2022/23

Univerza v Mariboru

Medicinska fakulteta

UČNI NAČRT PREDMETA / SUBJECT SPECIFICATION	
Predmet:	Interna medicina – praktično delo ob bolniku
Subject Title:	Internal medicine - work with patients

Študijski program Study programme	Študijska smer Study field	Letnik Year	Semester Semester
Splošna medicina General medicine - EMŠP		6	**12**

Univerzitetna koda predmeta / University subject code:

Predavanja Lectures	Seminar Seminar	Sem. vaje Tutorial	Lab. vaje Labor work	praktikum	Samost. delo Individ. work	ECTS
				360	180	**18**

Nosilec predmeta / Lecturer:

Red. Prof. dr. Radovan Hojs
Red. prof. dr. Ivan Krajnc (sonosilec)

Jeziki / Languages:		
	Predavanja / Lecture:	Slovenščina/slovene
	Vaje / Tutorial:	Slovenščina/slovene

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

Prerequisites:

Vsebina:

Študent dela pod tutorstvom sobnega zdravnika v bolniških sobah. Opravlja pregled bolnika (status) in anamnezo. Sodeluje pri načrtovanju diagnostičnih preiskav, analizi izvidov in pri odločanju o zdravljenju. Študent aktivno sodeluje pri delu diplomiranih medicinskih sester, tako pri odvzemu krvi, dajanju injekcij…Spremlja bolnika na preiskave kot so rentgensko slikanje, invazivne kardiološke in gastroenterološke preiskave itd.
Sobni zdravnik in predstojnik oddelka s svojim podpisom zagotavljata, da je opravil vse predvidene posege, ki so določeni v kartonu obveznosti študenta.

Content (Syllabus outline):

The student works under tutor's supervision in clinical wards. He/she performs examinations (clinical status) and establishes the patient's medical history. He/she cooperates in planning diagnostic procedures, analysis of results and subscription of the therapy.
The student also actively participates in nurses' practice (taking blood examples, applications of ampoules).
He/she accompanies the patient to X-ray and invasive cardiac and gastroenterological examinations etc.
The student works in all departments of internal OPC and has to accomplish all scheduled commitments.
At the end of practical training the head of the department confirms the student's work with a signature.

Temeljni literatura in viri / Textbooks:

Osnovna literatura:
1. A. Kocijančič: Klinična preiskava. Ljubljana: Littera picta, 2000.
2. Interna medicina / glavna urednika Mitja Košnik, Dušan Štajer ; področni uredniki Aleš Blinc ... [et al.] ; [vsebinsko kazalo Žiga Košnik ... [et al.] ; risbe Dušan Štajer]. - 5. izd. - Ljubljana : Medicinska fakulteta : Slovensko zdravniško društvo : Buča, 2018

Dodatna literatura:
1. D. Longo et al (eds): Harrison's Principles of Internal Medicine, 20th edition. New York: McGraw-Hill, 2018.
2. PJ. Kumar, ML. Clark (eds): Clinical Medicine, 8th edition. Edinburgh: Saunders Elsevier, 2016.
3. Recenzirani zborniki srečanj internistov in zdravnikov splošne medicine „Iz prakse za prakso“ od leta 2000 dalje

Cilji:

Objectives:

Cilji predmeta so priprava študentov na samostojno delo z internističnim bolnikom. Študent mora osvojiti teoretično in praktično način pristopa k bolniku, obvladati mora odnos z njim in s svojci. Znati mora vzeti anamnezo, pregledati bolnika, ovrednotiti diagnostične metode in predlagati ustrezno zdravljenje. Študent bo usposobljen obravnavati bolnika skladno z načeli medicinske etike in deontologije.	The objectives of the subject are preparation of students to independent work with an internist patient. The student has to acquire theoretical and practical modes of approach to the patient, the student has to master the attitude towards the patient and the patient's relatives. The student has to know how to make an anamnesis, examine the patient, evaluate diagnostic methods and suggest appropriate treatment. The student will be qualified to treat a patient in congruence with the principles of medical ethics and deontology.
Predvideni študijski rezultati:	**Intended learning outcomes:**
Študent mora obvladati osnovne metode klinične preiskave, inspekcija, palpacija, perkusija, avskultacija, vzeti anamnezo, določiti splošni klinični status, specialni klinični status, diagnostične in terapevtske metode (glej klinična znanja in metode). Študent mora poznati diagnostične metode: arterijska punkcija, UZ, endoskopija, ledvična ali jetrna biopsija, plevralna punkcija, pregled urinskega sedimenta, pregled krvne slike, scintigrafske preiskave, abdominalna punkcija, venepunkcija, RTG pregled, CT pregled, EMR, alergijski testi, bronhoskopija, kateterizacija srca, pregledi z Dopplerskim UZ srca, EKG, obremenilni testi za srce, Holter-monitoring, punkcija sklepov, pljučni funkcijski testi.	The student has to master the basic methods of clinical examination, inspection, palpation, percussion, auscultation, taking anamnesis, determine general clinical status, special clinical status, diagnostic and therapeutic methods (see clinical knowledge and methods). The student has to be acquainted with the diagnostic methods: arterial puncture, ultrasound, endoscopy, renal or liver biopsy, pleural puncture, examination of urinary sediment, complete blood count, scintigraphic examinations, abdominal puncture, venipuncture, Roentgen examination, CT scan, endoscopic mucosal resection, allergy tests, bronchoscopy, cardiac catheterization, cardiac examination with Doppler ultrasound, ECG, stress tests, Holter monitoring, joint puncture, pulmonary functional tests.
Metode poučevanja in učenja:	**Learning and teaching methods:**
Praktično klinično delo **Naloge študenta:** Skrbi za bolnike na najmanj treh (3) posteljah, od sprejema do odpusta: - anamneze; - jutranji orientacijski obiski pacientov z merjenji RR in poročanjem mentorju; - fizikalni pregledi; - poročanje o bolnikih na vizitah; - predlog načrta preiskav (načela racionalne diagnostike) in terapije; - posegi (glej karton za spremljanje praktikuma); - sodelovanje pri pogovorih s svojci; - koncepti epikriz in zaključkov. Študent sprejema (napravi anamnezo in klinični pregled) na oddelek oz. kliniko tudi novo prispele bolnike, ki jih kasneje ne vodi več. S pogojem, da ni motena kontinuiteta dela v bolniških sobah, se lahko študent pridruži svojemu mentorju tudi pri drugih opravilih (npr. v ambulanti). **Evidenco** o opravljenem delu (karton, beležka) študenti predložijo glavnemu mentorju po končanih vajah. Znanje in napredovanje študentov se preverja sprotno. **Oblike skupinskega izpopolnjevanja**: - redni strokovni sestanki na kliniki; - posebej za študente organizirane oblike: klinični seminarji s prikazom zanimivih bolnikov, osnove EKG, tečaji iz TPO, dializnega zdravljenja, endoskopij itd.	Practical clinical work Tasks of the student: takes care of the patients on at least three hospital beds, from hospital admission until release of the patient from hospital: anamneses; morning orientational visits of patients with RR (recovery room) measurements and reporting to the mentor; physical examinations; reporting about patients at visitations; suggestion of the plan of examinations (principles of rational diagnostics) and therapy; interventions (see medical record for monitoring practical training); cooperation in conversations with relatives; concepts of epicrises and conclusions. The student admits (makes the anamnesis and clinical examination) to the ward or clinic also newly arrived patients who are later no longer under the student's care. Provided that continuity of work in hospital rooms is not disturbed, the student can join his/her mentor also in other jobs (e.g. in an outpatients' clinic). A record of completed work (medical record, notebook) is submitted by students to the main mentor after the finished practical work. Knowledge and progress of students is checked regularly. Forms of group training: regular professional meetings at the clinic; specially organized forms for the students: clinical seminars with the presentation of interesting patients,

Vsak študent pripravi en (1) **seminar** iz klinične kazuistike ali literature. P**riporočena opravila**, ki naj bi jih študent opravljal med delom na oddelku: - odvzemi venske in arterijske krvi, različne oblike parenteralnih aplikacij (s.c., i.m., i.v.); - uvajanje venskih katetrov (brahialnih); - kateterizacija sečnega mehurja; - uvajanje želodčne sonde; - makroskopska ocena sputuma; - torakalne in abdominalne punkcije; - intubacija (v sklopu reanimacijskega tečaja oz. tečaja TPO); - snemanje EKG; - bronhialna toaleta; - meritve funkcije pljuč	ECG basics, courses in CPR, dialytic treatment, endoscopies etc. Each student prepares one seminar from clinical casuistry or literature. Recommended jobs which the student should do during his/her work at the ward: taking of venous and arterial blood, various forms of parenteral applications (subcutaneous injection, intracutaneous or intradermal injection, intramuscular injection, intravenous injection); introduction of venous catheters (brachial); catheterization of the bladder; introducing of the gastric probe; macroscopic evaluation of sputum; thoracic and abdominal punctures; intubation (within the resuscitation course or CPR course); recording of ECG; bronchial toilet; measurements of pulmonary function

