OBSAH

COURSE INFORMATION SHEET

University: Catholic University in Ružomberok	
Faculty: Faculty of Health	
Course code: KRAT/54T1001W/22	**Course title:** Anatomy
Type and range of planned learning activities and teaching methods: **Form of instruction:** Lecture / Seminar **Recommended study range:** **hours weekly:** 3 / 1 **hours per semester:** 36 / 12 **Teaching method:** on-site	
Credits: 4	**Working load:** 100 hours
Recommended semester/trimester: 1.	
Level of study: I.	
Prerequisities:	
Requirements for passing the course: During semester: Active participation in the lectures. After lectures completion, there will be a written test. To attend the exam, the student need to gain at least 6 pts of 10 pts test. The final examination: Written test, composed of 20 questions. It is necessary to gain 60%. The subject evaluation: A – 100 % - 93 % B – 92 % - 85 % C – 84 % - 77 % D – 76 % - 69 % E – 68 % - 60 % FX – 59 % - 0 %	
Learning outcomes of the course: The course objective: The orientation in the subject of anatomy. To acquire the anatomic terminology and basic anatomic terms, anatomic alignments and directions. The course objective is applied (clinical) anatomy and topographic anatomy. Theoretical knowledge: To gain deep knowledge of anatomic structures of particular organs and organ systems. To know to describe the macroscopic view on particular organs in latin and their anatomic structure and anatomic structure of their walls as well. The understanding of anatomic sturcture lead to the understanding of the physiological function of particular systems as well. Practical skills: Based on anatomic description, the student is able to identify and characterize the particular organs and systems of human body.	
Course contents: 1. The anatomy of axial skeleton, limb skeleton. 2. Myology, head muscles, trunk muscles, limb muscles. 3. Anatomy and structures of gastrointestinal system. 4. Anatomy and structures of respiratory system. 5. Heart structures, anatomy and vessels branching 6. Lymphatic system. 7. Anatomy and structures of urinary system.	

8. Anatomy of reproduction organs of man and woman.
9. Blood.
10. Endocrine system.
11. Nervous system.
12. Senses.

Recommended or required literature:

1. KUBAS, V. – KOPPAL, P.- KUBAS, V.ml. – DUFFEK, M. a kol. 2021. Anatómia pre nelekárske vedy. Ružomberok: Verbum. 2021, 151 s. ISBN 978-80-561-0884-0
2. ČIHÁK, R. 2001. Anatomie I. Praha: Grada Publishing. 2001. 497 s. ISBN 8071699705
3. ČIHÁK, R. 2002. Anatomie II. Praha: Grada Publishing. 2002. 470 s. ISBN 978–80–247–4788–0
4. ČIHÁK, R. 2004. Anatomie III. Praha: Grada Publishing. 2004. 673s. ISBN 80-247-1132-X
5. MRÁZ, P. a kol. 2012. Anatómia ľudského tela I. Bratislava: Slovak Academic Press. 2012, 509 s. ISBN 978-80-8095-081-1
6. MRÁZ, P. a kol. 2012. Anatómia ľudského tela II. Bratislava: Slovak Academic Press. 2012, 487 s. ISBN 978-80-8095-082-8

Language of instruction:
Slovak language

Notes:

Course evaluation:
Assessed students in total: 104

A	B	C	D	E	FX
28.85	11.54	11.54	9.62	26.92	11.54

Name of lecturer(s): MUDr. Viliam Kubas, PhD.

Last modification: 22.02.2023

Supervisor(s):
Person responsible for the delivery, development and quality of the study programme:
doc. MUDr. Pavol Dubinský, PhD.

COURSE INFORMATION SHEET

University: Catholic University in Ružomberok	
Faculty: Faculty of Health	
Course code: KRAT/54T1035W/22	**Course title:** Angiography and Interventional Radiology
Type and range of planned learning activities and teaching methods: **Form of instruction:** Lecture / Seminar **Recommended study range:** **hours weekly:** 3 / 1 **hours per semester:** 36 / 12 **Teaching method:** on-site	
Credits: 4	**Working load:** 100 hours
Recommended semester/trimester: 4.	
Level of study: I.	
Prerequisities: KRAT/54T1018W/22	
Requirements for passing the course: During semester: Participation in the lectures and exercises. The final evaluation: Written test before oral exam. To proceed to oral exam, the student has to gain 60% of points in written test. The course is taught in the summer semester and is evaluated in the corresponding examination period of summer semester of the academic year. The subject evaluation: A – 100%-93% B – 92%-85% C – 84%-77% D – 76%-69% E – 68%-60% FX – 59%- 0%	
Learning outcomes of the course: The objective of the course: To get to know with the methods of subtraction and digital subtraction. To get to know the students with modern angiographic techniques. To acquaint the students with interventions in the field of parenchymatic organs, blood vessels and ducts. Recanalizations and drainage in palliative medicine. Theoretical knowledge: The student has a command of expert terminology. They are able to explain particular phases of angiogram, to recognize particular vascular and nonvascular structures. They define particular intervention procedures and recognize intervention procedures under skiascopic CT, USG or MR control. They are able to suggest the most effective imaging technique for intervention in the concrete health issue. They know basic theoretical principles of stereotaxy. Practical skills: The student recognizes intervention tools and know the use during angiography and intervention. They know to assist during intervention, to set the image mode, patient positioning and required projection. They get to know with the possible complications, they attend the management and providing post-procedure patient care. They record the protocol of intervention procedure and archive it.	

Course contents:

1. Diapeutics, intervention, punctuation, biopsy, stereotaxy, image leading of the intervention.
2. Subtraction and digital subtraction.
3. Seldinger technique. Angiography, flebography, lymphography, coronarography.
4. Catheterization tools, cathethers, stents, stentgraphs and their use.
5. Targeted punctuation, biopsy, stereotactic punctuations and biopsy.
6. Drainage operations and interventions in bile ducts, urinary tracts and gastrointestinal system.
7. Interventions in the limb vessels.
8. Interventions in the aorta, heart and brain vessels.
9. Embolization and trombolysis, prevention of trombosis and embolism.
10. Interventions in oncology - sclerotization, ablation, brachytherapy, palliation.
11. Complications in intervention procedures and their intervention solution.
12. Written test.

Recommended or required literature:

1.HEŘMAN, M. A KOL. Základy rádiológie, Olomouc, UP 2015
2.SEIDL, Z. A KOL.: Rádiológie pro studium i praxi. Praha, Grada, 2012, 368s.
3.TVRDÍK, E., BEŇAČKA, J.: Ultrasonografia. Topoľčany, Dansta, 2009, 340s.
4.VYHNÁNEK, K.: Kapitoly z klinickej rádiodiagnostiky. Praha, Grada, 2004, 475s.

Language of instruction:

Slovak language

Notes:

Course evaluation:

Assessed students in total: 95

A	B	C	D	E	FX
38.95	28.42	17.89	9.47	5.26	0.0

Name of lecturer(s): doc. MUDr. Pavol Dubinský, PhD., MUDr. Ján Kodaj, MUDr. Martin Kováč

Last modification: 22.02.2023

Supervisor(s):

Person responsible for the delivery, development and quality of the study programme:

doc. MUDr. Pavol Dubinský, PhD.

COURSE INFORMATION SHEET

University: Catholic University in Ružomberok	
Faculty: Faculty of Health	
Course code: KRAT/54T21S/22	**Course title:** Bachelor Thesis Defense
Type and range of planned learning activities and teaching methods: **Form of instruction:** **Recommended study range:** **hours weekly:** **hours per semester:** **Teaching method:** on-site	
Credits: 5	**Working load:** 125 hours
Recommended semester/trimester: 5., 6..	
Level of study: I.	
Prerequisities:	

Requirements for passing the course:

During semester: Student will prepare a bachelor thesis in cooperation with the thesis supervisor according to the Directive of the Rector of KU in Ružomberok no. 4/2011 on the requisites of final, rigorous and habilitation theses, their bibliographic registration, originality control, storage and access concerning copyright and is responsible for the originality of the thesis. Student submits the completed final thesis in electronic form through the academic information system and in a printed version with a specified copies number, fills in its analytical sheet and submits the signed license agreement in two copies to the student affairs department. Final evaluation: It considers the evaluation of the final thesis supervisor and opponent, the originality control protocol, and the final thesis defense in front of the state exam committee.

