UČNI NAČRT PREDMETA / COURSE SYLLABUS	
Predmet:	**ZDRAVSTVENA EKOLOGIJA**
Course title:	ENVIRONMENTAL HEALTH

Študijski program in stopnja Study programme and level	Študijska smer Study field	Letnik Academic year	Semester Semester
Varstvo okolja in eko-tehnologija		2	

Vrsta predmeta / Course type

Univerzitetna koda predmeta / University course code:

Predavanja Lectures	Seminar Seminar	Vaje Tutorial	Klinične vaje work	Druge oblike študija	Samost. delo Individ. work	ECTS
20	25		/	/	60	5

Nosilec predmeta / Lecturer: Ivan Eržen

Jeziki / Languages:	**Predavanja / Lectures:**	Slovenski / Slovenian
	Vaje / Tutorial:	Slovenski / Slovenian

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

Vsebina:	**Content (Syllabus outline):**
V okviru predmeta ZDRAVJE IN OKOLJE-EPIDEMIOLOŠKI VIDIKI bodo študenti spoznali zgodovinski razvoj ter pomen in vpliv družbenega okolja za razvoj tega področja. Predstavljen bo pomen medsebojnega ravnovesja med okoljem, osebami in posameznimi dejavniki, ki vplivajo na zdravje. Seznanili se bodo z različnimi adaptacijskimi mehanizmi. V okviru predmeta bodo prikazni najpomembnejšimi dejavniki delovnega in bivalnega okolja. Poseben poudarek bo na prikazu proučevanja vplivov dejavnikov okolja na zdravje s pomočjo epidemioloških raziskave. Spoznali bodo nekatere primere škodljivega delovanja dejavnikov delovnega in bivalnega okolja na zdravje. Seznanili se bodo s temeljnimi načini ukrepanja na področju zmanjševanja delovanja škodljivih dejavnikov v delovnem in bivalnem okolju ter načine s katerimi je mogoče zmanjšati ogroženost zdravja zaradi dejavnikov okolja.	Within the ENVIRONMENTAL HEALTH-EPIDEMIOLOGICAL PERSPECTIVE course a student will introduce historical development of the discipline. The interrelationship between environment, individuals and risk factors will be presented. Special emphasis will be given to different levels of adaptation. Main risk factors in living and working environment will be presented as well. A special emphasis will be on the presentation of the study of the effects of environmental factors on health through epidemiological research.Students will deal with different case studies where the health impairment was caused by exposure to hazardous factors in environment. Students will become aware of importance of introduction of effective measures for ensuring healthy life style and work environment. The students will get an overview of basic measures that can help to reduce harmful exposures to living and working environment.

Temeljni literatura in viri / Readings:

ERŽEN, Ivan, GAJŠEK, Peter, HLASTAN-RIBIČ, Cirila, KUKEC, Andreja, POLJŠAK, Borut, ZALETEL-KRAGELJ, Lijana. Zdravje in okolje : izbrana poglavja. 1. izd. Maribor: Medicinska fakulteta, 2010. 216 str., ilustr. ISBN 978-961-6739-14-6.Čakš T et al. Priročnik iz higiene, Inštitut za higieno, MF Ljubljana 2002

Dopolnilna literatura:
Yassi A et al. Basic Environmental Health. Oxford University Press 2001
Coggon C. et al. National Integrated Programmes on Environment and Health. WHO 1993
http://themes.eea.eu.int/
http://www.sigov.si/mop/
http://www.epa.gov/epahome/resource.htm

Cilji in kompetence:

Študentke in študenti bodo poznali vplive širšega in ožjega bivalnega okolja ter delovnega okolja na človekovo zdravje, bodisi v dobrem-pozitivnem, bodisi v slabem-negativnem smislu. Cilj predmeta je približati razumevanje pomena zagotavljanja osnovnih predpogojev za zdravo življenjsko in delovno okolje. Namen predmeta je tudi študentom pomagati razumeti specifične metode dela pri odkrivanju in obvladovanju škodljivosti v delovnem in bivalnem okolju.

