

**UČNI NAČRT PREDMETA / COURSE SYLLABUS**

**Predmet:** MEDICINA DELA  
**Course Title:** OCCUPATIONAL HEALTH

Študijski program in stopnja Study Programme and Level	Študijska smer Study Field	Letnik Academic Year	Semester Semester
UŠP Tehniška varnost, 1. stopnja	/	2.	4.
USP Technical Safety, 1 <sup>st</sup> Cycle	/	2 <sup>nd</sup>	4 <sup>th</sup>

**Vrsta predmeta / Course Type**

obvezni / Mandatory

**Univerzitetna koda predmeta / University Course Code:**

TV116

Predavanja Lectures	Seminar Seminar	Vaje Tutorial	Klinične vaje Work	Druge oblike študija	Samost. delo Individ. Work	ECTS
30	15	30 SV	/	/	75	5

**Nosilec predmeta / Lecturer:**

Izr. prof. dr. Alenka Franko / Dr. Alenka Franko, Associate Professor

**Jeziki / Languages:**

**Predavanja / Lectures:** Slovenski / Slovenian

**Vaje / Tutorial:** Slovenski / Slovenian

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

Študent oz. kandidat mora imeti predmet opredeljen kot študijsko obveznost.

**Prerequisites:**

The course has to be assigned to the student.

**Vsebina:**

**Predavanja:**

1sklop: Zgodovina, organizacija, zakonodaja aktivnega zdravstvenega varstva zaposlenih. Naloge pooblaščenega zdravnika. Ocene tveganja – zdravstveni vidik. Obremenitev in obremenjenost v delovnem okolju. Preventivni zdravstveni pregledi. Kazalci negativnega zdravja. Bolniški stalež. Poškodbe pri delu. Poklicne bolezni. Invalidnost. Poklicna rehabilitacija. Ekonomski vidik poškodb pri delu.  
 2. sklop: Veliki javno zdravstveni problemi. Ergonomija v aktivnem zdravstvenem varstvu zaposlenih. Utrujenost- praktični primer proučevanja. Telesna aktivnost. Etika v

**Content (Syllabus Outline):**

**Lectures:**

Section 1: History, organization, legislation of active healthcare for employees. Tasks of the authorized physician. Risk assessment – the medical perspective. Strain and stress in the work environment. Preventive medical examinations. Negative health indicators. Sick leave. Work-related injuries. Occupational diseases. Disability. Occupational rehabilitation. The financial aspect of work-related injuries.  
 Section 2: Major problems in public healthcare. Ergonomics in the context of active healthcare for employees. Tiredness – a practical examination case. Physical activity. Ethics in active healthcare.

aktivnem zdravstvenem varstvu.

3. sklop: Analize delovnih mest z vidika poklicne orientacije in selekcije ter rehabilitacije. Uvod v industrijsko patologijo. Hrup in vibracije. Sevanje.

4. sklop: Promocija zdravja. Poklicne bolezni dihal. Poklicne bolezni kože. Plini pare in aerosoli.

5. Sklop: Epidemiologija delovnega okolja. Težke kovine. Pesticidi. Poklicni rak. Medicina prometa. Problematika alkohola in drog v delovnem okolju.

**Seminarji:** področje patologije dela in aktivnega zdravstvenega varstva zaposlenih oz. večjih zdravstvenih problemov v povezavi z delovnim okoljem. Vsak študent pripravi seminar določene dolžine in določenega števila literaturnih virov, ga odda v pisni obliki ter predstavi študentom

Teoretično in praktično usposabljanje iz osnov prve pomoči v delovnem okolju

**Vaje:** analiza kazalcev negativnega zdravja v konkretnem delovnem okolju (pojavnosti bolniškega staleža, poškodb pri delu ali invalidnosti po predlogi in z izdelavo predloga ustreznih ukrepov za zmanjševanje oz. odpravljanje kazalcev

Section 3: Analysis of workplaces from the perspective of occupational orientation as well as selection and rehabilitation. Introduction to industrial pathology. Noise and vibrations. Radiation.