The subject evaluation:

Hodnotenie predmetu:

A – 100 % - 93 %

B – 92 % - 85 %

C – 84 % - 77 %

D – 76 % - 69 %

E – 68 % - 60 %

FX – 59 % - 0 %

Learning outcomes of the course:

The course objective: to handle theoretical and practical basis of solved problem in the field of radiologic technology.

Theoretical knowledge: the ability to work with home and foreign professional literature, to choose the relevant information for the bachelor thesis, to apply proffesional knowledge when collecting, interpreting and processing of basic proffesional literature.

Practical skills: to formally processing the given topic.

Course contents:

The course contents is defined in the subject information sheets of the subjects Final thesis seminar 1,2,3.

Recommended or required literature:

1. KATUŠČÁK, D. Ako písať vysokoškolské a kvalifikačné práce. Nitra : Enigma, 2009.
2. MALÍKOVÁ, K. et al. Príprava a písanie záverečnej práce. Ružomberok : FZ KU, 2008.
3. Staroňová, K. vedecké písanie. Martin : Osveta, 2011.
4. VYDRA, A. Akademické písanie. Trnava : Filozofická fakulta Trnavskej univerzity, 2010.
5. ŽIAKOVÁ, K. et al. Ošetrovateľstvo teória a vedecký výskum. Martin: Osveta, 2009.

Language of instruction:

Slovak language

Notes:

Course evaluation:

Assessed students in total: 81

A	B	C	D	E	FX
81.48	12.35	1.23	3.7	1.23	0.0

Name of lecturer(s):

Last modification: 31.08.2022

Supervisor(s):

Person responsible for the delivery, development and quality of the study programme:

doc. MUDr. Pavol Dubinský, PhD.

COURSE INFORMATION SHEET

University: Catholic University in Ružomberok	
Faculty: Faculty of Health	
Course code: KRAT/54T1053W/22	**Course title:** Clinical Oncology
Type and range of planned learning activities and teaching methods: **Form of instruction:** Lecture / Seminar **Recommended study range:** **hours weekly:** 3 / 1 **hours per semester:** 36 / 12 **Teaching method:** on-site	
Credits: 3	**Working load:** 75 hours
Recommended semester/trimester: 2.	
Level of study: I.	
Prerequisities:	
Requirements for passing the course: The continuous assessment of the active participation in the lectures and final evalution of student in the oral examination.	
Learning outcomes of the course: The course objective: to gain knowledge of oncology. To know to characterize special diagnostic procedures and basic principles of oncologic therapy of adults and children as well. Theoretical knowledge: The student has a command of basic terminology, has a knowlege of epidemiology and patogenesis of malignant tumors. They have an overview in the field of dianostic procedures in oncology. They describe symptomatology of tumor disease. They define the basic procedures in tumor diseases therapy. They know the rehabilitation and psychosocial aspects in oncology. Practical skills: The student applies the theoretical knowledge in practice. They are able to orientate themselves when in contact with a patient, apply theoretical knowledge in these situations. They are able to interpret results of the clinical examinations and therapy procedures for oncology diseases.	
Course contents: General oncology 1. The characteristics of the subject, history, the interdisciplinary nature of oncology. Epidemiology of malignant tumors. Etiopatogenesis of malignant tumors. 2. Biology of cancer cell. Patology of tumors. Diagnostics and monitoring of tumor diseases. Symptomatology of tumor disease. 3. The general principles of the oncology treatment. The basics of the surgical treatment. Farmacological treatment in oncology. Radiotherapy: methods and techniques. 4. Complications of multimodal therapy and supporting therapy in oncology. Acute conditions in the clinical oncology. 5. Rehabilitation in clinical oncology. Psychosocial aspects in oncology. The prevention of the malignant tumors. Special oncology: 6. Hematologic oncology. 7. Carcinomes. 8. Mesenchymal solid tumors.	

9. Neuroectodermal tumors and the other types of malignant tumors.
10. The tumors in the child age.
11. Metastases of tumors of the unknown localization.
12. Written test.

Recommended or required literature:

1. HUDÁKOVÁ, Z. et al. : Onkologické ošetrovateľstvo. Ružomberok: Verbum, 2012, 146 p.
2. HUDÁKOVÁ, Z. et al.: Onkologické ošetrovateľstvo 2. Ružomberok : Verbum, 2012. 202 p.
3. VORLÍČEK, J. et al. : Klinická onkologie pro sestry. Praha: Grada , 2012. 448 p.

Language of instruction:
Slovak language

Notes:

Course evaluation:
Assessed students in total: 96

A	B	C	D	E	FX
13.54	32.29	39.58	12.5	2.08	0.0

Name of lecturer(s): MUDr. Roman Podoba, PhD.

Last modification: 22.02.2023

Supervisor(s):
Person responsible for the delivery, development and quality of the study programme:
doc. MUDr. Pavol Dubinský, PhD.

COURSE INFORMATION SHEET

University: Catholic University in Ružomberok	
Faculty: Faculty of Health	
Course code: KRAT/54T1021W/22	**Course title:** Clinical Practice 1
Type and range of planned learning activities and teaching methods: **Form of instruction:** Seminar **Recommended study range:** **hours weekly:** **hours per semester:** 120s **Teaching method:** on-site	
Credits: 4	**Working load:** 100 hours
Recommended semester/trimester: 2.	
Level of study: I.	
Prerequisities: KRAT/54T1055W/22	
Requirements for passing the course: Active attendance in clinical practice. The course is led only in summer semester and is evaluated in the corresponding examination period of summer semester of the academic year. The final evaluation is based on active attendance in clinical practice: The subject evaluation: A – 100%-93% B – 92%-85% C – 84%-77% D – 76%-69% E – 68%-60% FX – 59%- 0%	
Learning outcomes of the course: The objective course: to gain practical skills in specific techniques. Theoretical knowledge: The student applies theoretical knowledge (gained from the subjects: Radiology, Radiation oncology and Nuclear medicine) in practice. He is able to define, describe and compare the particular techniques and devices. Practical skills: The work with patient, manipulations with device equipment. The assistance during application, sampling techniques, injection application at examination procedures in Radiology, Radiotherapy and Nuclear medicine. Documentation.	
Course contents: 1. The individual supervising of students in order to gain practical skills. 2. Radiation protection - staff, patient (dosimetry). 3. Patient preparation for the examination. 4. Practical operation of radiological devices. 5. The basics of the work at CT department. 6. The basics of the work at MRI department. 7. The practical operation with the nuclear medicine machines.	

8. The practical operation in the functional diagnostics.
9. The practical operation of devices at department of radiation oncology.
10. The basics of planning in radiation oncology.
11. The practical handling of the radiation techniques in radiation oncology.
12. Documentation at workplace.

Recommended or required literature:
The recommended literature is listed in the particular subjects (see the subjects: Radiology, Radiation oncology and Nuclear medicine).

Language of instruction:
Slovak language

Notes:

Course evaluation:
Assessed students in total: 70

A	B	C	D	E	FX
100.0	0.0	0.0	0.0	0.0	0.0

Name of lecturer(s): doc. MUDr. Pavol Dubinský, PhD., Mgr. Marián Gašaj, Ing. Martin Bereta, PhD.

Last modification: 22.02.2023

Supervisor(s):
Person responsible for the delivery, development and quality of the study programme:
doc. MUDr. Pavol Dubinský, PhD.