Objectives and competences:

Students should know the importance and influence of living and work environment to the health of an individual. The specific objective is to help students to understand the importance of ensuring all basic requirements for healthy living and work environment. Further, the subject aims to improve the theoretical knowledge on specific methods and approaches usually applied in order to identify and manage risk factors in living and work environment.

Predvideni študijski rezultati:

Znanje in razumevanje:
Študentke in študenti bodo:
- poznali izzive v povezavi z okoljem in zdravjem,
- poznali osnovne pristope v okviru epidemiološkega proučevanja vplivov dejavnikov okolja na zdravje,
- poznali pristope, probleme in rešitve pri pridobivanju podatkov za raziskave na področju zdravja in okolja,
- sposobni opraviti osnovno oceno tveganja ob upoštevanju različnih načinov izpostavljenosti škodljivim dejavnikom,
- poznali osnovne pristope in ukrepe za obvladovanje problemov v okviru okoljske medicine in medicine dela.

Prenosljive/ključne spretnosti in drugi atributi:
Študentke in študenti bodo:
- s pridobljenim znanjem in veščinami lahko sodelovali pri ugotavljanju razširjenost zdravstvenih problemov in stanj, povezanih z negativnimi dejavniki v delovnem in bivalnem okolju ter pri proučevanju vzroke zanje, iskanju ukrepov za obvladovanje posledic ter pri ocenjevanju učinkovitost teh ukrepov,
- usposobljeni za interdisciplinarni pristop, načrtovanje in celovito obvladovanje procesov

Intended learning outcomes:

Knowledge and understanding:
On the completion of this course student will:
- understand the challenges in environmental health,
- knew basic approaches in the framework of the epidemiological study of the effects of environmental factors on health,
- introduce basic approaches, problems and solutions in collecting relevant data in environmental health,
- be able to conduct a risk assessment process considering different routes and intensity of exposure,
- will learn about basic approaches and measures in management of problems in environmental and occupational medicine.

Transferable/Key Skills and other attributes:
- The students will:
- be able to recognize and understand approaches and problems in conducting assessment of public health problems arising due to exposure to negative risk factors in working and living environment,
- be able to work in a multidisciplinary team in the planning process and conducting a comprehensive process for ensuring healthy work and living environment, capable for

na področju zagotavljanja zdravega delovnega in bivalnega okolja, - usposobljeni za pridobivanje informacij na področju okoljske medicine in medicine dela s pomočjo spleta, literature in drugih virov podatkov in informacij ter za timsko delo.	gathering data and information in the field of environmental and occupational medicine from the web and different other credible sources.

Metode poučevanja in učenja:	**Learning and teaching methods:**
- Predavanja, - seminarji.	- Lectures, - seminars.

Načini ocenjevanja:	Delež (v %) / Weight (in %)	**Assessment:**
Način (pisni izpit, ustno izpraševanje, naloge, projekt):		**Type (examination, oral, coursework, project):**
- Seminar.	**20%**	- Seminar.
- Pisni izpit.	**80%**	- Oral test.

Materialni pogoji za izvedbo predmeta :	**Material conditions for subject realization:**
- predavalnica z multimedijsko opremo - računalniška učilnica	- classroom with the multimedia equipment - computer classroom

Obveznosti študentov:	**Student's commitments:**
(pisni, ustni izpit, naloge, projekti)	(written, oral examination, coursework, projects):
- Obvezna udeležba na vajah - Izdelana seminarska naloga	- Obvezna udeležba na vajah - Seminar paper

Reference nosilca / Lecturer's references:

LANZINGER, Stefanie, SCHNEIDER, Alexandra, BREITNER, Susanne, STAFOGGIA, Massimo, ERŽEN, Ivan, DOSTÁL, Miroslav, PASTORKOVA, Anna, BASTIAN, Susanne, CYRYS, Josef, ZSCHEPPANG, Anja, KOLODNITSKA, Tetiana, PETERS, Annette. Ultrafine and fine particles and hospital admissions in Central Europe, results from the UFIREG Study. American journal of respiratory and critical care medicine, ISSN 1073-449X, 2016, vol. 194, no. 10, str. 1233-1241, doi: 10.1164/rccm.201510-2042OC. [COBISS.SI-ID 3655909], [JCR, SNIP, WoS do 9. 12. 2018: št. citatov (TC): 10, čistih citatov (CI): 10, Scopus do 30. 11. 2018: št. citatov (TC): 9, čistih citatov (CI): 9]

