

**UČNI NAČRT PREDMETA / COURSE SYLLABUS**

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| <b>Ime predmeta:</b> | Medicina in šport 2  |
| <b>Course title:</b> | Medicine and sport 2 |

| <b>Študijski program in stopnja</b><br>Study programme and cycle | <b>Študijska smer</b><br>Study option | <b>Letnik</b><br>Year of study | <b>Semester</b><br>Semester |
|------------------------------------------------------------------|---------------------------------------|--------------------------------|-----------------------------|
| Splošna medicina, enovit magistrski študijski program            |                                       | Četrti, peti                   | 7., 9.                      |
| General medicine, Uniform master's degree study program          |                                       | Fourth, fifth                  | 7th, 9th                    |

**Vrsta predmeta (obvezni ali izbirni) /**  
**Course type (compulsory or elective)**

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**Univerzitetna koda predmeta / University course code:**

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| Predavanja<br>Lectures | Seminar<br>Seminar | Vaje<br>Tutorial |    |    | Klinične vaje<br>Clinical<br>training | Druge oblike<br>študija<br>Other forms<br>of study | Samost. delo<br>Individual<br>work | ECTS |
|------------------------|--------------------|------------------|----|----|---------------------------------------|----------------------------------------------------|------------------------------------|------|
| 25                     |                    |                  |    |    |                                       |                                                    | 45                                 | 3    |
|                        |                    | AV               | LV | RV |                                       |                                                    |                                    |      |
|                        |                    |                  | 20 |    |                                       |                                                    |                                    |      |

**Nosilec predmeta / Course coordinator:**

prof. dr. Matjaž Vogrin

**Jeziki /Languages:**

**Predavanja / Lectures:** slovenski/slovene

**Vaje / Tutorial:** slovenski/slovene

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

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**Prerequisites for enrolling in the course or for performing study obligations:**

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**Vsebina (kratek pregled učnega načrta):**

Izbrana poglavja iz medicine športa:

1. Športno srce in nenadna srčna smrt športnika
2. Patofiziološki mehanizmi športnika pri aerobnih in anaerobnih obremenitvah
3. Športna prehrana
4. Šport v ekstremnih razmerah
5. Klinični pregled in diagnostika pri športnih poškodbah lokomotornega aparata
6. Principi zdravljenja športnih poškodb
7. Preventivne mere za preprečevanje športnih poškodb (ortopedski pripomočki, obutev, ogrevanje)
8. Praktični del

**Content (syllabus outline):**

Selected chapters from medicine of sport:

1. Athletic heart and sudden heart death
2. Pathophysiological mechanism of athletes in aerobic and anaerobic burdening
3. Sport nutrition
4. Sport in extreme conditions
5. Clinical examination and diagnostics in sport injuries of locomotor apparatus
6. Treatment principles of sport injuries
7. Preventive measures in preventing sport injuries (orthopedic tools, footwear, warm-up)
8. Practical part

## Temeljni literatura in viri / Reading materials:

1. Wilmore Jack in Costill David, Physiology of Sport and Exercise, Human Kinetics Publishers; 4. izd., 2008
2. Čajevec Rudi, Medicina športa: (priročnik). Celje 2010.
3. Turk in sodelavci, Fizikalna in rehabilitacijska medicina, Visoka zdravstvena šola, Maribor 2002.
4. Pečina M., Heimer S., Športna medicina Zagreb, Naprijed, 2019.
5. Krajnc Z, Vogrin M in sodelavci: 11. in 18. Mariborsko ortopedsko srečanje, Ortopedija in šport, 2015 in 2022
6. Sports Injuries: Prevention, Diagnosis, Treatment and Rehabilitation, editor: Mahmut Nedim Doral. Berlin; Heidelberg, 2011
7. Peter Brukner, Karim Khan Clinical Sports Medicine, Revised: Injuries
8. DeLee Jesse, Drez David, Miller Mark D. (editor), Thompson Stephen R. (editor). DeLee & Drez's orthopaedic sports medicine: principles and practice. Elsevier/Saunders, Philadelphia, 2015.
9. Harrast Mark A. (author, editor), Finnoff Jonathan T. (author, editor). Sports medicine: Study Guide and Review for Boards. 2nd edition, Demos Medical, 2016.

### Cilji in kompetence:

Pridobiti specializirana znanja na področju diagnostike in zdravljenja športnih poškodb, tako na teoretičnem kot tudi praktičnem področju, ob tem pa bodo študenti pridobili tudi specializirana znanja na področju fiziologije športa ter smernic športne prehrane.

