

SODNA MEDICINA

UČNI NAČRT PREDMETA/COURSE SYLLABUS

Predmet:	Sodna medicina
Course title:	Forensic Medicine
Članica nosilka/UL Member:	UL MF University of Ljubljana; Faculty of Medicine (UL MF)

Študijski programi in stopnja	Študijska smer	Letnik	Semestri	Izbirnost
Medicina, druga stopnja, enovit magistrski 2025 - 2026	Medicina (študijski program)	5. letnik	Celoletni	obvezni

Univerzitetna koda predmeta/University course code:	0025131
Koda učne enote na članici/UL Member course code:	426

Predavanja /Lectures	Seminar /Seminar	Vaje /Tutorials	Klinične vaje /Clinical tutorials	Druge oblike študija /Other forms of study	Samostojno delo /Individual student work	ECTS
30			30		60	4

Nosilec predmeta/Lecturer:	Tomaž Zupanc
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Vrsta predmeta/Course type:	obvezni/Compulsory
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Jeziki/Languages:	Predavanja/Lectures:	Slovenščina
	Vaje/Tutorial:	Slovenščina

Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:	Prerequisites:
Vpis v 5. letnik.	Enrolent into 5 th year.

Vsebina:

Študent spoznava temelje sodne medicine: postopke v zvezi z obravnavo umrlih po smrti, posmrtno spremembo in metode za določanje časa smrti, mehanizme naravne in nasilne smrti ter njene znake, primarne in sekundarne metode identifikacije, osnove forenzične antropologije, mehanizme nastanka poškodb in njihove morfološke značilnosti. Seznan se z značilnostmi fizikalnih, kemijskih in strelnih poškodb, poškodb zaradi delovanja dejavnikov iz okolja, vrstami zadušitev in njihovimi značilnostmi ter znaki utopitve, osnovami forenzične toksikologije in molekularne genetike. Spoznava zakonodajo, tako zdravstveno kakor tudi kazensko z osnovami izvedenskega dela s poudarkom na ocenjevanju telesnih poškodb. Pri predavanjih spoznava urgentna stanja, ki bi lahko pomenila kazensko in

Content (Syllabus outline):

Students recognise the basics of forensic medicine: postmortem examination, postmortem changes and methods for assessment of time of death, mechanisms of natural and violent death and its signs, primary and secondary methods of identification of the deceased, basis of forensic anthropology, mechanisms of injuries and their morphological characteristics. They are acquainted with physical, chemical, environmental and gunshot injuries, suffocation and signs of submersion, the basics of forensic toxicology and molecular genetics. They learn about legislation, both medical and penal together with the basics of expert work with the emphasis on evaluating bodily injuries. In their lectures they learn about emergency states which could result in criminal responsibility or

odškodninsko odgovornost ter se seznani z nadgradnjo moralno etičnih in deontoloških načel pri delu zdravnika. Študent povezuje znanje iz vseh predkliničnih in večine kliničnih predmetov, utrjuje znanje o šoku, se seznani z osnovami zdravnikovega dela v izrednih razmerah, nalogami zdravnika pri detomoru, z zdravniško napako in drugimi kaznivimi dejanji zoper človekovo zdravje ter iatrogeno povzročenimi poškodbami.	compensation liability and are acquainted with building on the moral, ethical and deontological principles in the work of physicians. Students link their knowledge from all pre-clinical subjects and from the majority of clinical subjects, reinforce their knowledge of shock, acquire the basics of a physician's work in exceptional circumstances, are acquainted with the tasks of a physician in infanticide and are acquainted with physician error and other crimes against human health and iatrogenic injuries.
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Temeljna literatura in viri/Readings:

V. J. DiMaio, D. DiMaio: Forensic Pathology.
J. Payne-James; R. Jones: Simpson's Forensic Medicine (14th ed.).
R. B. Dettermeyer, M. A. Verhoff, H. F. Schütz: Forensic Medicine. Fundamentals and perspective.
P. Sauko, B. Knight: Knight's Forensic Pathology (4th ed.).
V. J. M. DiMaio: Gunshot Wounds.
R. S. Levine, S. Kerrigan (eds.): Principles of Forensic Toxicology (5th ed.).
Burkhard Madea: Handbook of Forensic Medicine
Janez Milčinski: Sodna medicina (črna knjiga).
M. Tasić i sar.: Sudska medicina.
Duško Zečević i sur.: Sudska medicina i deontologija (5th ed.).
H. Brkić i suradnici: Forenzična stomatologija, 2000.