LANZINGER, Stefanie, SCHNEIDER, Alexandra, BREITNER, Susanne, STAFOGGIA, Massimo, ERŽEN, Ivan, DOSTÁL, Miroslav, PASTORKOVA, Anna, BASTIAN, Susanne, CYRYS, Josef, ZSCHEPPANG, Anja, KOLODNITSKA, Tetiana, PETERS, Annette. Associations between ultrafine and fine particles and mortality in five central European cities - results from the UFIREG study. Environment international, ISSN 0160-4120. [Print ed.], 2016, letn. 88, št. march, str. 44-52, ilustr., doi: 10.1016/j.envint.2015.12.006. [COBISS.SI-ID 3580133], [JCR, SNIP, WoS do 9. 12. 2018: št. citatov (TC): 28, čistih citatov (CI): 27, Scopus do 30. 11. 2018: št. citatov (TC): 34, čistih citatov (CI): 33]

KARO BEŠTER, Petra, LOBNIK, Franc, ERŽEN, Ivan, KASTELEC, Damijana, ZUPAN, Marko. Prediction of cadmium concentration in selected home-produced vegetables. Ecotoxicology and environmental safety, ISSN 0147-6513, 2013, vol. 96, str. 182-190, doi: 10.1016/j.ecoenv.2013.06.011. [COBISS.SI-ID 7658873], [JCR, SNIP, WoS do 27. 8. 2018: št. citatov (TC): 13, čistih citatov (CI): 13, Scopus do 26. 11. 2018: št. citatov (TC): 17, čistih citatov (CI): 17]

BLAZNIK, Urška, YNGVE, Agneta, ERŽEN, Ivan, HLASTAN-RIBIČ, Cirila. Consumption of fruits and vegetables and probabilistic assessment of the cumulative acute exposure to organophosphorus and carbamate pesticides of schoolchildren in Slovenia. Public health nutrition, ISSN 1368-9800, 2016, vol. 19, no. 3, str. 557-563, doi: 10.1017/S1368980015001494. [COBISS.SI-ID 3380197], [JCR, SNIP, Scopus do 29. 3. 2018: št. citatov (TC): 4, čistih citatov (CI): 4]

JEREB, Gregor, POLJŠAK, Borut, ERŽEN, Ivan. Contribution of drinking water softeners to daily phosphate intake in Slovenia. International journal of environmental research and public health, ISSN 1660-4601, 2017, vol. 14, iss. 10, str. 1-10. http://www.mdpi.com/1660-4601/14/10/1186, doi: 10.3390/ijerph14101186. [COBISS.SI-ID 5316971], [JCR, SNIP, WoS do 24. 11. 2017: št. citatov (TC): 0, čistih citatov (CI): 0, Scopus do 25. 10. 2017: št. citatov (TC): 0, čistih citatov (CI): 0]

ŠTUPAR, Janez, DOLINŠEK, Franci, ERŽEN, Ivan. Hair-Pb longitudinal profiles and blood-Pb in the population of young Slovenian males. Ecotoxicology and environmental safety, ISSN 0147-6513, 2007, letn. 68, št. 1, str. 134-143, doi: 10.1016/j.ecoenv.2006.03.010. [COBISS.SI-ID 24200665], [JCR, SNIP, WoS do 12. 11. 2017: št. citatov (TC): 17, čistih citatov (CI): 17, Scopus do 20. 11. 2017: št. citatov (TC): 23, čistih citatov (CI): 23]

ERŽEN, Ivan, ZALETEL-KRAGELJ, Lijana. Exposure assessment of male recruits in Slovenia to cadmium and lead due to biological monitoring. Journal of exposure analysis and environmental epidemiology, ISSN 1053-4245, 2004, letn. 14, št. 5, str. 385-390. [COBISS.SI-ID 18543577], [JCR, WoS do 15. 2. 2013: št. citatov (TC): 2, čistih citatov (CI): 0, Scopus do 15. 4. 2013: št. citatov (TC): 3, čistih citatov (CI): 1]