COURSE INFORMATION SHEET

University: Catholic University in Ružomberok	
Faculty: Faculty of Health	
Course code: KRAT/54T1030W/22	**Course title:** Clinical Practice 2
Type and range of planned learning activities and teaching methods: **Form of instruction:** Seminar **Recommended study range:** **hours weekly:** **hours per semester:** 120s **Teaching method:** on-site	
Credits: 4	**Working load:** 100 hours
Recommended semester/trimester: 3.	
Level of study: I.	
Prerequisities: KRAT/54T1022W/22	
Requirements for passing the course: Active attendance in clinical practice. During semester: to prepare seminar work on given topic. The final evaluation will be based on the active participation in practice and submitted seminar work The course is led only in the winter semester and is evaluated in the corresponding examination period of winter semester of the academic year. The subject evaluation: A – 100%-93% B – 92%-85% C – 84%-77% D – 76%-69% E – 68%-60% FX – 59%- 0%	
Learning outcomes of the course: The objective course: to gain practical skills in specific techniques. Theoretical knowledge: The student applies theoretical knowledge (gained from the subjects: Radiology, Radiation oncology and Nuclear medicine) in practice. He is able to define, describe and compare the particular techniques and devices. Practical skills: The work with patient, manipulations with device equipment. The assistance during application, sampling techniques, injection application at examination procedures in Radiology, Radiotherapy and Nuclear medicine. Documentation.	
Course contents: 1. The individual supervising of students in order to gain practical skills. 2. The conventional imaging procedures. 3. The operation with stable X-ray devices. 4. The bedside imaging. 5. Computerized tomography. 6. Magnetic resonance. 7. The health protection at work in radiotherapy. 8. The practical handling of radiation techniques in radiotherapy. 9. The basics of planning in radiation oncology.	
Recommended or required literature: The recommended literature is listed in the particular subjects (see the subjects: Radiology, Radiation oncology and Nuclear medicine).	
Language of instruction: Slovak language	

Notes:

Course evaluation:
Assessed students in total: 94

A	B	C	D	E	FX
100.0	0.0	0.0	0.0	0.0	0.0

Name of lecturer(s): doc. MUDr. Pavol Dubinský, PhD., Ing. Martin Bereta, PhD., Mgr. Marián Gašaj, Mgr. Anna Kodajová, Mgr. Bc. Katarína Palugová, prof. MUDr. Anton Lacko, CSc.

Last modification: 22.02.2023

Supervisor(s):
Person responsible for the delivery, development and quality of the study programme:
doc. MUDr. Pavol Dubinský, PhD.

COURSE INFORMATION SHEET

University: Catholic University in Ružomberok	
Faculty: Faculty of Health	
Course code: KRAT/54T1039W/22	**Course title:** Clinical Practice 3
Type and range of planned learning activities and teaching methods: **Form of instruction:** Seminar **Recommended study range:** **hours weekly:** **hours per semester:** 120s **Teaching method:** on-site	
Credits: 4	**Working load:** 100 hours
Recommended semester/trimester: 4.	
Level of study: I.	
Prerequisities: KRAT/54T1031W/22	
Requirements for passing the course: Active participation in clinical practice. During semester: to prepare seminar work on given topic. The final evaluation will be based on the active participation in practice and submitted seminar work The course is led only in the summer semester and is evaluated in the corresponding examination period of summer semester of the academic year. The subject evaluation: A – 100%-93% B – 92%-85% C – 84%-77% D – 76%-69% E – 68%-60% FX – 59%- 0%	
Learning outcomes of the course: The objective course: to gain practical skills in specific techniques. Theoretical knowledge: The student applies theoretical knowledge (gained from the subjects: Radiology, Radiation oncology and Nuclear medicine) in practice. He is able to define, describe and compare the particular techniques and devices. Practical skills: The work with patient, manipulations with device equipment. The assistance during application, sampling techniques, injection application at examination procedures in Radiology, Radiotherapy and Nuclear medicine. Documentation.	
Course contents: 1. Individual supervising of the students in order to gain practical skills. 2. Special techniques. 3. Interventional angiography. 4. CT protocols. 5. MR protocols. 6. The basics of primary dosimetry in radiotherapy. 7. The fixing aids. 8. Anti-inflammatory X-ray therapy. 9. The radiation protection and personal dosimetry in nuclear medicine. 10. The detectors of ionizing radiation. 11. The practical handling of devices in nuclear medicine. 12. Documentation at particular departments.	
Recommended or required literature: The recommended literature is listed in the particular subjects (see the subjects: Radiology, Radiation oncology and Nuclear medicine).	

Language of instruction:
Slovak language

Notes:

Course evaluation:
Assessed students in total: 63

A	B	C	D	E	FX
100.0	0.0	0.0	0.0	0.0	0.0

Name of lecturer(s): doc. MUDr. Pavol Dubinský, PhD., Ing. Martin Bereta, PhD., doc. PhDr. Jozef Babečka, PhD.

Last modification: 22.02.2023

Supervisor(s):
Person responsible for the delivery, development and quality of the study programme:
doc. MUDr. Pavol Dubinský, PhD.

COURSE INFORMATION SHEET

University: Catholic University in Ružomberok	
Faculty: Faculty of Health	
Course code: KRAT/54T1049W/22	**Course title:** Clinical Practice 4
Type and range of planned learning activities and teaching methods: **Form of instruction:** Seminar **Recommended study range:** **hours weekly:** **hours per semester:** 180s **Teaching method:** on-site	
Credits: 4	**Working load:** 100 hours
Recommended semester/trimester: 5.	
Level of study: I.	
Prerequisities: KRAT/54T1040W/22	
Requirements for passing the course: Active attendance in clinical practice. During semester: to prepare seminar work on given topic. The final evaluation will be based on the active participation in practice and submitted seminar work The course is led only in the winter semester and is evaluated in the corresponding examination period of winter semester of the academic year. The subject evaluation: A – 100%-93% B – 92%-85% C – 84%-77% D – 76%-69% E – 68%-60% FX – 59%- 0%	
Learning outcomes of the course: The objective course: to gain practical skills in specific techniques. Theoretical knowledge: The student applies theoretical knowledge (gained from the subjects: Radiology, Radiation oncology and Nuclear medicine) in practice. He is able to define, describe and compare the particular techniques and devices. Practical skills: The work with patient, manipulations with device equipment. The assistance during application, sampling techniques, injection application at examination procedures in Radiology, Radiotherapy and Nuclear medicine. Documentation.	
Course contents: 1. The individual supervising of the students in order to gain practical skills. 2. The deepening of practical skills in handling of radiological devices. 3. The deepening of practical skills in handing of devices in radiotherapy. 4. Brachytherapy. 5. The radiation plans in brachytherapy. 6. The dosimetry in brachytherapy. 7. The planar and SPECT studies. 8. The image processing and reconstructions in nuclear medicine. 9. The hybrid cameras SPECT/CT. 10. The calibration of cameras. 11. Radiopharmaceuticals. 12. Medical applications.	
Recommended or required literature: The recommended literature is listed in the particular subjects (see the subjects: Radiology, Radiation oncology and Nuclear medicine).	

Language of instruction:
Slovak language

Notes:

Course evaluation:
Assessed students in total: 86

A	B	C	D	E	FX
100.0	0.0	0.0	0.0	0.0	0.0

Name of lecturer(s): doc. MUDr. Pavol Dubinský, PhD., Ing. Martin Bereta, PhD.

Last modification: 22.02.2023

Supervisor(s):
Person responsible for the delivery, development and quality of the study programme:
doc. MUDr. Pavol Dubinský, PhD.