Cilji in kompetence:

Študent bo do konca predavanj in vaj poznal in obvladal osnove sodnomedicinskih opravil zdravnika mrliškega preglednika, postopke v zvezi z obravnavo umrlih po smrti, posmrtno spremembo in metode za določanje časa smrti, mehanizme naravne in nasilne smrti ter njene znake, primarne in sekundarne metode identifikacije, osnove forenzične antropologije, mehanizme nastanka poškodb in njihove morfološke značilnosti, temelje ocenjevanja poškodb v kazenskih in pravnih zadevah. Razlikoval bo med vrstami poškodb in zastrupitev, obvladal bo osnove forenzične antropologije, toksikologije in molekularne genetike. Prav tako bo sposoben prepoznati tista urgentna stanja, kjer je možna etična, kazenska ter odškodninska odgovornost zdravnika. Osvojil bo glavnino zakonskih predpisov ter etičnih načel pri opravljanju poklica zdravnika.

Objectives and competences:

By the end of the lectures and clinical tutorials, students will recognise the basics of the forensic work of a coroner's doctor, procedures related to the processing of the deceased after death, postmortem changes and methods for assessment of time of death, mechanisms of natural and violent deaths and their signs, primary and secondary methods of identification of the deceased and basics of forensic anthropology. They will also distinguish between different types of injuries, mechanisms of injuries and their morphological characteristics and also be able to assessment of injuries in criminal and civil cases. They will be able to differentiate between the most common poisonings, master the basics of forensic toxicological methods and molecular genetics. Also they will be able to identify all emergency situations where the physician could be ethically or criminally responsible or liable for compensation. They will master the bulk of legal regulations and ethical principles in performing their future profession.

Predvideni študijski rezultati:

Znanje in razumevanje:
poznavanje in razumevanje osnovnih forenzičnih veščin.

Intended learning outcomes:

Knowledge and understanding:
the students will recognise and understanding basic forensic crafts.

Metode poučevanja in učenja:

Predavanje 5 ur na teden, dopolnjeno s power point prezentacijo, z diapozitivi, video posnetki ter tekočo

Learning and teaching methods:

Lectures 5 hours per week supplemented by slides, video recordings and current actual casuistry.

aktualno kazuistiko. Praktične vaje v skupinah po 3–7 študentov z asistentom ali učiteljem 15 ur na teden.	Practical exercises in groups of 3–7 students with an assistant or teacher for 15 hours per week.
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Načini ocenjevanja:	Delež/ Weight	Assessment:
Opravljene vaje iz sodne medicine. Opravljen odvzem telesnih tekočin na trupu. Opravljen praktični in teoretični del kolokvija iz vaj.		Practical exercises. Carried out the body fluid. Colloquium.
Ustni izpit	80,00 %	Oral examination
Kolokvij iz vaj. Od tega: - praktični del - teoretični del	20,00 % 8,00% 12,00%	Colloquium Of which: - Practical - Teoretical
Skupaj:	100%	

Reference nosilca/Lecturer's references:

FERENČIĆ Antun, MERVIC Martin, ZUPANC Tomaž. Fatal Consequences of Head Trauma: A Case Report of Venous air Embolism Complicated by Substance abuse and Liver Disease. *Cureus*, 2024, vol. 16, no. 10:e71754.doi:10.7759/cureus.71754