### Objectives and competences:

Mastering specialized knowledge in the area of diagnostics and treatment of sport injuries theoretically and practically, and with this students will also master specialized knowledge in the area of sport physiology and guidelines in sport nutrition.

### Predvideni študijski rezultati:

Znanje in razumevanje:

Študent bo pri predmetu poleg teoretičnih osnov fiziologije in patofiziologije športa pridobil naslednja znanja in razumevanje:

1. teoretično in praktično znanje na področju diagnostike in zdravljenja športnih poškodb
2. razumevanje fizioloških procesov na področju kardiovaskularnega sistema športnika
3. o biomehanskih obremenitvah pri različnih športih v ramenih, hrbtenici, kolkih, kolenih in gležnjih.
4. o najpogostejših poškodbah, ki nastajajo pri različnih športih, brahiovertebralnimi sindromi, peritendinitičnimi spremembami v ramenih in komolcih, karpalnih tunelih v zapestju, vertebrogenernimi in vertebralnimi sindromi hrbtenice, degenerativnimi procesi kolena in gležnja, zvini in nategi v velikih sklepih.
5. o osnovnih principih pristopa h poškodbam, imobilizacijah, nujnih ukrepih, lokalni terapiji, fizikalni terapiji in rehabilitacijskih postopkih pri športnih poškodbah.

V praktičnem delu bo pridobil naslednja znanja in razumevanje:

1. Praktični prikaz izvedbe kliničnega pregleda lokomotorne sistema pri športniku
2. vpliv športne vadbe na zdravje in dobro počutje

### Intended learning outcomes:

Knowledge and understanding:

In addition to basic theoretical knowledge about the physiology and pathophysiology of sport, students shall master the following knowledge and understanding:

1. theoretical and practical knowledge in the area of diagnostics and treatment of sport injuries
2. understanding of the physiological processes in the area of the cardiovascular system of athletes
3. biomechanical load in different sport disciplines (shoulder, spine, hips and ankles)
4. most common trauma in performing different sport activities.
3. basic principles of assessing trauma, immobilization, local therapy, physical therapy and rehabilitation.
4. preventive care to prevent sport trauma (orthopedic tools, footwear, warm-up)

In the practical part student shall master the following knowledge and understanding:

1. Practical demonstration of a clinical examination of the locomotor system of athletes
2. influence of sports exercise on the health and wellbeing
3. reaction of the organism to stress and adjustment to various forms of exercise
4. risk factors in sport activity

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| 3. odziv organizma na napor in prilagoditve na različne oblike vadbe<br>4. dejavniki tveganja pri telesni vadbi<br>5. primerna prehrana pri športnih aktivnostih, hidracija in uporaba mikronutrientov<br>6. preventivna vloga športa v ozaveščanju proti različnim oblikam zasvojenosti in drugim patološkim pojavom sodobne družbe (nasilje, samomorilstvo)<br>7. pomen športa v rehabilitaciji.<br><br>Prenosljive/ključne spretnosti in drugi atributi: - | 5. suitable diet for various forms of sports activities, hydration and usage of micronutrients<br>6. preventive role of sport in educating about various forms of addiction and other pathological happenings of the modern society (violence, suicide).<br>7. role of sport in rehabilitation.<br><br>Transferable/key competences and other abilities: - |
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### Metode poučevanja in učenja:

V programu bodo uporabljene naslednje metode in oblike poučevanja:

- metoda razlage in razgovora (predavanja);
- metoda demonstracije;
- metoda praktičnih del: vaje

Oblike:

- frontalna učna oblika
- skupinska učna oblika
- kibernetična učna oblika

### Learning and teaching methods:

Following methods and forms of teaching will be used in the program:

- explanation and discussion method (lecture);
- method of demonstration;
- method of practice: laboratory practise

Forms:

- form of frontal learning
- form of group learning
- form of cybernetic learning

| Načini ocenjevanja:                                                                                                                                                                                                                                                                                    | Delež (v %) /<br>Share (in %) | Assessment methods:                                                                                                                                                                                                                                                                                                             |
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| Način (pisni izpit, ustno izpraševanje, naloge, projekt)<br>pisni izpit<br><br>ŠTUDIJSKE OBVEZNOSTI ŠTUDENTOV:<br>80% prisotnost na predavanjih<br><br>POGOJI ZA PRISTOP K POSAMEZNEMU PREVERJANJU ZNANJA:<br>Opravljen sklop vaj pod mentorstvom kineziologa, zdravnika ali profesorja telesne vzgoje | 100                           | Type (examination, oral, coursework, project):<br>written exam<br><br>ACADEMIC OBLIGATIONS OF STUDENTS:<br>80% attendance at lectures<br><br>REQUIREMENTS FOR ACCESS TO INDIVIDUAL KNOWLEDGE CHECKING:<br>Completed set of exercises under the mentoring of a kinesiologist, medical doctor, or professor of physical education |