COURSE INFORMATION SHEET

University: Catholic University in Ružomberok	
Faculty: Faculty of Health	
Course code: KRAT/54T1020W/22	**Course title:** Communication and Professional Ethics
Type and range of planned learning activities and teaching methods: **Form of instruction:** Lecture / Seminar **Recommended study range:** **hours weekly:** 2 / 1 **hours per semester:** 24 / 12 **Teaching method:** on-site	
Credits: 2	**Working load:** 50 hours
Recommended semester/trimester: 2.	
Level of study: I.	
Prerequisities:	

Requirements for passing the course:

During semester: the student actively participated in the education (presentations, verbal and nonverbal communication training, application of communication techniques in model situations), in the practical handling of the subject with respect to application in patient care. The attendance in exercises must be 100%. The student prepares the seminary work including presentation, which fulfill at least 60% (formal and content requirements, mistakes absence in the verbal and nonverbal communication), to keep time limit 5 minutes, the way of presentation. At the end of presentation, the positives and negatives and self-reflection is evaluated. When the criteria are not fulfilled, the student is not allowed to attend to the writing part of final exam.

The final evaluation will be based on criteria in the exercises fulfillment and overall final points gained from the written test in the final exam.

The subject evaluation:

A – 100 %-91 %
B – 92 %-85 %
C – 84 %-77 %
D – 76 %-69 %
E – 68 %-60 %
FX – 59 %- 0 %

Learning outcomes of the course:

To gain knowledge, skills in the field of interpersonal communication, lead the students to communications skills in the interactions: radiologic technician - patient or the relavives of patients in such a way, the student gains competence in the field of communication. To warn about the mistakes, which affect the perception and communication. The training of problematic situations solving, which can meet the student in clinical practice.

Theoretical knowledge: The student define communication, the basic division of terms in communication. They characterize the types of communication, they have command of the structure and the principles of a conducting the conversation with the patient, eliminate the communication bad habits, acquire the empathy ways, describe the attributes of the assertive communications. They identify specifics of communication in clinical practice, thus gain communication skills in the approach to the patient.

Practical skills: The student apply gained knowledge during theoretical education in exercises, show the specifics of communication with the patient, which arise from the model situations solving, coming in clinical practice.

Course contents:

1. The characteristics of the social communication, nonverbal communication, paralinguistic aspects of communication.
2. The verbal communication (speech, conversation, responses). Empathy, evaluation, devaluation. The assertive behavior.
3. The communication with the different temperaments - sanguine, choleric, melancholic, phlegmatic.
4. The effective communication with the patient in ambulance by the nurse.
5. The communication with the artificial ventilated patient and patient in the unconsciousness.
6. The communication with the patient of another nationality - multicultural approach.
7. The communication with the child patient (of various age).
8. The communication with the geriatric patient.
9. The communication with the patient in the terminal state, with oncological disease.
10. The communication with handicaped patient (mental and physical handicap).
11. The communication of the nurse with the selected groups of patients of problematic behavior (pedantic patient, agressive patient, histrionic patient).

Recommended or required literature:

Odporúčaná literatúra:

1. CHALUPA, R. 2012. Efektivní krízová komunikace. Praha, Grada 2012, 169 s. ISBN 978-80-247-4234-2
2. PTÁČEK, R. 2011. Etika a komunikace v medicíně. Praha, Grada 2011, 528 s. ISBN 978-80-247-3976-2
3. HUMENÍK IVAN, SZANISZLÓ M. 2012. Biomedicínsky výskum, právne, etiky, filozoficky. Bratislava, Eurokódex, 2012 336 s. ISBN 978-80-89447-73-2
4. JEMELKA PETER, 2013. Kapitoly z aplikovanej etiky III. Úvod do bioetiky, Michal Vaško, 2013, 92.s. ISBN 978-80-7165-905-1
5. LITTVA, V a kol. 2019. Profesijná aplikovaná etika vo verejnom zdravotníctve, Verbum, Ružomberok, 2019, 174 s. ISBN 978-80-561-0694-5
6. LITTVA,V. a kol. 2020. Profesijná aplikovaná etika v urgentnej zdravotnej starostlivosti, Verbum, Ružomberok, 2020, 281 s. ISBN 978-80-561-0835-2
7. VÁCHA MAREK, 2012. Základy moderní lékařské etiky, Portál 2012, 302 s. ISBN 978-80-7367-780-0

Language of instruction:

Slovak language

Notes:

Course evaluation:

Assessed students in total: 121

A	B	C	D	E	FX
90.08	7.44	1.65	0.83	0.0	0.0

Name of lecturer(s): doc. PhDr. Mgr. Vladimír Littva, PhD., MPH, doc. PhDr. Jozef Babečka, PhD.

Last modification: 22.02.2023

Supervisor(s):

Person responsible for the delivery, development and quality of the study programme:

doc. MUDr. Pavol Dubinský, PhD.

COURSE INFORMATION SHEET

University: Catholic University in Ružomberok	
Faculty: Faculty of Health	
Course code: KRAT/54T1011W/22	**Course title:** Continuous Professional Practice 1
Type and range of planned learning activities and teaching methods: **Form of instruction:** Seminar **Recommended study range:** **hours weekly:** **hours per semester:** 90s **Teaching method:** on-site	
Credits: 3	**Working load:** 75 hours
Recommended semester/trimester: 1.	
Level of study: I.	
Prerequisities:	
Requirements for passing the course: Active participtionin clinical practice. The final evaluation is based on active participation in clinical practice: The subject evaluation: A – 100%-93% B – 92%-85% C – 84%-77% D – 76%-69% E – 68%-60% FX – 59%- 0%	
Learning outcomes of the course: The objective course: to gain practical skills in specific techniques. Theoretical knowledge: The student applies theoretical knowledge (gained from the subjects: Radiology, Radiation oncology and Nuclear medicine) in practice. He is able to define, describe and compare the particular techniques and devices. Practical skills: The work with patient, manipulations with device equipment. The assistance during application, sampling techniques, injection application at examination procedures in Radiology, Radiotherapy and Nuclear medicine. Documentation.	
Course contents: 1. The individual supervising of students in order to gain practical skills. 2. Radiation protection - staff, patient (dosimetry). 3. Patient preparation for the examination. 4. Practical operation of radiological devices. 5. The basics of the work at CT department. 6. The basics of the work at MRI department. 7. The practical operation with the nuclear medicine machines. 8. The practical operation in the functional diagnostics. 9. The practical operation of devices at department of radiation oncology. 10. The basics of planning in radiation oncology. 11. The practical handling of the radiation techniques in radiation oncology. 12. Documentation at workplace	
Recommended or required literature: The recommended literature is listed in the particular subjects (see the subjects: Radiology, Radiation oncology and Nuclear medicine).	
Language of instruction: Slovak language	
Notes:	

Course evaluation:
Assessed students in total: 99

A	B	C	D	E	FX
100.0	0.0	0.0	0.0	0.0	0.0

Name of lecturer(s): doc. MUDr. Pavol Dubinský, PhD., Ing. Martin Bereta, PhD., prof. MUDr. Anton Lacko, CSc.

Last modification: 23.02.2023

Supervisor(s):
Person responsible for the delivery, development and quality of the study programme:
doc. MUDr. Pavol Dubinský, PhD.

