

UČNI NAČRT PREDMETA / COURSE SYLLABUS								
Ime predmeta:		Klinična patofiziologija nujnih stanj						
Course title:		Clinical Pathophysiology of Emergencies						
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
15	20	10 AV LV RV					135	6
Nosilec predmeta / Course coordinator:				izr. prof. dr. Dušan MEKIŠ				
Jeziči /Languages:		Predavanja / Lectures:		Slovenski/Slovenian				
		Vaje / Tutorial:		Slovenski/Slovenian				
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):				
<p>Predmet obravnava fiziologijo in pojasnjuje patofiziologijo nekaterih nujnih stanj, znamenj in simptomov z prikazom primernih kliničnih testov in oskrbo. Pričakovani simptomi in znamenja so predstavljena s specifičnim patofiziološkim procesom.</p> <p>Predmet je razdeljen v štiri dela:</p> <ol style="list-style-type: none"> 1. osnovna načela patofizioloških procesov 2. patofiziologija srčno-žilnega sistema d patofiziologijo i n oskrbo poškodbe miokarda pri oživljanju in patofiziologija šoka 3. klinična patofiziologija akutnega respiratornega popuščanja in kapnografije 4. patofiziologija hude poškodbe možganov 				<p>The subject reviews normal physiology and explains the pathophysiology underlying emergency disease, signs and symptoms, and selection of tests and treatments. Expected signs and symptoms are related to the specific pathophysiologic processes occurring.</p> <p>The subject is divided in four parts:</p> <ol style="list-style-type: none"> 1. basic principles of pathophysiology 2. cardiovascular pathophysiology with pathophysiology and management of myocardial injury during cardiopulmonary resuscitation and pathophysiology of shock 3. clinical pathophysiology of acute respiratory insufficiency and capnography 4. pathophysiology of severe brain injury 				

Temeljni literatura in viri / Reading materials:		
<ul style="list-style-type: none"> – Najnovejši prispevki iz Circulation, Resuscitation, Shock, Chest, Intensive Medicine Care, Critical Care, Critical Care Medicine dostopni preko iskalnika PUBMED in podatkovnih zbirk UKC Marbor in MF UM. – Vincent JL et al. Textbook of Critical Care. 8th ed., Elsevier 2023 – Koepfen BM et al. Berne & Levy Physiology. 8th ed., Elsevier 2023 – Flood P et al. Stoelting's Pharmacology & Physiology in Anesthetic Practice 6th ed., LWW 2021 		
Cilji in kompetence:	Objectives and competences:	
Znanje osnovnih patofizioloških načel nujnih stanj in sodobnih informacij o novih možnostih oskrbe takšnih stanj. Klinična aplikacija algoritmov (načelo opazovanja in odločanja).	Knowledge of basic principal of patophysiology of some emergencies and up-to-date information about new options for management of emergencies. Application of the philosophy of the algorithms (alternating observation and decision steps).	
Predvideni študijski rezultati:	Intended learning outcomes:	
Znanje in razumevanje: Razumevanje in aplikacija algoritmov kardiopulmonalnega oživljanja. Razumevanje strategije minimaliziranja poškodbi po oživljanju povezanih z uporabo trenutno veljavnih tehnik in seznanjanje z novimi terapevtskimi pristopi za preprečevanje omenjenih poškodb. Znanje monitoringa kritično bolnega bolnika, posebej kapnografije in EKG-a.	Knowledge and understanding: Understanding and application the algorithms in CPR. Understanding the strategies for minimizing post resuscitation injury associated with current resuscitation techniques and examine novel therapies aimed at minimizing ischemia and reperfusion injury. Knowledge of monitoring critically ill patients, especially capnography and ECG.	
Prenosljive/ključne spretnosti in drugi atributi: Monitoring, tehnike proste venske poti, endotrahealna intubacija, kapnografija, odčitavanje EKG-a, uporaba medikamentov v urgentnih situacijah(volumna resuscitacija, inotropi, vazoaktivna terapija) hitra sekvenčna intubacija, sinhronizirana kardioverzija in zunanja elektrostimulacija). Reševanje scenarije po načelu PBL (problem basic learning)	Transferable/key competences and other abilities: Monitoring, intravenous access, endotracheal intubation, capnography, electrocardiography and cardiac monitoring, drugs in emergencies (volume resuscitations, inotropes, vasopressors), rapid sequence intubation, synchronised cardioversion, cardiac pacing. PBL scenarios	
Metode poučevanja in učenja:	Learning and teaching methods:	
Predavanja Seminarji vaje (Simulacijski center, samostojno projektno seminarsko delo izbranih poglavji, PBL, ogled in delo na instrumentih) Samostojno delo	Lectures Seminars Tutorial (laboratory work in Centre of simulation, project seminar, PBL, observation and work with instruments) 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	100 %	Seminar paper
Reference nosilca / Course coordinator's references:		
1. MEKIŠ, Jana, STROJAN, Primož, MEKIŠ, Dušan, HOČEVAR-BOLTEŽAR, Irena. Change in voice quality after radiotherapy for early glottic cancer. <i>Cancers</i> . 2022, vol. 14, iss. 12, str. 1-12. ISSN 2072-6694.		