### Reference nosilca / Course coordinator's references:

1. VOGRIN, Matjaž, NOVAK, Fiona, LIČEN, Teja, GREINER, Nina, MIKL, Samo, KALC, Miloš. Acute effects of tissue flossing on ankle range of motion and tensiomyography parameters. *Journal of sport rehabilitation*. 2021, vol. 30, issue 1, str. 129-135, ilustr. ISSN 1543-3072. <https://doi.org/10.1123/jsr.2019-0160>, <https://journals.humankinetics.com/view/journals/jsr/aop/article-10.1123-jsr.2019-0160/article-10.1123-jsr.2019-0160.xml>, DOI: 10.1123/jsr.2019-0160. [COBISS.SI-ID 6993215], [JCR, SNIP, WoS do 13. 11. 2022: št. citatov

(TC): 8, čistih citatov (CI): 6, čistih citatov na avtorja (CIAu): 1,00, Scopus do 16. 10. 2022: št. citatov (TC): 6, čistih citatov (CI): 6, čistih citatov na avtorja (CIAu): 1,00]

2. VOGRIN, Matjaž, KALC, Miloš, LIČEN, Teja. Acute effects of tissue flossing around the upper thigh on neuromuscular performance : a study using different degrees of wrapping pressure. *Journal of sport rehabilitation*. May 2021, vol. 30, issue 4, str. 601-608, ilustr. ISSN 1543-3072. <https://journals.humankinetics.com/view/journals/jsr/aop/article-10.1123-jsr.2020-0105/article-10.1123-jsr.2020-0105.xml>, DOI: 10.1123/jsr.2020-0105. [COBISS.SI-ID 42955779], [JCR, SNIP, WoS do 25. 2. 2023: št. citatov (TC): 8, čistih citatov (CI): 7, čistih citatov na avtorja (CIAu): 2,33]

3. VOGRIN, Matjaž, LIČEN, Teja, GREINER, Nina, KALC, Miloš. Peak torque comparison between SMM iMoment in Biodex System Pro 4 isokinetic dynamometers = Primerjava največjega navora med izokinetičnima dinamometroma SMM iMoment in Biodex System Pro 4. *Acta medico-biotechnica : AMB*. [Tiskana izd.]. 2020, vol. 13, [no.] 2, str. 46-54, ilustr. ISSN 1855-5640. <https://journals.um.si/index.php/amb/article/view/1445>, <https://dk.um.si/IzpisGradiva.php?id=83684>, <http://www.dlib.si/details/URN:NBN:SI:doc-GF9EUZSY>, <https://dk.um.si/IzpisGradiva.php?id=83684>, DOI: 10.18690/actabiomed.204. [COBISS.SI-ID 44144899]

4. VOGRIN, Matjaž, TROJNER, Teodor, KELC, Robi. Artificial intelligence in musculoskeletal oncological radiology. *Radiology and oncology*. [Print ed.]. 2021, vol. 55, no. 1, str. 1-6, ilustr. ISSN 1318-2099. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7877260/>, <http://www.dlib.si/details/URN:NBN:SI:doc-M8EIWZBJ>, DOI: 10.2478/raon-2020-0068. [COBISS.SI-ID 36718595], [JCR, SNIP, WoS do 7. 4. 2023: št. citatov (TC): 10, čistih citatov (CI): 10, čistih citatov na avtorja (CIAu): 3,33, Scopus do 20. 12. 2022: št. citatov (TC): 11, čistih citatov (CI): 11, čistih citatov na avtorja (CIAu): 3,67]

5. VOGRIN, Matjaž, LIČEN, Teja, KLJAIĆ-DUJIĆ, Milka. Ischiofemoral impingement syndrome : an overview for strength and conditioning professionals. *Strength and conditioning journal*. Feb. 2021, vol. 43, no. 1, str. 63-71, ilustr. ISSN 1533-4295. [https://journals.lww.com/nsca-scj/Abstract/9000/Ischiofemoral\\_Impingement\\_Syndrome\\_\\_An\\_Overview.99255.aspx](https://journals.lww.com/nsca-scj/Abstract/9000/Ischiofemoral_Impingement_Syndrome__An_Overview.99255.aspx), DOI: 10.1519/SSC.0000000000000568. [COBISS.SI-ID 17874435], [JCR, SNIP, WoS]