Section 4: Promotion of health. Occupational diseases of the respiratory system. Occupational skin diseases. Gases, vapors and aerosols.

Section 5: Epidemiology of the work environment. Heavy metals. Pesticides. Occupational cancer. Traffic medicine. The issue of alcohol and other substances at the workplace.

**Seminars:** In labor pathology and active healthcare for employees or in major medical issues related to the workplace. Every student writes a paper with the specified number of words and number of references turns it in in writing and gives a presentation to other students.

Theoretical and practical instruction on the basics of first aid at the workplace

**Practical work:** Analysis of negative health indicators in a concrete work environment (incidence of sick leave, work-related injuries and disability) according to template; formulation of a proposal for appropriate measures to reduce or eliminate negative indicators.

#### Temeljna literatura in viri / Readings:

1. Bilban M. Medicina dela za študente tehniške varnosti, ZVD, Ljubljana 2005, 191 str. (80%)
- Additional literature:**
2. Bilban M. Medicina dela, ZVD, Ljubljana 1999, 605 str.
  3. Bilban M. Medicina dela za zdravnike družinske medicine, SZD – ZMDPŠ Ljubljana 2002, 227 str.
  4. Bilban M. Prva pomoč v delovnem okolju, ZVD, Ljubljana 2003, 201 str.
  5. Sušnik J. Ergonomska fiziologija, Didakta, 1992, 352 str.
  6. Šarić M. Žuškin E. Medicina rada i okoliša, Medicinska naklada, Zagreb 2002, 829 str.
  7. Vidaković A. Medicina rada, KCS – Institut za medicinu rada i radiološku zaštitu, Udruženje za medicinu rada Jugoslavije, Beograd 1996 in 1997

**Cilji in kompetence:**

**Objectives and Competences:**

Študent spozna:

- oblike in metode ter načine proučevanja tveganj na delu (obremenitve in škodljivosti), v prometu in športu (rekreaciji);
- vplive delovnega okolja na zmogljivosti posameznih organov in organskih sistemov ter človeka kot celote;
- vplive delovnega okolja na zdravje in delazmožnost (zdravstveni, pravno-upravni, tehnični, organizacijski vidik);
- obremenitve (ekološki monitoring) in zgodnje učinke obremenjenosti na zdravje in delazmožnost (biološki monitoring);
- vplive delovnega okolja na specifične kazalce negativnega zdravja posameznika ali skupine (epidemiološki monitoring);
- osnovne principe ocenjevanja začasne in trajne dela nezmožnosti ter poklicne orientacije, selekcije in rehabilitacije;
- osnove humanizacije dela oziroma ergonomije v najširšem smislu;
- osnove promocije zdravja v delovnem okolju;

The student will familiarize himself with:

- forms, methods and procedures used to research risks present at the workplace (causes of strain and harm), in traffic and in sports (recreation);
- how the work environment affects the capacities of various organs and organ systems, as well as the whole human being;
- how the work environment affects general health and ability to work (the medical, legal-administrative, technical, organizational aspects);
- types of strain (ecology monitoring) and early effects of stress on health and ability to work (bio monitoring);
- how the work environment affects specific negative health indicators of an individual or of a group (epidemiological monitoring);
- basic principles of assessment of temporary or permanent inability to work, as well as occupational orientation, selection and rehabilitation;
- basics of the humanization of labor or ergonomics in its broadest sense;
- Basics of health promotion in the work environment.