- <https://www.mdpi.com/2072-6694/14/12/2993>, DOI: [10.3390/cancers14122993](https://doi.org/10.3390/cancers14122993). [COBISS.SI-ID [115488259](#)], [JCR, SNIP, WoS do 4. 2. 2024: št. citatov (TC): 1, čistih citatov (CI): 1, čistih citatov na avtorja (CIAu): 0.25, Scopus do 30. 1. 2023: št. citatov (TC): 1, čistih citatov (CI): 1, čistih citatov na avtorja (CIAu): 0.25]
2. PROSEN, Gregor, STRNAD, Matej, DONIGER, Stephanie J., MARKOTA, Andrej, STOŽER, Andraž, BOROVIK LESJAK, Vesna, MEKIŠ, Dušan. Cerebral tissue oximetry levels during prehospital management of cardiac arrest : a prospective observational study. *Resuscitation*. [Online ed.]. Aug. 2018, vol. 129, str. 141-145, ilustr. ISSN 1873-1570. <https://www.sciencedirect.com/science/article/pii/S0300957218302259?via%3Dihub>, DOI: [10.1016/j.resuscitation.2018.05.014](https://doi.org/10.1016/j.resuscitation.2018.05.014). [COBISS.SI-ID [6385727](#)], [JCR, SNIP, WoS do 8. 11. 2023: št. citatov (TC): 32, čistih citatov (CI): 32, čistih citatov na avtorja (CIAu): 4.57, Scopus do 26. 10. 2023: št. citatov (TC): 29, čistih citatov (CI): 29, čistih citatov na avtorja (CIAu): 4.14]
3. VUJANOVIČ, Vitka, BOROVIK LESJAK, Vesna, MEKIŠ, Dušan, STRNAD, Matej. Dynamics of capillary lactate levels in patients with out-of-hospital cardiac arrest. *Medicina*. 2023, vol. 59, issue 11, [article no.] 1989, str. [1]-11, ilustr. ISSN 1648-9144. <https://doi.org/10.3390/medicina59111989>, <https://www.mdpi.com/1648-9144/59/11/1989>, DOI: [10.3390/medicina59111989](https://doi.org/10.3390/medicina59111989). [COBISS.SI-ID [171801859](#)], [JCR, SNIP, WoS, Scopus]
4. KRIŽMARIČ, Miljenko, MAVER, Uroš, ZDRAVKOVIČ, Marko, MEKIŠ, Dušan. Effects of the reservoir bag disconnection on inspired gases during general anesthesia : a simulator-based study. *BMC anesthesiology*. 2021, vol. 21, str. 1-9, ilustr. ISSN 1471-2253. <https://bmcanesthesiol.biomedcentral.com/track/pdf/10.1186/s12871-021-01256-2.pdf>, DOI: [10.1186/s12871-021-01256-2](https://doi.org/10.1186/s12871-021-01256-2). [COBISS.SI-ID [50343171](#)], [JCR, SNIP, WoS do 11. 7. 2022: št. citatov (TC): 1, čistih citatov (CI): 0, čistih citatov na avtorja (CIAu): 0.00, Scopus do 27. 7. 2022: št. citatov (TC): 1, čistih citatov na avtorja (CIAu): 0.00]
5. KARNJUŠ, Igor, MEKIŠ, Dušan, KRIŽMARIČ, Miljenko. Uncontrolled delivery of liquid volatile anaesthetic when using the anaesthetic conserving device. *Journal of clinical monitoring and computing*. 2018, vol. 32, iss. 4, str. 629-638, ilustr. ISSN 1573-2614. <https://link.springer.com/article/10.1007/s10877-017-0022-2>, DOI: [10.1007/s10877-017-0022-2](https://doi.org/10.1007/s10877-017-0022-2). [COBISS.SI-ID [1539365828](#)], [JCR, SNIP, WoS do 13. 4. 2019: št. citatov (TC): 2, čistih citatov (CI): 2, čistih citatov na avtorja (CIAu): 0.67, Scopus do 28. 2. 2019: št. citatov (TC): 2, čistih citatov (CI): 2, čistih citatov na avtorja (CIAu): 0.67]
