

<b>UČNI NAČRT PREDMETA / COURSE SYLLABUS</b>
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<b>Ime predmeta:</b>	<b>Kirurški vidiki medicine v izrednih razmerah</b>
<b>Course title:</b>	<b>Surgical view of disaster medicine</b>

Študijski program in stopnja Study programme and cycle	Študijska smer Study option	Letnik Year of study	Semester Semester
Splošna medicina, enovit magistrski študijski program		Peti, šesti	10., 11.
General medicine, Uniform master's degree study program		Fifth, sixth	10th, 11th

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

izbirni
elective

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

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Predavanja Lectures	Seminar Seminar	Vaje Tutorial			Klinične vaje Clinical training	Druge oblike študija Other forms of study	Samost. delo Individual work	ECTS
5	40						45	3
		AV	LV	RV				

**Nosilec predmeta / Course coordinator:**

izr. prof. dr. Andrej Čretnik
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**Jeziki /Languages:**

<b>Predavanja / Lectures:</b>	slovenski/slovene
<b>Vaje / Tutorial:</b>	slovenski/slovene

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

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

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

**Content (syllabus outline):**

Medicina v izrednih razmerah (Disaster medicine) je nova veja medicine, ki se je razvila v ZDA v zadnjih dveh desetletjih iz »Disaster managementa« in »Emergency medicine«. Postopno so jo prevzele tudi številne druge države, še posebej glede na naraščanje mednarodnih trenj, konfliktov, terorizma in spremenjenega načina vojaškega delovanja ter vse večjega pojavljanja naravnih katastrof in množičnih nesreč.

Študenti se v okviru Medicine v izrednih razmerah seznanijo s splošnim delom (definicijami izrednih razmer, katastrofe, družbene krize, vojne, terorizma, množičnih nesreč itd.) in z etičnimi, socialnimi in psihološkimi vidiki v izrednih razmerah ter z javnozdravstvenimi vidiki na prehospitalem in hospitalnem nivoju in specifično obravnavo posebno ogroženih skupin prebivalstva (otroci, nosečnice, starostniki). Pridobijo si kompetence na področju načrtovanja in izvajanja medicine v izrednih razmerah na nivoju lokalne skupnosti, države in mednarodnih organizacij.

V specialnem delu obravnavamo vojno kirurgijo, množične naravne in mirnodobne nesreče (posledice civilizacije), nesreče ob terorističnih napadih in ukrepe v takšnih primerih.

V seminarskem delu je predvidena obravnava tovrstne problematike poglobljeno, s praktično obravnavo konkretnih primerov izrednih dogodkov v novejšem času (primeri terorizma, vojn, migracij, naravnih katastrof, množičnih nesreč...).

Študenti se bodo seznanili z ukrepi medicine v izrednih razmerah, triažo, organizacijo transporta in ukrepov v predbolnišničnem in bolnišničnem okolju, z mednarodno licenciranim naborom znanj in veščin (MRMI/MACSIM), kakor tudi sistematične obravnave hudo poškodovanega (Advanced Trauma Life Support) in principov kirurške obravnave „Damage control surgery“. Le-ta pomeni prilagoditev medicinskih ekip lokalnim tehničnim, kadrovskim in prostorskim danostim in se vklaplja v etapno obravnavo hudo poškodovanih pri množičnih poškodovanjih v mirnem času in v vojni.

Disaster medicine is a new medical field that has developed in USA in the latest 20 years with merging "Disaster management" and "Emergency medicine." It has been widely adopted in many countries as a "medical response" of increasing threats and events in the field of international conflicts, terrorism and military strategy as well as increasing number of natural disasters and some other major incidents.

Students get insight and earn competences in the general as well as special principles of disaster medicine, together with basic skills of medical response to all types of the major incidents in different settings. Beside definitions of specific terms they will be faced with the ethical, social and psychological aspects, together with Public Health measures in the Pre- and Hospital settings in major incidents with the special emphasize in the risk groups (children, pregnant women and elderly people). They will earn basic competences of preparedness and measures in the major incidents at the local, national and international level.

In the special part basic principles in the field of war surgery and medical response in the major incidents in natural and civil disasters and terrorist's attacks will be discussed.