COURSE INFORMATION SHEET

University: Catholic University in Ružomberok	
Faculty: Faculty of Health	
Course code: KRAT/54T1022W/22	**Course title:** Continuous Professional Practice 2
Type and range of planned learning activities and teaching methods: **Form of instruction:** Seminar **Recommended study range:** **hours weekly:** **hours per semester:** 180s **Teaching method:** on-site	
Credits: 5	**Working load:** 125 hours
Recommended semester/trimester: 2.	
Level of study: I.	
Prerequisities: KRAT/54T1021W/22	
Requirements for passing the course: Active participation in clinical practice. The course is led only in summer semester and is evaluated in the corresponding examination period of summer semester of the academic year. The final evaluation is based on active participation in clinical practice: The subject evaluation: A – 100%-93% B – 92%-85% C – 84%-77% D – 76%-69% E – 68%-60% FX – 59%- 0%	
Learning outcomes of the course: The objective course: to gain practical skills in specific techniques. Theoretical knowledge: The student applies theoretical knowledge (gained from the subjects: Radiology, Radiation oncology and Nuclear medicine) in practice. He is able to define, describe and compare the particular techniques and devices. Practical skills: The work with patient, manipulations with device equipment. The assistance during application, sampling techniques, injection application at examination procedures in Radiology, Radiotherapy and Nuclear medicine. Documentation.	
Course contents: 1. The individual supervising of students in order to gain practical skills. 2. Radiation protection - staff, patient (dosimetry). 3. Patient preparation for the examination. 4. Practical operation of radiological devices. 5. The basics of the work at CT department. 6. The basics of the work at MRI department. 7. The practical operation with the nuclear medicine machines. 8. The practical operation in the functional diagnostics. 9. The practical operation of devices at department of radiation oncology. 10. The basics of planning in radiation oncology. 11. The practical handling of the radiation techniques in radiation oncology. 12. Documentation at workplace.	
Recommended or required literature: The recommended literature is listed in the particular subjects (see the subjects: Radiology, Radiation oncology and Nuclear medicine).	
Language of instruction: Slovak language	
Notes:	

Course evaluation:
Assessed students in total: 72

A	B	C	D	E	FX
100.0	0.0	0.0	0.0	0.0	0.0

Name of lecturer(s): doc. MUDr. Pavol Dubinský, PhD., Ing. Martin Bereta, PhD., Mgr. Marián Gašaj

Last modification: 23.02.2023

Supervisor(s):
Person responsible for the delivery, development and quality of the study programme:
doc. MUDr. Pavol Dubinský, PhD.

COURSE INFORMATION SHEET

University: Catholic University in Ružomberok	
Faculty: Faculty of Health	
Course code: KRAT/54T1031W/22	**Course title:** Continuous Professional Practice 3
Type and range of planned learning activities and teaching methods: **Form of instruction:** Seminar **Recommended study range:** **hours weekly:** **hours per semester:** 90s **Teaching method:** on-site	
Credits: 2	**Working load:** 50 hours
Recommended semester/trimester: 3.	
Level of study: I.	
Prerequisities: KRAT/54T1030W/22	
Requirements for passing the course: Active participation in clinical practice. The final evaluation is based on evaluation of final test and oral exam. The course is led only in winter semester and is evaluated in the corresponding examination period of winter semester of the academic year. The subject evaluation: A – 100%-93% B – 92%-85% C – 84%-77% D – 76%-69% E – 68%-60% FX – 59%- 0%	
Learning outcomes of the course: The objective course: to gain practical skills in specific techniques. Theoretical knowledge: The student applies theoretical knowledge (gained from the subjects: Radiology, Radiation oncology and Nuclear medicine) in practice. He is able to define, describe and compare the particular techniques and devices. Practical skills: The work with patient, manipulations with device equipment. The assistance during application, sampling techniques, injection application at examination procedures in Radiology, Radiotherapy and Nuclear medicine. Documentation.	
Course contents: 1. The individual supervising of students in order to gain practical skills. 2. The conventional imaging procedures. 3. The operation with stable X-ray devices. 4. The bedside imaging. 5. Computerized tomography. 6. Magnetic resonance. 7. The health protection at work in radiotherapy. 8. The practical handling of radiation techniques in radiotherapy. 9. The basics of planning in radiation oncology. 10. The basics of work with open emitters at nuclear medicine department, radiation protection, operation of nuclear medicine department.	
Recommended or required literature: The recommended literature is listed in the particular subjects (see the subjects: Radiology, Radiation oncology and Nuclear medicine).	
Language of instruction: Slovak language	

Notes:

Course evaluation:
Assessed students in total: 94

A	B	C	D	E	FX
100.0	0.0	0.0	0.0	0.0	0.0

Name of lecturer(s): doc. MUDr. Pavol Dubinský, PhD., Ing. Martin Bereta, PhD., prof. MUDr. Anton Lacko, CSc.

Last modification: 23.02.2023

Supervisor(s):
Person responsible for the delivery, development and quality of the study programme:
doc. MUDr. Pavol Dubinský, PhD.

COURSE INFORMATION SHEET

University: Catholic University in Ružomberok	
Faculty: Faculty of Health	
Course code: KRAT/54T1040W/22	**Course title:** Continuous Professional Practice 4
Type and range of planned learning activities and teaching methods: **Form of instruction:** Seminar **Recommended study range:** **hours weekly:** **hours per semester:** 180s **Teaching method:** on-site	
Credits: 5	**Working load:** 125 hours
Recommended semester/trimester: 4.	
Level of study: I.	
Prerequisities: KRAT/54T1039W/22	
Requirements for passing the course: Active participation in clinical practice. The final evaluation is based on the evaluation of final test and oral exam. The course is led only in the summer semester and is evaluated in the corresponding examination period of summer semester of the academic year. The subject evaluation: A – 100%-93% B – 92%-85% C – 84%-77% D – 76%-69% E – 68%-60% FX – 59%- 0%	
Learning outcomes of the course: The objective course: to gain practical skills in specific techniques. Theoretical knowledge: The student applies theoretical knowledge (gained from the subjects: Radiology, Radiation oncology and Nuclear medicine) in practice. He is able to define, describe and compare the particular techniques and devices. Practical skills: The work with patient, manipulations with device equipment. The assistance during application, sampling techniques, injection application at examination procedures in Radiology, Radiotherapy and Nuclear medicine. Documentation	
Course contents: 1. Individual supervising of the students in order to gain practical skills. 2. Special techniques. 3. Interventional angiography. 4. CT protocols. 5. MR protocols. 6. The basics of primary dosimetry in radiotherapy. 7. The fixing aids. 8. Anti-inflammatory X-ray therapy. 9. The radiation protection and personal dosimetry in nuclear medicine. 10. The detectors of ionizing radiation. 11. The practical handling of devices in nuclear medicine. 12. Documentation at particular departments.	
Recommended or required literature: The recommended literature is listed in the particular subjects (see the subjects: Radiology, Radiation oncology and Nuclear medicine).	

Language of instruction:
Slovak language

Notes:

Course evaluation:
Assessed students in total: 63

A	B	C	D	E	FX
100.0	0.0	0.0	0.0	0.0	0.0

Name of lecturer(s): doc. MUDr. Pavol Dubinský, PhD., Ing. Martin Bereta, PhD., doc. PhDr. Jozef Babečka, PhD.

Last modification: 23.02.2023

Supervisor(s):
Person responsible for the delivery, development and quality of the study programme:
doc. MUDr. Pavol Dubinský, PhD.

COURSE INFORMATION SHEET

University: Catholic University in Ružomberok	
Faculty: Faculty of Health	
Course code: KRAT/54T1050W/22	**Course title:** Continuous Professional Practice 5
Type and range of planned learning activities and teaching methods: **Form of instruction:** Seminar **Recommended study range:** **hours weekly:** **hours per semester:** 90s **Teaching method:** on-site	
Credits: 2	**Working load:** 50 hours
Recommended semester/trimester: 5.	
Level of study: I.	
Prerequisities: KRAT/54T1049W/22	
Requirements for passing the course: Active participation in clinical practice. The final evaluation is based on the evaluation of final test and oral exam. The course is led only in the winter semester and is evaluated in the corresponding examination period of winter semester of the academic year. The subject evaluation: A – 100%-93% B – 92%-85% C – 84%-77% D – 76%-69% E – 68%-60% FX – 59%- 0%	
Learning outcomes of the course: The objective course: to gain practical skills in specific techniques. Theoretical knowledge: The student applies theoretical knowledge (gained from the subjects: Radiology, Radiation oncology and Nuclear medicine) in practice. He is able to define, describe and compare the particular techniques and devices. Practical skills: The work with patient, manipulations with device equipment. The assistance during application, sampling techniques, injection application at examination procedures in Radiology, Radiotherapy and Nuclear medicine. Documentation.	
Course contents: 1.The individual supervising of the students in order to gain practical skills. 2. The deepening of practical skills in handling of radiological devices. 3. The deepening of practical skills in handing of devices in radiotherapy. 4. Brachytherapy. 5. The radiation plans in brachytherapy. 6. The dosimetry in brachytherapy. 7. The planar and SPECT studies. 8. The image processing and reconstructions in nuclear medicine. 9. The hybrid cameras SPECT/CT. 10. The calibration of cameras. 11. Radiopharmaceuticals. 12. Medical applications.	
Recommended or required literature: The recommended literature is listed in the particular subjects (see the subjects: Radiology, Radiation oncology and Nuclear medicine).	

