Univerza v Mariboru
Medicinska fakulteta

UČNI NAČRT PREDMETA / COURSE SYLLABUS			
Ime predmeta:	**Biomehanika z osteologijo in osteosintezo**		
Course title:	**Biomechanics, Osteology, Osteosynthesis**		
Študijski program in stopnja Study programme and cycle	**Študijska smer Study option**	**Letnik Year of study**	**Semester Semester**
Biomedicinska tehnologija/3. stopnja		**2**	**3 ali 4**
Biomedical Technology/3rd Degree			

Vrsta predmeta (obvezni ali izbirni) / Course type (compulsory or elective)	Izbirni Elective
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**
		10						
15	**20**	**AV**	**LV**	**RV**			**135**	**6**

Nosilec predmeta / Course coordinator:	dr. Andrej Čretnik*

Jeziki /Languages:	**Predavanja / Lectures:**	Slovenščina/Slovene
	Vaje / Tutorial:	Slovenščina/Slovene

Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:	**Prerequisites for enrolling in the course or for performing study obligations:**

Vsebina (kratek pregled učnega načrta):	**Content (syllabus outline):**
Osteologija (embriologija, histologija, patološka anatomija), zlomi kosti (mehanizem, matematični modeli, Nevittov faktor krhkosti, kostna kvantiteta, kostna kvaliteta), celjenje kostnega zloma (primarno, sekundarno) Osteosinteza (zgodovina, materiali, ekstrafokalna, intramedularna, ekstramedularna, zunanji fiksator prve, druge in tretje generacije, unilateralni, prostorski).	Osteology (embryology, histology, pathological anatomy), bone fractures (mechanism, mathematical models, Nevitt's fragility factor, bone quantity, bone quality), Bone fracture healing process (primary, secondary) Osteosynthesis (history, materials, extrafocal, intramedullary, extramedullary, external fixators of the 1st, 2nd, 3rd generation, unilateral, 3-dimensional).

Temeljni literatura in viri / Reading materials:

- Smernice za delovanje sistema nujne medicinske pomoči ob množičnih nesrečah. Eds. Dujić D, Simčič B. Ljubljana: MZ; 2013. http://www.mz.gov.si/fileadmin/mz.gov.si/pageuploads/kakovost/NMP_2013/mnozicne_nesrece/Smernice_NMP_mnozicne_tisk_2.pdf

- American College of Surgeons, Committee on Trauma. Advanced Trauma Life Support for Doctors, Student Course Manual, 10th Edition. Chicago: American College of Surgeons,2018.
- Ciottone GR (ed.): Ciottone's Disaster Medicine 3rd ed. Philadelphia: Elsevier, 2024.
- KAFTANDZIEV, Igor, BAKOTA, Bore, TRPESKI, Simon, ARSOVSKI, Oliver, SPASOV, Marko, ČRETNIK, Andrej. The effect of the ankle syndesmosis reduction quality on the short-term functional outcome following ankle fractures. Injury, ISSN 1879-0267, 2021, vol. , issue , [v tisku][str. 1-5], ilustr. https://www.sciencedirect.com/science/article/pii/S0020138321003569?via%3Dihub, doi: 10.1016/j.injury.2021.04.047. [COBISS.SI-ID 63598595]
- BAKOTA, Bore, ČRETNIK, Andrej. Advances in trauma and reconstructive surgery in Croatia despite the covid-19 pandemic. Injury, ISSN 1879-0267, 2021, vol. 52, suppl. 5, str. S1-S2. https://doi.org/10.1016/j.injury.2021.08.021, https://www.sciencedirect.com/science/article/pii/S0020138321007221?via%3Dihub, doi: 10.1016/j.injury.2021.08.021. [COBISS.SI-ID 79373315]
- FEKONJA, Anita, ČRETNIK, Andrej. Comparison of craniofacial morphology in individuals with and without hypodontia with a special focus on the number of congenitally missing teeth. Frontiers in public health. 2022, [vol.] 10, str. 1-9. ISSN 2296-2565. https://www.frontiersin.org/articles/10.3389/fpubh.2022.1013862/full, https://doi.org/10.3389/fpubh.2022.1013862, DOI: 10.3389/fpubh.2022.1013862. [COBISS.SI-ID 130493187]