Practical aspects will be concerned in seminars through the real situations in the recent major incidents across the world (terrorism, wars, migration crisis, natural disasters, other major incidents...)

Students will discuss principle measures in the major incidents with triage, organization of transport and medical organization in pre- and hospital settings, with the licensed system for medical response in major incidents (MRMI/MACSIM), accompanied with the skills of the Advanced Trauma Life Support and "Damage Control Surgery". Basic principles of civil settings adjustments to the situation of major incident in the civil disasters as well as war conditions, with the "stage organization", will be presented.

Medical response to major incidents through the eyes of medical experts in real situations in the latest period will be presented to students as well.

### Temeljni literatura in viri / Reading materials:

Lenquist Sten ed. Medical Response to Major Incidents and Disasters. A Practical Guide for All Medical Staff. Springer Verlag Berlin Heidelberg 2012. ISBN 978-3-642-21894-1, DOI 10.1007/978-3-642-21895-8

- Smernice za delovanje sistema nujne medicinske pomoči ob množičnih nesrečah. Eds. Dujčić 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](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.
- R. Komadina, V. Smrkolj: Kirurški vidiki medicine v izrednih razmerah (Medicinska fakulteta, Maribor, 2009)

DOPOLNILNO GRADIVO:

- Vincent, Jean Louis (ur.), et al. *Textbook of critical care*. 7th ed. Philadelphia: Elsevier. 2017.

- Mattox KL, Felicano DV, Moore EE eds. Trauma, 8th Edition, New York, McGraw-Hill, 2017. ISBN-13: 978-1259860676
- G. Citton (ur): Disaster Medicine, 2006, Mosby

### Cilji in kompetence:

Študent se seznani s principi ukrepov ob izrednih razmerah (trijaža, transport, ukrepi za zagotavljanje življenjskih funkcij (veščinami ATLS (Advanced Trauma Life Support oz. načelom "Damage control" kirurgije...)) in z osnovnimi načeli vojne kirurgije (temeljnimi zdravstvenimi ukrepi, s principi etapnega zdravljenja, vzpostavitvijo postaj-enot medicinske oskrbe (npr. ROLE 1, ROLE 2...))

### Objectives and competences:

Principles of damage control surgical techniques, skills of ATLS, packing of body cavities, organization of field hospital.

### Predvideni študijski rezultati:

Znanje in razumevanje:

- stopenjska oskrba v sanitetni službi načel organizacije medicinskih ukrepov v izrednih razmerah
- triažnih postopkov
- stopenjske oskrbe na predbolnišničnem in bolnišničnem nivoju

osnovnih postopkov zagotavljanja življenjskih funkcij oz. preživetja (ATLS, »Damage control surgery«...)

Prenesljive/ključne spretnosti in drugi atributi:

- organizacija poljske bolnišnice primarna in sekundarna trijaža
- veščine oživljanja (ABCDE...)
- veščine kirurgije omejevanja škode (drenaža in „packing“ telesnih votlin oz. prostorov, postavljanje fiksatorjev...)
- organizacija stopenjske oskrbe...

### Intended learning outcomes:

Knowledge and Understanding:

- basic organisation of settings in the major incidents
- triage
- stage organization at the prehospital and hospital level
- basic resuscitation principles (ATLS, Damage Control Surgery...)

Transferable/Key Skills and other attributes:

- primary and secondary triage
- resuscitations skills
- "Damage control" skills (drainage and packing of body cavities, external fixation of long bone fractures...)
- stage organization...

### Metode poučevanja in učenja:

- predavanja
- seminarji
- praktične delavnice
- vabljeni gosti s praktičnimi predstavitvami...

### Learning and teaching methods:

- lectures
- seminars
- workshops
- invited guests with practical experiences...

### Načini ocenjevanja:

Način (pisni izpit, ustno izpraševanje, naloge, projekt)  
pisni seminar s predstavitvijo realnega dogodka z analizo in ukrepi, vključno s pripravo in ukrepi na tovrsten dogodek pri nas...)