#### **Predvideni študijski rezultati:**

##### Znanje in razumevanje

- organizacija dela v medicini dela;
- praktične in teoretične oblike analiz delovnega okolja z zdravstvenega vidika;
- teoretski in praktični pristop k meritvam fizioloških funkcij v oceni delazmožnosti;
- principe in postopke preprečevanja poklicnih tveganj v delovnem okolju;
- osvoji vrednotenje ekološkega in biološkega monitoringa ter osnovne principe epidemiologije delovnega okolja;
- osvoji osnove izdelave ergonomskega nasveta, rešitve spoznavno – izvajalske ergonomije, ergonomije delovnega mesta in izdelka;
- osvoji načine in postopke izdelave celovite delovne anamneza (anamneza ekspozicije);
- osvoji osnove ocenjevanja začasne in trajne dela nezmožnosti, poklicne orientacije,

#### **Intended Learning Outcomes:**

##### Knowledge and Comprehension

- organization of work in occupational medicine;
- practical and theoretical forms of the analysis of the workplace from the medical perspective;
- theoretical and practical approach to the measurement of bodily functions in working ability assessment;
- principles and procedures of work-related risk mitigation at the workplace;
- evaluation of ecology and bio monitoring, as well as basic principles of epidemiology of the workplace;
- basics of ergonomic counseling, solutions presented by cognitive-organizational ergonomics as well as those presented by workplace and product ergonomics;
- methods and procedures of a complete workplace anamnesis (exposition anamnesis);
- basics of assessment of temporary and

<p>selekcije in rehabilitacije;</p> <ul style="list-style-type: none"> <li>- spozna obremenitve, tveganja in zahteve posameznih oblik in kategorij vožnje;</li> <li>- osvoji osnovne oblike, metode in načine izvedbe različnih oblik promocije zdravja v delovnem okolju;</li> <li>- spozna zahteve in posebnosti rizičnih skupin delavcev;</li> <li>- spozna in zna vrednoti osnove tehničnega varstva pri delu...</li> </ul>	<p>permanent inability to work, basics of occupational orientation, selection and rehabilitation;</p> <ul style="list-style-type: none"> <li>- strains, risks and demands of various types and categories of driving;</li> <li>- basic forms, methods and procedures of various types of health promotion at the workplace;</li> <li>- demands and special features of various groups of at-risk workers;</li> <li>- evaluation of basic of technical workplace safety ...</li> </ul>
<p><u>Uporaba</u></p> <p>Varovanje in izboljšanje zdravja zaposlenih; Preprečevanje in obvladovanje poklicnih bolezni, poškodb pri delu...  Odpravljanje poklicnih tveganj in pogojev dela, ki ogrožajo varnost in zdravje pri delu; Razvoj in napredek varstva pri delu, organizacije dela, pogojev dela...  Izboljšanje poklicnega in socialnega statusa zaposlenih, fizičnega in materialnega statusa zaposlenih;  Ohranjanje in razvoj delazmožnosti zaposlenih; Omogočanje socialno in ekonomsko produktivnega življenja...</p>	<p><u>Application</u></p> <p>Protection and improvement of employee health; prevention and management of occupational diseases, work-related injuries ...; mitigation of occupational hazards and working conditions that present a danger to occupational health and safety; development and advancement of occupational safety, work organization, work conditions ... improvement of the occupational, social, physical and material status of employees; protection and development of the employees' ability to work; fostering a socially and financially productive life ...</p>
<p><u>Refleksija</u></p> <p>Spoznati osnove in pomembnosti proučevanj tveganj in njihov vpliv na zmogljivosti človeka v celoti.</p>	<p><u>Reflection</u></p> <p>To know the basics and the importance of researching risks and the effect they have on a person's overall capacities.</p>
<p><u>Prenosljive spretnosti</u></p> <p>Sposobnost iskanja po medicinski literaturi, komuniciranja z zdravstvenimi delavci.</p>	<p><u>Skill-transference Ability</u></p> <p>Ability to search medical literature, communicate with healthcare workers.</p>

**Metode poučevanja in učenja:**

<p>Predavanja  Vaje – obvezna prisotnost in sodelovanje, ter izdelava poročila o analizi izbranega kazalca negativnega zdravja  Seminarji – obvezna prisotnost, priprava seminarja, izvedba : ocena izdelka in predstavitev</p>
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**Learning and Teaching Methods:**

<p>Lectures  Practical work – required attendance and participation, preparation of a report on the analysis carried out on the chosen negative health indicator  Seminars – required attendance, preparation of paper, execution: marks are given for the paper as well as presentation</p>
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Delež (v %) /