Načini ocenjevanja:	Delež (v %) / Weight (in %)	**Assessment:**
POGOJI ZA PRISTOP K POSAMEZNEMU PREVERJANJU ZNANJA -prisotnost na seminarjih 80% -najmanj 80 % udeležba na kliničnih vajah -opravljen seminar -opravljene in evidentirane vse obveznosti iz kartona vaj - potrjen karton vaj je sestavni del prijavnice k izpitu **OBLIKE IN NAČIN PREVERJANJA IN OCENJEVANJA ZNANJA** -sprotno preverjanje znanja ob bolniku -**pisni izpit** - 5 vprašanj esejskega tipa, ovrednotena s po 4 točkami; -za pozitivno oceno je treba doseči 11 točk Pozitivno opravljen pisni izpit je pogoj za pristop k praktičnemu delu in ustnemu teoretičnemu delu -**praktični del** (pregled bolnika) in ustni teoretični del -izvajajo ga habilitirani učitelji znotraj predmeta, ki jih določi predstojnik katedre -če študent ne opravi ustnega izpita, ponavlja izpit v celoti (pisni in ustni ob bolniku) **Ocenjevalna lestvica pri pisnem in ustnem izpitu** 56 % do 65 % - 6 66 % do 75 % - 7 76 % do 85 % - 8 86 % do 95 % - 9 96 % do 100 % - 10	**Pisni 40 %** **Ustni 60 %**	**REQUIREMENTS FOR ACCESS TO INDIVIDUAL KNOWLEDGE CHECKING:** attendance at coursework 80% at least 80% attendance at clinical practice completed coursework assignment completed and recorded all obligations from the record of practice validated record of practice is an integral component of the application form for the exam **FORMS AND MODE OF CHECKING AND ASSESSING KNOWLEDGE** regular knowledge checking by the patient's side **written exam** – 5 essay-type questions, evaluated with 4 points each; for a positive mark 11 points need to be achieved Positively completed written exam is the condition for access to practical part and oral theoretical part. **-practical part** (examination of the patient) and oral theoretical part is implemented by habilitated professors within the subject who are appointed by the head of the department in case a student fails the oral exam, he/she takes the exam again entirely (written and oral by the patient's side) **Grading scale in written and oral exam** 56% to 65% - 6 66% to 75% - 7 76% to 85% - 8 86% to 95% - 9 96% to 100% - 10

Reference nosilca / Lecturer's references:

IVAN KRAJNC:

1. KRAJNC, Mitja, PEČOVNIK-BALON, Breda, KRAJNC, Ivan. Non-traditional risk factors for coronary calcification and its progression in patients with type 2 diabetes : the impact of postprandial glycemia and fetuin-A. *JIMR online*. 2019, vol. 47, iss. 2, str. 846-858, ilustr. ISSN 1473-2300. https://journals.sagepub.com/doi/pdf/10.1177/0300060518814080, DOI: 10.1177/0300060518814080. [COBISS.SI-ID 6578239], [JCR, SNIP, WoS do 9. 8. 2021: št. citatov (TC): 3, čistih citatov (CI): 3, čistih citatov na avtorja (CIAu): 1,00, Scopus do 1. 3. 2021: št. citatov (TC): 3, čistih citatov (CI): 3, čistih citatov na avtorja (CIAu): 1,00]
2. RAKUŠA, Mateja, PEJKOVIĆ, Božena, KRAJNC, Ivan, KRAIGHER, Alenka. Correlations between infant mortality and recommended immunization schedules against vaccine-preventable diseases in Slovenia = Primerjava med vzroki za umrljivost dojenčkov in cepljenjem med rednim programom cepljenja v Sloveniji. *Acta medico-biotechnica : AMB*. [Tiskana izd.]. 2017, vol. 10, [no.] 1, str. 44-53, ilustr. ISSN 1855-5640. http://actamedbio.mf.um.si/04_amb_150_17.pdf. [COBISS.SI-ID 512720952]
3. SOBOČAN, Monika, KRAJNC, Ivan. Curricular and extra-curricular activities enhancing student engagement in research at the Faculty of medicine University of Maribor. V: *Best practice for research teaching in medical education*. [S. l.: s. n.], 2018. Str. 34-35. [COBISS.SI-ID 512841016]
4. SOBOČAN, Monika, LEDINEK, Živa, KEBLER, Ines, BRAČIČ TOMAŽIČ, Suzana, KRAJNC, Ivan. A bottom up approach to extracurricular activities for medical students. V: *Abstract book*. [Helsinki: An international association for medical education (AMEE), 2017]. Str. 526. https://amee.org/getattachment/Conferences/AMEE-2017/Abstracts/AMEE-2017-Abstract-Book.pdf. [COBISS.SI-ID 512734520]