Language of instruction:
Slovak language

Notes:

Course evaluation:
Assessed students in total: 86

A	B	C	D	E	FX
100.0	0.0	0.0	0.0	0.0	0.0

Name of lecturer(s): doc. MUDr. Pavol Dubinský, PhD., Ing. Martin Bereta, PhD.

Last modification: 23.02.2023

Supervisor(s):
Person responsible for the delivery, development and quality of the study programme:
doc. MUDr. Pavol Dubinský, PhD.

COURSE INFORMATION SHEET

University: Catholic University in Ružomberok	
Faculty: Faculty of Health	
Course code: KRAT/54T1051W/22	**Course title:** Continuous Professional Practice 6
Type and range of planned learning activities and teaching methods: **Form of instruction:** Seminar **Recommended study range:** **hours weekly:** **hours per semester:** 300s **Teaching method:** on-site	
Credits: 8	**Working load:** 200 hours
Recommended semester/trimester: 6.	
Level of study: I.	
Prerequisities: KRAT/54T1050W/22	
Requirements for passing the course: Active participation in clinical practice. The final evaluation is based on the evaluation of final test and oral exam. The course is led only in the summer semester and is evaluated in the corresponding examination period of summer semester of the academic year. The subject evaluation: A – 100%-93% B – 92%-85% C – 84%-77% D – 76%-69% E – 68%-60% FX – 59%- 0%	
Learning outcomes of the course: The objective course: to gain practical skills in specific techniques. Theoretical knowledge: The student applies theoretical knowledge (gained from the subjects: Radiology, Radiation oncology and Nuclear medicine) in practice. He is able to define, describe and compare the particular techniques and devices. Practical skills: The work with patient, manipulations with device equipment. The assistance during application, sampling techniques, injection application at examination procedures in Radiology, Radiotherapy and Nuclear medicine. Documentation.	
Course contents: 1. The individual supervising of the students in order to gain practical skills. 2. The deepening of practical skills in handling of devices in radiodiagnostics. 3. The deepening of practical skills in handling of devices in radiotherapy. 4. The deepening of practical skills in handling of devices in nuclear medicine. 5. Radiation protection and safety at work with ionizing radiation. 6. Personal dosimetry. 7. Documentation at the particular departments.	
Recommended or required literature: The recommended literature is listed in the particular subjects (see the subjects: Radiology, Radiation oncology and Nuclear medicine).	
Language of instruction: Slovak language	
Notes:	

Course evaluation:
Assessed students in total: 83

A	B	C	D	E	FX
100.0	0.0	0.0	0.0	0.0	0.0

Name of lecturer(s): doc. MUDr. Pavol Dubinský, PhD., Ing. Martin Bereta, PhD.

Last modification: 22.02.2023

Supervisor(s):
Person responsible for the delivery, development and quality of the study programme:
doc. MUDr. Pavol Dubinský, PhD.

COURSE INFORMATION SHEET

University: Catholic University in Ružomberok	
Faculty: Faculty of Health	
Course code: KRAT/54T1001Y/22	**Course title:** English Language 1
Type and range of planned learning activities and teaching methods: **Form of instruction:** Seminar **Recommended study range:** **hours weekly:** 2 **hours per semester:** 24 **Teaching method:** on-site	
Credits: 1	**Working load:** 25 hours
Recommended semester/trimester: 1.	
Level of study: I.	
Prerequisities:	
Requirements for passing the course: During the semester: active participation in the exercises. During exercises the students apply current topic based on internet references in English. The students prepare seminar work in the field of their study and of their interest. They are focused on grammatical phenomena under supervision of teacher. They may write the irregular verbs in their seminar work. The attendance at final test is allowed after submission of seminar work in the appropriate quality. Course evaluation: A - 100% -93% B - 92% -85% C - 84% -77% D - 76% -69% E - 68% -60% FX - 59% - 0%	
Learning outcomes of the course: Objective of the course: to lead the student to work independently with a foreign language text, to master the laws of correct translation and to communication skills. The student should acquire professional vocabulary and communication skills in the thematic areas set out in the brief syllabus. Theoretical knowledge: the student is able to correctly apply grammatical phenomena listed in the brief syllabus of the subject in the interview to the given thematic areas. Practical skills: the student actively masters communication in a foreign language on given professional topics and is able to compare the foreign and home environment.	
Course contents: The scope and concerns of public health. What is public health – introduction. Functions of public health. Language spot : Present Simple vs Present Continuous. The hospital team. Job interview. Public health professionals. In and around hospital. Hospital departments. Language spot: Prepositions of place and movement. Presentations	

Recommended or required literature:

1. ČIŽNÁR, I. a kol. 2008. Anglicko-slovenský slovník verejného zdravotníctva. Bratislava : Slovenská zdravotnícka univerzita, 2008. 124 s., ISBN 978-80-969611-9-1.
2. DETELS, R. a kol. 2009. Oxford Textbook of Public Health. New York : Oxford University Press, 2009. 1769 s. ISBN 978-0-19_969347-4.
3. GRICE, M. 2012. Nursing 1, Oxford English for Careers, Oxford University Press, 201.2
4. ĎZUGANOVÁ, B. 2010. Medical English in Use, Martin, Osveta, 2010, 252 s., ISBN 978-80-8063-345-5.
5. GLENDINNING,, E.H. 2007. Professional English in Use Medicine, Cambridge University Press, Cambridge 2007, 175 s., ISBN 978-0-521-68201-5.
6. RIBES, R. - ROS, P.R. 2006. Medical English, Berlin, Springer 2006, 199 s., ISBN 3-540-25428-5.
7. ANDRIČÍK, M. 2006. Anglicko-slovenský a slovensko-anglický slovník, Košice, Pezolt, 2006, 1370 s., ISBN 80-88797-45-4
8. What do Public Health Proffessionals do, exactly? Dostupné na: https://www.goodwin.edu/enews/what-do-public-health-workers-do/

Language of instruction:

English language, Slovak language

Notes:

The course is taught in the winter semester and is evaluated in the corresponding examination period of winter semester of the academic year.

Course evaluation:

Assessed students in total: 101

A	B	C	D	E	FX
76.24	13.86	2.97	3.96	0.0	2.97

Name of lecturer(s): PaedDr. Martin Pinkoš

Last modification: 22.02.2023

Supervisor(s):

Person responsible for the delivery, development and quality of the study programme:

doc. MUDr. Pavol Dubinský, PhD.