Delež (v %) /  
Share (in %)

100

### Assessment methods:

Type (examination, oral, coursework, project):  
written seminar with presentation of real event with analysis and response, including settings to such an event in our surroundings...)

ŠTUDIJSKE OBVEZNOSTI ŠTUDENTOV:

ACADEMIC OBLIGATIONS OF STUDENTS:

<p>- udeležba na predavanjih, seminarjih, delavnicah, vajah...</p> <p>POGOJI ZA PRISTOP K POSAMEZNEMU PREVERJANJU ZNANJA: pisna seminarska naloga</p>		<p>- participation at the lectures, seminars, workshops, exercises...</p> <p>REQUIREMENTS FOR ACCESS TO INDIVIDUAL KNOWLEDGE CHECKING: written seminar</p>
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**Reference nosilca / Course coordinator's references:**

- ČRETNIK A, KOŠIR R, KOSANOVIĆ M. Long term results with the use of modified percutaneous repair of the ruptured achilles tendon under local anesthesia (15 years analysis with 270 cases). JFAS (in press): PII: S1067-2516(18)30524-6; DOI: 10.1053/j.jfas.2018.11.029
- KOŠIR, Roman, ČRETNIK, Andrej. Extremity compartment syndromes. V: VINCENT, Jean Louis (ur.), et al. *Textbook of critical care*. 7th ed. Philadelphia: Elsevier. 2017, str. 1147-1156. <https://www.clinicalkey.com#!/content/book/3-s2.0-B9780323376389001686>.
- HREČKOVSKI, Boris, BARDAK, Branka, JURJEVIĆ, M., DOBSON, B., TOMLIANOVIĆ, B., ROŠKO, D., ČRETNIK, Andrej. Organizacija medicinske službe u odgovoru na veliku nesreću. V: *Priručnik za hrvatski tečaj medicinskog odgovora na veliku nesreću (Cro-MRMI)*. 1. izd. Zagreb: Hrvatski zavod za hitnu medicinu. 2016, str. 10-21
- FEKONJA, Anita, ZUPANČIĆ HARTNER, Tjaša, ČRETNIK, Andrej. Mandibular retrognathia correction using a fixed sagittal guidance appliance individually manufactured by selective laser melting manufacturing technology. *Rapid prototyping journal*, ISSN 1758-7670, 2018, vol. 24, issue 2, str. 416-423, ilustr. <https://www.emeraldinsight.com/eprint/YGJU9TTN4CPRZ4V97ZDM/full>, <https://doi.org/10.1108/RPJ-10-2016-0163>, doi: [10.1108/RPJ-10-2016-0163](https://doi.org/10.1108/RPJ-10-2016-0163).
- HARIH, Gregor, ČRETNIK, Andrej. Interdisciplinary approach to tool-handle design based on medical imaging. *BioMed research international*, ISSN 2314-6141, 2013, vol. 2013, 8 str., graf. prikazi. <http://www.hindawi.com/journals/bmri/aip/159159/>, doi: 10.1155/2013/159159. [COBISS.SI-ID 17093654
- HUSSEIN, Mohsen, VAN ECK, Carola F., ČRETNIK, Andrej, DINEVSKI, Dejan, FU, Freddie H. Prospective randomized clinical evaluation of conventional single-bundle, anatomic single-bundle, and anatomic double-bundle anterior cruciate ligament reconstruction : 281 cases with 3- to 5-year follow-up. *The American journal of sports medicine*, ISSN 0363-5465, 2012, vol. 40, no. 3, str. 512-520. <http://ajs.sagepub.com/content/40/3/512.full.pdf+html>, doi: 10.1177/0363546511426416 Nagrada: Hughston Award, 2013
- HUSSEIN, Mohsen, VAN ECK, Carola F., ČRETNIK, Andrej, DINEVSKI, Dejan, FU, Freddie H. Individualized anterior cruciate ligament surgery : a prospective study comparing anatomic single- and double-bundle reconstruction. *The American journal of sports medicine*, ISSN 0363-5465, 2012, vol. 40, no. 8, str. 1781-1788. <http://ajs.sagepub.com/content/40/8/1781.full.pdf+html>, doi: 10.1177/0363546512446928.