RADOVAN HOJS

1. ZOCCALI, Carmine, TORINO, Claudia, MALLAMACI, Francesca, SARAFIDIS, Pantelis, PAPAGIANNI, Aikaterini, EKART, Robert, HOJS, Radovan, KLINGER, Marian, LETACHOWICZ, Krzysztof, FLISER, Danilo, et al. A randomized multicenter trial on a lung ultrasound-guided treatment strategy in patients on chronic hemodialysis with high cardiovascular risk. *Kidney international*. [Online ed.]. Dec. 2021, vol. 100, issue 6, str. 1325-1333, ilustr. ISSN 1523-1755. https://doi.org/10.1016/j.kint.2021.07.024, https://www.sciencedirect.com/science/article/abs/pii/S0085253821007481?via%3Dihub, DOI: 10.1016/j.kint.2021.07.024. [COBISS.SI-ID 89215491], [JCR, SNIP, WoS do 16. 8. 2022: št. citatov (TC): 8, čistih citatov (CI): 8, čistih citatov na avtorja (CIAu): 0,50, Scopus do 18. 7. 2022: št. citatov (TC): 7, čistih citatov (CI): 7, čistih citatov na avtorja (CIAu): 0,44]

2. TORINO, Claudia, GARGANI, Luna, SICARI, Rosa, LETACHOWICZ, Krzysztof, EKART, Robert, FLISER, Danilo, COVIC, Adrian, SIAMOPOULOS, Kostas, STAVROULOPOULOS, Aristeidis, MASSY, Ziad A, HOJS, Radovan, et al. Inflammation is an amplifier of lung congestion by high lv filling pressure in hemodialysis patients : a longitudinal study. *JN. Journal of Nephrology*. Jun. 2020, vol. 33, issue 3, str. 583-590, ilustr. ISSN 1724-6059. https://link.springer.com/content/pdf/10.1007/s40620-019-00696-x.pdf, DOI: 10.1007/s40620-019-00696-x. [COBISS.SI-ID 6910015], [JCR, SNIP, WoS do 6. 3. 2022: št. citatov (TC): 2, čistih citatov (CI): 2, čistih citatov na avtorja (CIAu): 0,13, Scopus do 19. 2. 2022: št. citatov (TC): 2, čistih citatov (CI): 2, čistih citatov na avtorja (CIAu): 0,13]

3. BEVC, Sebastjan, VODOŠEK HOJS, Nina, KNEHTL, Maša, EKART, Robert, HOJS, Radovan. Cystatin C as a predictor of mortality in elderly patients with chronic kidney disease. *The aging male*. 2019, vol. 22, no. 1, str. 62-67. ISSN 1473-0790. https://www.tandfonline.com/doi/abs/10.1080/13685538.2018.1479386?journalCode=itam20, https://doi.org/10.1080/13685538.2018.1479386, DOI: 10.1080/13685538.2018.1479386. [COBISS.SI-ID 6434879], [SNIP, WoS do 25. 9. 2021: št. citatov (TC): 7, čistih citatov (CI): 5, čistih citatov na avtorja (CIAu): 1,00, Scopus do 22. 9. 2021: št. citatov (TC): 7, čistih citatov (CI): 6, čistih citatov na avtorja (CIAu): 1,20]

4. KÉTSZERI, Máté, KIRSCH, Andrijana, FRAUSCHER, Bianca, MOSCHOVAKI-FILIPPIDOU, Foteini, MOOSLECHNER, Agnes A., KIRSCH, Alexander, SCHABHUETTL, Corinna, ARINGER, Ida, ARTINGER, Katharina, PREGARTNER, Gudrun, EKART, Robert, BREZNIK, Silva, HOJS, Radovan, et al. MicroRNA-142-3p improves vascular relaxation

in uremia. *Atherosclerosis*. Jan. 2019, vol. 280, str. 28-36, ilustr. ISSN 1879-1484. https://www.sciencedirect.com/science/article/pii/S0021915018314795?via%3Dihub, DOI: 10.1016/j.atherosclerosis.2018.11.024. [COBISS.SI-ID 6621503], [JCR, SNIP, WoS do 18. 8. 2021: št. citatov (TC): 11, čistih citatov (CI): 10, čistih citatov na avtorja (CIAu): 0,76, Scopus do 15. 11. 2021: št. citatov (TC): 10, čistih citatov (CI): 10, čistih citatov na avtorja (CIAu): 0,76]

5. EKART, Robert, BEVC, Sebastjan, VODOŠEK HOJS, Nina, HOJS, Radovan. Derived subendocardial viability ratio and cardiovascular events in patients with chronic kidney disease. *Cardiorenal medicine*. 2019, vol. 9, no. 1, str. 41-50, ilustr. ISSN 1664-5502. https://www.karger.com/Article/Abstract/493512, https://doi.org/10.1159/000493512, DOI: 10.1159/000493512. [COBISS.SI-ID 6622783], [JCR, SNIP, WoS do 27. 5. 2022: št. citatov (TC): 6, čistih citatov (CI): 6, čistih citatov na avtorja (CIAu): 1,50, Scopus do 31. 5. 2022: št. citatov (TC): 5, čistih citatov (CI): 5, čistih citatov na avtorja (CIAu): 1,25]