COURSE INFORMATION SHEET

University: Catholic University in Ružomberok	
Faculty: Faculty of Health	
Course code: KRAT/54T1003Y/22	**Course title:** English Language 2
Type and range of planned learning activities and teaching methods: **Form of instruction:** Seminar **Recommended study range:** **hours weekly:** 2 **hours per semester:** 24 **Teaching method:** on-site	
Credits: 1	**Working load:** 25 hours
Recommended semester/trimester: 2.	
Level of study: I.	
Prerequisities: KRAT/54T1001Y/22	
Requirements for passing the course: During the semester: active participation in the exercises. During exercises the students apply current topic based on internet references in English. The students prepare seminar work in the field of their study and of their interest. They are focused on grammatical phenomena under supervision of teacher. They may write the irregular verbs in their seminar work. The attendance at final test is allowed after submission of seminar work in the appropriate quality. Course evaluation: A - 100% -93% B - 92% -85% C - 84% -77% D - 76% -69% E - 68% -60% FX - 59% - 0%	
Learning outcomes of the course: Objective of the course: to lead the student to work independently with a foreign language text, to master the laws of correct translation and to communication skills. The student should acquire professional vocabulary and communication skills in the thematic areas set out in the brief syllabus. Theoretical knowledge: the student is able to correctly apply grammatical phenomena listed in the brief syllabus of the subject in the interview to the given thematic areas. Practical skills: the student actively masters communication in a foreign language on given professional topics and is able to compare the foreign and home environment.	
Course contents: Hospital admissions. A patient record. Language spot: Past Simple versus Past Continuous. Contemporary health issues. Symptoms. Instructions. Language spot: Instructions. Making comparisons. Question forms. Communicable diseases. Chronic diseases. Presentations.	

Recommended or required literature:

1. ČIŽNÁR, I. a kol. 2008. Anglicko-slovenský slovník verejného zdravotníctva. Bratislava : Slovenská zdravotnícka univerzita, 2008. 124 s., ISBN 978-80-969611-9-1.
2. DETELS, R. a kol. 2009. Oxford Textbook of Public Health. New York : Oxford University Press, 2009. 1769 s. ISBN 978-0-19_969347-4.
3. GRICE, M. 2012. Nursing 1, Oxford English for Careers, Oxford University Press, 201.2
4. ĎZUGANOVÁ, B. 2010. Medical English in Use, Martin, Osveta, 2010, 252 s., ISBN 978-80-8063-345-5.
5. GLENDINNING,, E.H. 2007. Professional English in Use Medicine, Cambridge University Press, Cambridge 2007, 175 s., ISBN 978-0-521-68201-5.
6. RIBES, R. - ROS, P.R. 2006. Medical English, Berlin, Springer 2006, 199 s., ISBN 3-540-25428-5.
7. ANDRIČÍK, M. 2006. Anglicko-slovenský a slovensko-anglický slovník, Košice, Pezolt, 2006, 1370 s., ISBN 80-88797-45-4

Language of instruction:

Slovak language, English language

Notes:

The course is taught in the summer semester and is evaluated in corresponding examination period of the summer semester of the academic year.

Course evaluation:

Assessed students in total: 94

A	B	C	D	E	FX
88.3	10.64	1.06	0.0	0.0	0.0

Name of lecturer(s): PaedDr. Martin Pinkoš

Last modification: 21.02.2023

Supervisor(s):

Person responsible for the delivery, development and quality of the study programme:

doc. MUDr. Pavol Dubinský, PhD.

COURSE INFORMATION SHEET

University: Catholic University in Ružomberok	
Faculty: Faculty of Health	
Course code: KRAT/54T1005Y/22	**Course title:** English Language 3
Type and range of planned learning activities and teaching methods: **Form of instruction:** Seminar **Recommended study range:** **hours weekly:** 2 **hours per semester:** 24 **Teaching method:** on-site	
Credits: 1	**Working load:** 25 hours
Recommended semester/trimester: 3.	
Level of study: I.	
Prerequisities: KRAT/54T1003Y/22	
Requirements for passing the course: During the semester: active participation in the exercises. During exercises the students apply current topic based on internet references in English. The students prepare seminar work in the field of their study and of their interest. They are focused on grammatical phenomena under supervision of teacher. The attendance at final test is allowed after submission of seminar work in the appropriate quality. The final evaluation: The has to gain at least 60% points of final written test. Course evaluation: A - 100% -93% B - 92% -85% C - 84% -77% D - 76% -69% E - 68% -60% FX - 59% - 0%	
Learning outcomes of the course: Objective of the course: to lead the student to work independently with a foreign language text, to master the laws of correct translation and to communication skills. The student should acquire professional vocabulary and communication skills in the thematic areas set out in the brief syllabus. Theoretical knowledge: the student is able to correctly apply grammatical phenomena listed in the brief syllabus of the subject in the interview to the given thematic areas. Practical skills: the student actively masters communication in a foreign language on given professional topics and is able to compare the foreign and home environment	
Course contents: Elderly. Language spot: will. Mental health. Language spot: Present perfect. Population changes. Other public health issues I. Presentations	

Recommended or required literature:

1. ČIŽNÁR, I. a kol. 2008. Anglicko-slovenský slovník verejného zdravotníctva. Bratislava : Slovenská zdravotnícka univerzita, 2008. 124 s., ISBN 978-80-969611-9-1.
2. DETELS, R. a kol. 2009. Oxford Textbook of Public Health. New York : Oxford University Press, 2009. 1769 s. ISBN 978-0-19_969347-4.
3. GRICE, M. 2012. Nursing 1, Oxford English for Careers, Oxford University Press, 201.2
4. ĎZUGANOVÁ, B. 2010. Medical English in Use, Martin, Osveta, 2010, 252 s., ISBN 978-80-8063-345-5.
5. GLENDINNING,, E.H. 2007. Professional English in Use Medicine, Cambridge University Press, Cambridge 2007, 175 s., ISBN 978-0-521-68201-5.
6. RIBES, R. - ROS, P.R. 2006. Medical English, Berlin, Springer 2006, 199 s., ISBN 3-540-25428-5.
7. ANDRIČÍK, M. 2006. Anglicko-slovenský a slovensko-anglický slovník, Košice, Pezolt, 2006, 1370 s., ISBN 80-88797-45-4

Language of instruction:

Slovak language, English language

Notes:

The course is taught in the winter semester and is evaluated in the corresponding examination period of winter semester of the academic year.

Course evaluation:

Assessed students in total: 88

A	B	C	D	E	FX
88.64	7.95	2.27	0.0	0.0	1.14

Name of lecturer(s): PaedDr. Martin Pinkoš

Last modification: 21.02.2023

Supervisor(s):

Person responsible for the delivery, development and quality of the study programme:

doc. MUDr. Pavol Dubinský, PhD.

COURSE INFORMATION SHEET

University: Catholic University in Ružomberok	
Faculty: Faculty of Health	
Course code: KRAT/54T1007Y/22	**Course title:** English Language 4
Type and range of planned learning activities and teaching methods: **Form of instruction:** Seminar **Recommended study range:** **hours weekly:** 2 **hours per semester:** 24 **Teaching method:** on-site	
Credits: 1	**Working load:** 25 hours
Recommended semester/trimester: 4.	
Level of study: I.	
Prerequisities: KRAT/54T1005Y/22	
Requirements for passing the course: During the semester: active participation in the exercises. During exercises the students apply current topic based on internet references in English. The students prepare seminar work in the field of their study and of their interest. They are focused on grammatical phenomena under supervision of teacher. The attendance at final test is allowed after submission of seminar work in the appropriate quality. Course evaluation: A - 100% -93% B - 92% -85% C - 84% -77% D - 76% -69% E - 68% -60% FX - 59% - 0%	
Learning outcomes of the course: Objective of the course: to lead the student to work independently with a foreign language text, to master the laws of correct translation and to communication skills. The student should acquire professional vocabulary and communication skills in the thematic areas set out in the brief syllabus. Theoretical knowledge: the student is able to correctly apply grammatical phenomena listed in the brief syllabus of the subject in the interview to the given thematic areas. Practical skills: the student actively masters communication in a foreign language on given professional topics and is able to compare the foreign and home environment.	
Course contents: Nutrition and obesity. Language spot: should/shouldn ´t. Hygiene. Language spot:talking about obligation. Hand hygiene. Other public health issue II. Presentations.	