Cilji in kompetence:	**Objectives and competences:**
Razumevanje principov nastanka, diagnostike in zdravljenja zlomov, kostna komponenta, komponenta osteosintetskega materiala	Understanding of rationale mechanisms, diagnosis and treatment of bone fractures with bone and osteosynthetic material component.
Predvideni študijski rezultati:	**Intended learning outcomes:**
Znanje in razumevanje: osteologije, vzrokov za nastanek zloma, načinov zdravljenja z uporabo materialov in tehnologije, specifični vplivi kostne kvantitete in kostne kakovosti na nastanek in zdravljenje zloma.	**Knowledge and understanding:** of osteology, fracture mechanisms, way of treatment with different materials and technologies, specific influence of bone quantity and bone quality.
Prenosljive/ključne spretnosti in drugi atributi: laboratorijske vaje osteosinteze s ploščo in vijaki, z zunanjim fiksatorjem, z endomedularnim žebljem	**Transferable/key competences and other abilities:** practical exercises with plate and screws, with external devices, with endomedullary nail
Metode poučevanja in učenja:	**Learning and teaching methods:**
Predavanja Seminarji (seminarske obravnave) Vaje (laboratorijske vaje – kirurški praktikum) Samostojno delo	Lectures Seminars Tutorial (practical exercises) Individual work

Načini ocenjevanja:	**Delež (v %) / Share (in %)**	**Assessment methods:**
Način (pisni izpit, ustno izpraševanje, naloge, projekt)		Method (written or oral exam, coursework, project):
Seminarska naloga	**50 %**	Seminar paper
Ustni izpit	**50 %**	Oral exam

Reference nosilca / Course coordinator's references:

FEKONJA, Anita, ČRETNIK, Andrej. Comparison of craniofacial morphology in individuals with and without hypodontia with a special focus on the number of congenitally missing teeth. Frontiers in public health. 2022, [vol.] 10, str. 1-9. ISSN 2296-2565. https://www.frontiersin.org/articles/10.3389/fpubh.2022.1013862/full,

https://doi.org/10.3389/fpubh.2022.1013862, DOI: 10.3389/fpubh.2022.1013862. [COBISS.SI-ID 130493187], [JCR, SNIP], kategorija: 1A1 (Z, A', A1/2); uvrstitev: SSCI, SCIE, Scopus, MBP (MEDLINE, PUBMED, DOAJ); tip dela še ni verificirant, točke: 63.99, št. avtorjev: 2

BAKOTA, Bore, ČRETNIK, Andrej. Advances in trauma and reconstructive surgery in Croatia despite the covid-19 pandemic. Injury, ISSN 1879-0267, 2021, vol. 52, suppl. 5, str. S1-S2. https://doi.org/10.1016/j.injury.2021.08.021, https://www.sciencedirect.com/science/article/pii/S0020138321007221?via%3Dihub, doi: 10.1016/j.injury.2021.08.021. [COBISS.SI-ID 79373315], [JCR, SNIP, WoS do 7. 10. 2021: št. citatov (TC): 0, čistih citatov (CI): 0, čistih citatov na avtorja (CIAu): 0, Scopus do 7. 10. 2021: št. citatov (TC): 0, čistih citatov (CI): 0, čistih citatov na avtorja (CIAu): 0] kategorija: 1A2 (Z, A1/2); uvrstitev: SCI, Scopus, MBP; tip dela še ni verificiran kategorija: 1A2 (Z, A1/2); uvrstitev: SCI, Scopus, MBP; tip dela še ni verificiran točke: 44.66, št. avtorjev: 2

KAFTANDZIEV, Igor, BAKOTA, Bore, TRPESKI, Simon, ARSOVSKI, Oliver, SPASOV, Marko, ČRETNIK, Andrej. The effect of the ankle syndesmosis reduction quality on the short-term functional outcome following ankle fractures. Injury, ISSN 1879-0267, 2021, vol. , issue , [v tisku][str. 1-5], ilustr. https://www.sciencedirect.com/science/article/pii/S0020138321003569?via%3Dihub, doi: 10.1016/j.injury.2021.04.047. [COBISS.SI-ID 63598595], [JCR, SNIP] kategorija: 1A2 (Z, A1/2); uvrstitev: SCI, Scopus, MBP; tip dela še ni verificiran točke: 15.7, št. avtorjev: 6