6. BLAJIČ, Iva, HODZOVIC, Iljaz, LUČOVNIK, Miha, MEKIŠ, Dušan, NOVAK-JANKOVIČ, Vesna, STOPAR PINTARIČ, Tatjana. A randomised comparison of C-MAC(TM) and King Vision videolaryngoscopes with direct laryngoscopy in 180 obstetric patients. *International journal of obstetric anesthesia*. Aug. 2019, vol. 39, str. 35-41, ilustr. ISSN 0959-289X. <https://www.sciencedirect.com/science/article/pii/S0959289X1830373X?via%3Dihub>, DOI: [10.1016/j.ijoa.2018.12.008](https://doi.org/10.1016/j.ijoa.2018.12.008). [COBISS.SI-ID [34119641](#)], [JCR, SNIP, WoS do 20. 12. 2023: št. citatov (TC): 17, čistih citatov (CI): 15, čistih citatov na avtorja (CIAu): 2.50, Scopus do 11. 12. 2023: št. citatov (TC): 18, čistih citatov (CI): 16, čistih citatov na avtorja (CIAu): 2.67]
7. WAGNER-KOVAČEC, Jožica, POVALEJ BRŽAN, Petra, MEKIŠ, Dušan. Efficacy of continuous in-wound infusion of levobupivacaine and ketorolac for post-caesarean section analgesia : a prospective, randomised, double-blind, placebo-controlled trial. *BMC anesthesiology*. 2018, [vol.] 18, str. [1]-9. ISSN 1471-2253. <https://bmcanesthesiol.biomedcentral.com/track/pdf/10.1186/s12871-018-0609-2>, DOI: [10.1186/s12871-018-0609-2](https://doi.org/10.1186/s12871-018-0609-2). [COBISS.SI-ID [6501695](#)], [JCR, SNIP, WoS do 12. 8. 2023: št. citatov (TC): 16, čistih citatov (CI): 16, čistih citatov na avtorja (CIAu): 5.33, Scopus do 12. 1. 2024: št. citatov (TC): 17, čistih citatov (CI): 17, čistih citatov na avtorja (CIAu): 5.67]
8. PERŠA, Lidija, KAMENIK, Mirt, KRČEVSKI-ŠKVARČ, Nevenka, MEKIŠ, Dušan. Rocuronium versus succinylcholine for rapid sequence intubation in patients with bowel obstruction. *Signa vitae*. 2019, vol. 15, no. 2, str. 52-58. ISSN 1845-206X. <http://www.signavitae.com/?s=per%C5%A1a>, DOI: [10.22514/SV152.102019.8](https://doi.org/10.22514/SV152.102019.8). [COBISS.SI-ID [512934456](#)], [JCR, SNIP, WoS do 3. 6. 2021: št. citatov (TC): 1, čistih citatov (CI): 1, čistih citatov na avtorja (CIAu): 0.25, Scopus do 15. 6. 2021: št. citatov (TC): 1, čistih citatov (CI): 1, čistih citatov na avtorja (CIAu): 0.25]



- 9.** KAMENIK, Mirt, KOS, Darjan, MOLLER PETRUN, Andreja, GREEN, David W, ZORKO, Nuška, MEKIŠ, Dušan. Haemodynamic stability during anaesthesia induction with propofol : impact of phenylephrine : a double blind, randomised clinical trial. *Signa vitae*. 2018, vol. 20, št. 1, str. 20-26, ilustr. ISSN 1845-206X. <http://www.signavitae.com/wp-content/uploads/2018/05/SIGNA-VITAE-2018-141-20-26.pdf>, DOI: [10.22514/SV141.052018.3](https://doi.org/10.22514/SV141.052018.3). [COBISS.SI-ID [6385471](https://www.cobiss.si/urn:nbn:si:coibis:6385471)], [JCR, SNIP, WoS do 25. 2. 2021: št. citatov (TC): 4, čistih citatov (CI): 4, čistih citatov na avtorja (CIAu): 0.67, Scopus do 23. 7. 2023: št. citatov (TC): 5, čistih citatov (CI): 5, čistih citatov na avtorja (CIAu): 0.83]