**Načini ocenjevanja:**

Weight (in %)

**Assessment:**

Pisni izpit esejskega tipa (10 vprašanj) 50 % ocene	<b>50%</b>	Written examination, essay type (10 questions): 50% of final grade Seminar paper: 50% of final grade
Seminarska naloga 50 % ocene	<b>50%</b>	

**Reference nosilca / Lecturer's References:**

1. GORIČAR, Katja, KOVAČ, Viljem, **FRANKO, Alenka**, DODIČ-FIKFAK, Metoda, DOLŽAN, Vita. Serum survivin levels and outcome of chemotherapy in patients with malignant mesothelioma. Disease markers, ISSN 1875-8630, 2015, vol. 2015, str. 1-8. <http://www.hindawi.com/journals/dm/2015/316739/>, doi: 10.1155/2015/316739. [COBISS.SI-ID 32176857], [JCR, SNIP, WoS do 24. 10. 2015: št. citatov (TC): 0, čistih citatov (CI): 0, Scopus do 10. 10. 2015: št. citatov (TC): 0, čistih citatov (CI): 0]
2. KOVAČ, Viljem, DODIČ-FIKFAK, Metoda, ARNERIĆ, Niko, DOLŽAN, Vita, **FRANKO, Alenka**. Fibulin-3 as a biomarker of response to treatment in malignant mesothelioma. Radiology and oncology, ISSN 1318-2099. [Print ed.], Sep. 2015, vol. 49, no. 3, str. 279-285, doi: 10.1515/raon-2015-0019. [COBISS.SI-ID 2427564], [JCR, SNIP, WoS do 19. 4. 2017: št. citatov (TC): 3, čistih citatov (CI): 2, Scopus do 30. 3. 2017: št. citatov (TC): 3, čistih citatov (CI): 2]
3. **FRANKO, Alenka**, DOLŽAN, Vita, ARNERIĆ, Niko, DODIČ-FIKFAK, Metoda. The influence of gene-gene and gene-environment interactions on the risk of asbestosis. BioMed research international, ISSN 2314-6141, 2013, vol. 2013. <http://www.hindawi.com/journals/bmri/2013/405743/>, doi: 10.1155/2013/405743. [COBISS.SI-ID 30775769], [JCR, SNIP, WoS do 3. 4. 2015: št. citatov (TC): 1, čistih citatov (CI): 1, Scopus do 3. 7. 2015: št. citatov (TC): 2, čistih citatov (CI): 2]
4. **FRANKO, Alenka**, DOLŽAN, Vita, KOVAČ, Viljem, ARNERIĆ, Niko, DODIČ-FIKFAK, Metoda. Soluble mesothelin-related peptides levels in patients with malignant mesothelioma. Disease markers, ISSN 0278-0240, 2012, vol. 32, no. 2, str. 123-131, doi: 10.3233/DMA-2011-0866. [COBISS.SI-ID 29611737], [JCR, SNIP, WoS do 19. 4. 2017: št. citatov (TC): 7, čistih citatov (CI): 4, Scopus do 25. 4. 2017: št. citatov (TC): 8, čistih citatov (CI): 5]
5. ERČULJ, Nina, KOVAČ, Viljem, HME LJAK, Julija, **FRANKO, Alenka**, DODIČ-FIKFAK, Metoda, DOLŽAN, Vita. DNA Repair Polymorphisms and Treatment Outcomes of Patients with Malignant Mesothelioma Treated with Gemcitabine-Platinum Combination Chemotherapy. Journal of thoracic oncology, ISSN 1556-0864, October 2012, vol. 7, no. 10, str. 1609-1617. [COBISS.SI-ID 512300345], [JCR, SNIP, WoS do 17. 11. 2016: št. citatov (TC): 6, čistih citatov (CI): 2, Scopus do 5. 2. 2016: št. citatov (TC): 7, čistih citatov (CI): 4]