ŠALAMON ARČAN, Iris, KOUTER, Katarina, ZUPANC, Tomaž, VIDETIČ PASKA, Alja (avtor, korespondenčni avtor). Epigenetics and suicide : investigating altered H3K14ac unveiled differential expression in ADORA2A, B4GALT2 and MMP14. *Epigenomics*. 2024, vol. 16, no. 10, str. 701-714, ilustr. ISSN 1750-1911. https://www.futuremedicine.com/doi/10.2217/epi-2023-0351?url_ver=Z39.88-2003&rft_id=ori%3Arid%3Aacrossref.org&rft_dat=cr_pub++0pubmed, Repozitorij Univerze v Ljubljani – RUL, DOI: [10.2217/epi-2023-0351](https://doi.org/10.2217/epi-2023-0351). [COBISS.SI-ID [192504579](#)], [Odprti dostop, JCR, SNIP, WoS, Scopus]

KARANOVIC, Jelena, BERA KOVIC, Doroteja, KATRAŠNIK, Mojca, ŠALAMON ARČAN, Iris, PANTOVIĆ-STEFA NOVIĆ, Maja, RADENKOVIĆ, Lana, GARAI, Nemanja, IVKOVIĆ, Maja, SAVIĆ PAVIĆEVIĆ, Dušanka, ZUPANC, Tomaž, VIDETIČ PASKA, Alja. Genetic predisposition of suicidal behavior : variants in GRIN2B, GABRG2, and ODC1 genes in attempted and completed suicide in two Balkan populations. *European archives of psychiatry and clinical neuroscience*. 2024, vol. , iss. [ahead of print], str. 1-10, tabele. ISSN 1433-8491. <https://link.springer.com/article/10.1007/s00406-024-01895-9>, Repozitorij Univerze v Ljubljani – RUL, DOI: [10.1007/s00406-024-01895-9](https://doi.org/10.1007/s00406-024-01895-9). [COBISS.SI-ID [209197571](#)], [Odprti dostop, JCR, SNIP, WoS, Scopus]

INKRET, Jezerka, ZUPANC, Tomaž, PODOVŠOVNIK, Eva, ZUPANIČ-PAJNIC, Irena (avtor, korespondenčni avtor). A recommended sampling strategy for genetic identification of Second World War victims in Slovenia. *Forensic science international*. 2024, vol. 366, iss. [article no.] 112304, str. 1-7, ilustr. ISSN 1872-6283. <https://www.sciencedirect.com/science/article/pii/S0379073824003864?via%3Dihub>, Repozitorij Univerze v Ljubljani – RUL, DOI: [10.1016/j.forsciint.2024.112304](https://doi.org/10.1016/j.forsciint.2024.112304). [COBISS.SI-ID [217791491](#)], [JCR, SNIP, WoS, Scopus]

BULOVEC, Tinkara, ZUPANC, Tomaž, FRANGEŽ, Danijela. Kriminalistični in sodnomedicinski vidiki samomorov z ostrim predmetom. *Revija za kriminalistiko in kriminologijo*. apr.-jun. 2024, letn. 75, št. 2, str. 97-112, ilustr. ISSN 0034-690X. [COBISS.SI-ID [202922755](#)], [JCR, SNIP]

ZUPANC, Tomaž, PEZDIR, Tomaž. Etil terciarni-butil eter : smrtna zastrupitev = Ethyl tertiary-butyl ether : fatal intoxication. V: VAJD, Rajko (ur.), ZELINKA, Marko (ur.). *Urgentna medicina = Emergency medicine : izbrana poglavja 2022 = selected topics : 28. mednarodni simpozij o urgentni medicini = 28th International Symposium on Emergency Medicine : zbornik = proceedings : Portorož, Slovenija, 16.-18. junij 2022*. Ljubljana: Slovensko združenje za urgentno medicino: = Slovenian Society for Emergency Medicine, 2022. Str. 131-135, ilustr. ISBN 978-961-6940-20-7. <https://www.szum.si/media/uploads/files/UM-zbornik%202022-final.pdf>. [COBISS.SI-ID [115363331](#)]