- 10.** MEKIŠ, Dušan, SOK, Vesna. Effects of intravenous and inhalation induction of anesthesia on oxygen delivery in elderly patients undergoing colorectal surgery = Vpliv intravenskega ali inhalacijskega uvoda v anestezijo na prenos kisika pri starostnikih, operiranih zaradi kolorektalnega raka. *Acta medico-biotechnica : AMB*. [Tiskana izd.]. 2021, vol. 14, [no]. 1, str. 11-19, ilustr. ISSN 1855-5640. <https://journals.um.si/index.php/amb/article/view/1407>, <https://dk.um.si/IzpisGradiva.php?id=83665>, <http://www.dlib.si/details/URN:NBN:SI:doc-3Z5VMTRV>, <https://dk.um.si/IzpisGradiva.php?id=83665>, DOI: [10.18690/actabiomed.209](https://doi.org/10.18690/actabiomed.209). [COBISS.SI-ID [68099843](https://www.cobiss.si/urn:nbn:si:coibis:68099843)]
- 11.** MOLLER PETRUN, Andreja, SELINŠEK, Jasna, MEKIŠ, Dušan. Neurological complications during pregnancy, delivery and puerperium requiring intensive therapy management. *Signa vitae*. 2023, [v tisku][str. 1-9]. ISSN 1845-206X. <https://www.signavitae.com/articles/10.22514/sv.2023.120>, DOI: [10.22514/sv.2023.120](https://doi.org/10.22514/sv.2023.120). [COBISS.SI-ID [176998403](https://www.cobiss.si/urn:nbn:si:coibis:176998403)], [JCR, SNIP, WoS, Scopus]
- 12.** MOLLER PETRUN, Andreja, ZDRAVKOVIĆ, Marko, BERGER, Robert, SRAKA, Denis, MEKIŠ, Dušan. Perioperative right ventricular dysfunction in adult patients undergoing non-complex cardiac surgery: diagnosis and management. *Signa vitae*. 2023, [v tisku][str. 1-12], ilustr. ISSN 1845-206X. <https://www.signavitae.com/articles/10.22514/sv.2023.047>, DOI: [10.22514/sv.2023.047](https://doi.org/10.22514/sv.2023.047). [COBISS.SI-ID [157260035](https://www.cobiss.si/urn:nbn:si:coibis:157260035)], [JCR, SNIP, WoS, Scopus]
- 13.** ZADRAVEC, Tanja, MEKIŠ, Dušan, KMETEC, Sergej, VRBNJAK, Dominika. Uporaba in učinkovitost glasbene terapije v enoti intenzivne terapije : sistematični pregled literature = The use and effectiveness of music therapy in an intensive care unit : a systematic literature review. *Obzornik zdravstvene nege : strokovno glasilo Zveze društev medicinskih sester in zdravstvenih tehnikov Slovenije*. 2020, letn. 54, št. 4, str. 315-325, tabele, ilustr. ISSN 1318-2951. <https://obzornik.zbornica-zveza.si/index.php/ObzorZdravNeg/article/view/3027>, <https://doi.org/10.14528/snr.2020.54.4.3027>, <http://www.dlib.si/details/URN:NBN:SI:doc-MG2PHD1V>, DOI: [10.14528/snr.2020.54.4.3027](https://doi.org/10.14528/snr.2020.54.4.3027). [COBISS.SI-ID [42855683](https://www.cobiss.si/urn:nbn:si:coibis:42855683)]
- 14.** ZDRAVKOVIĆ, Marko, BERGER-ESTILITA, Joana, WAGNER-KOVAČEC, Jožica, SORBELLO, Massimiliano, MEKIŠ, Dušan. A way forward in pulmonary aspiration incidence reduction: ultrasound, mathematics, and worldwide data collection. *Brazilian journal of anesthesiology*. May-Jun. 2023, vol. 73, issue 3, str. 301-304. ISSN 0104-0014. <https://www.sciencedirect.com/science/article/pii/S0104001421002232>, <https://doi.org/10.1016/j.bjane.2021.05.004>, DOI: [10.1016/j.bjane.2021.05.004](https://doi.org/10.1016/j.bjane.2021.05.004). [COBISS.SI-ID [66123011](https://www.cobiss.si/urn:nbn:si:coibis:66123011)], [JCR, SNIP, WoS, Scopus do 28. 11. 2023: št. citatov (TC): 1, čistih citatov (CI): 1, čistih citatov na avtorja (CIAu): 0.20]