-6. **(CC)**
11. Ardu S, Braut V, **Uhač I**, Benbachir N, Feilzer AJ, Krejci I. A new classification of resin-based aesthetic adhesive materials. Coll Antropol. 2010 Sep;34(3):1045-50. **(CC)**
12. Ardu S, Braut V, **Uhač I**, Benbachir N, Feilzer AJ, Krejci I. Influence of mechanical and chemical degradation on surface gloss of resin composite materials. Am J Dent. 2009 Oct;22(5):264-8. **(CC)**
13. **Uhac I**, Tariba P, Kovac Z, Simonić-Kocijan S, Lajnert V, Mesić VF, Kuis D, Braut V. Masticatory muscle and temporomandibular joint pain in Croatian war veterans with posttraumatic stress disorder. Coll Antropol. 2011 Dec;35(4):1161-6. **(CC)**
14. Simunović-Soskić M, Juretić M, Kovac Z, Cerović R, **Uhac I**, Antonić R, Pezelj-Ribarić S. Implant prosthetic rehabilitation of the patients with mandibular resection following oral malignoma surgery. Coll Antropol. 2012 Mar;36(1):301-5. **(CC)**
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16. Kovac Z, Troskot Z, **Uhac I**, Cabov T, Lajnert V, Pavicić DK, Filipović-Zore I, Tariba P. Multivariate analysis of different factors affecting the patient general satisfaction with complete dentures. Coll Antropol. 2012 Sep;36(3):791-.. **(CC)**
17. Grzić R, Spalj S, Lajnert V, Glavicić S, **Uhac I**, Pavicić DK. Factors influencing a patient's decision to choose the type of treatment to improve dental esthetics. Vojnosanit Pregl. 2012 Nov;69(11):978-85. **(SCI)**
18. Simonic-Kocijan S, Zhao X, Liu W, Wu Y, **Uhac I**, Wang K. . TRPV1 channel-mediated bilateral allodynia induced by unilateral masseter muscle inflammation in rats. Mol Pain. 2013 Dec 30;9:68. doi: 10.1186/1744-8069-9-68. **(CC)**
19. Muhvić-Urek M, Vukšić Ž, Simonić-Kocijan S, Braut V, Braut A, Uhač I. Co-occurrence of chronic head, face and neck pain, and depression in war veterans with post-traumatic stress disorder. Acta Clin Croat. 2015 Sep;54(3):266-71. **(CC)**
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