Recommended or required literature:

1. ČIŽNÁR, I. a kol. 2008. Anglicko-slovenský slovník verejného zdravotníctva. Bratislava : Slovenská zdravotnícka univerzita, 2008. 124 s., ISBN 978-80-969611-9-1.
2. DETELS, R. a kol. 2009. Oxford Textbook of Public Health. New York : Oxford University Press, 2009. 1769 s. ISBN 978-0-19_969347-4.
3. GRICE, M. 2012. Nursing 1, Oxford English for Careers, Oxford University Press, 201.2
4. ĎZUGANOVÁ, B. 2010. Medical English in Use, Martin, Osveta, 2010, 252 s., ISBN 978-80-8063-345-5.
5. GLENDINNING,, E.H. 2007. Professional English in Use Medicine, Cambridge University Press, Cambridge 2007, 175 s., ISBN 978-0-521-68201-5.
6. RIBES, R. - ROS, P.R. 2006. Medical English, Berlin, Springer 2006, 199 s., ISBN 3-540-25428-5.
7. ANDRIČÍK, M. 2006. Anglicko-slovenský a slovensko-anglický slovník, Košice, Pezolt, 2006, 1370 s., ISBN 80-88797-45-4

Language of instruction:

Slovak language, English language

Notes:

The course is taught in the summer semester and is evaluated in the corresponding examination period of summer semester of the academic year.

Course evaluation:

Assessed students in total: 87

A	B	C	D	E	FX
89.66	6.9	2.3	0.0	1.15	0.0

Name of lecturer(s): PaedDr. Martin Pinkoš

Last modification: 22.02.2023

Supervisor(s):

Person responsible for the delivery, development and quality of the study programme:

doc. MUDr. Pavol Dubinský, PhD.

COURSE INFORMATION SHEET

University: Catholic University in Ružomberok	
Faculty: Faculty of Health	
Course code: DEKZ/54Z2004W/22	**Course title:** Exercises in Spirituality - Spirituality of Good
Type and range of planned learning activities and teaching methods: **Form of instruction:** Seminar **Recommended study range:** **hours weekly:** 1 **hours per semester:** 12 **Teaching method:** on-site	
Credits: 1	**Working load:** 25 hours
Recommended semester/trimester: 4.	
Level of study: I.	
Prerequisities:	
Requirements for passing the course: a) active participation of the student during the spirituality concentration program, participating in discussions, working in groups, participating in cultural, spiritual formation and volunteer activities (60-100%). b) final assessment: Elaboration of an essay on 1 standard page of A4 format and its presentation at a personal colloquium (60-100%). The final assessment of the subject corresponds to the verbal assessment: Passed/Not passed. Credit is awarded to a student who obtained a minimum of 60 out of 100% from the subject for fulfilling the specified conditions.	
Learning outcomes of the course: • Knowledge: The student has knowledge about distinguishing between sin and virtue in human behavior and actions. • Skills: The student can distinguish between good and evil in human behavior and actions. • Competencies: The student is able to experience the Christian faith more personally through a truer distinction between good and evil and through a more concrete motivation to do good in the life of an adult Christian.	
Course contents: Good and evil, sin and virtue. Good as an answer to evil. Virtues in the life of a Christian. "Modern sins" and "modern virtues". Sacramental Reconciliation.	
Recommended or required literature: 1. Encyklika Jána Pavla II. EVANGELIUM VITAE o hodnote a nenarušiteľnosti ľudského života. 1995. Trnava: Spolok sv. Vojtecha, 1995, 195 s. ISBN: 80-7162-097-1. 2. Encyklika Jána Pavla II. VERITATIS SPLENDOR o základných otázkach cirkevnej náuky o mravnosti. 1994. Trnava: Spolok sv. Vojtecha, 1994, 180 s. ISBN 80-7162-057-2. 3. YOUCAT Katechizmus katolíckej cirkvi pre mladých. 2011. Bratislava: Karmelitánske nakladateľstvo, 2011, 301 s. ISBN 978-80-89231-99-7.	
Language of instruction: Sovak language	

Notes:
One study group consists of a maximum of 30 students, so that a personal approach to the students is possible and also so that the students can be divided into small groups with the number of 6 members for the purpose of effective communication.

Course evaluation:
Assessed students in total: 127

ABSOL	NEABS
95.28	4.72

Name of lecturer(s): PaedDr. Martin Pinkoš, doc. PhDr. Mgr. Vladimír Littva, PhD., MPH, RNDr. PaedDr. Mária Nováková, PhD., MBA

Last modification: 11.09.2022

Supervisor(s):
Person responsible for the delivery, development and quality of the study programme:
doc. MUDr. Pavol Dubinský, PhD.

COURSE INFORMATION SHEET

University: Catholic University in Ružomberok	
Faculty: Faculty of Health	
Course code: DEKZ/54Z2001W/22	**Course title:** Exercises in Spirituality - Spirituality of Truth
Type and range of planned learning activities and teaching methods: **Form of instruction:** Seminar **Recommended study range:** **hours weekly:** 1 **hours per semester:** 12 **Teaching method:** on-site	
Credits: 1	**Working load:** 25 hours
Recommended semester/trimester: 1.	
Level of study: I.	
Prerequisities:	
Requirements for passing the course: a) active participation of the student during the spirituality concentration program, participating in discussions, working in groups, participating in cultural, spiritual formation and volunteer activities (60-100%). b) final assessment: Elaboration of an essay on 1 standard page of A4 format and its presentation at a personal colloquium (60-100%). The final assessment of the subject corresponds to the verbal assessment: Passed/Not passed. Credit is awarded to a student who obtained a minimum of 60 out of 100% from the subject for fulfilling the specified conditions.	
Learning outcomes of the course: • Knowledge: The student has knowledge about the true meaning of life and human identity. • Skills: The student can identify the true meaning of life and characterize sin and its consequences. • Competencies: The student is ready to transform the knowledge of the meaning of life into bearing witness to the truth.	
Course contents: What it is about - the meaning of life. Human identity. God's love as the reason for creation and the principle of new life. Knowledge and consequences of sin. Jesus Christ as the way, the truth and the life. The importance of bearing witness to the truth.	
Recommended or required literature: 1. Encyklika pápeža Benedikta XVI. CARITAS IN VERITATE. 2009. Trnava: Spolok sv. Vojtecha, 2009, 118 s. ISBN 978-80-7162-786-9. 2. Posynodálna apoštolská exhortácia Svätého Otca Františka CHRISTUS VIVIT mladým a celému Božiemu ľudu. 2019. Trnava: Spolok sv. Vojtecha, 2019, 125 s. ISBN 978-80-8161-368-5. 3. ŠPIDLÍK, T. 2000. Pramene svetla: príručka kresťanskej dokonalosti. Trnava: Spolok sv. Vojtecha, 2000, 558 s. ISBN 80-7162-323-7. 4. YOUCAT Katechizmus katolíckej cirkvi pre mladých. 2011. Bratislava: Karmelitánske nakladateľstvo, 2011, 301 s. ISBN 978-80-89231-99-7.	

Language of instruction:
Slovak language

Notes:
One study group consists of a maximum of 30 students, so that a personal approach to the students is possible and also so that the students can be divided into small groups with the number of 6 members for the purpose of effective communication.

Course evaluation:
Assessed students in total: 160

ABSOL	NEABS
98.75	1.25

Name of lecturer(s): doc. PhDr. Mgr. Vladimír Littva, PhD., MPH, PaedDr. Martin Pinkoš

Last modification: 11.09.2022

Supervisor(s):
Person responsible for the delivery, development and quality of the study programme:
doc. MUDr. Pavol Dubinský, PhD.

COURSE INFORMATION SHEET

University: Catholic University in Ružomberok	
Faculty: Faculty of Health	
Course code: KRAT/54T1038W/22	**Course title:** Final Thesis Seminar 1
Type and range of planned learning activities and teaching methods: **Form of instruction:** Seminar **Recommended study range:** **hours weekly:** 2 **hours per semester:** 24 **Teaching method:** on-site	
Credits: 1	**Working load:** 25 hours
Recommended semester/trimester: 5.	
Level of study: I.	
Prerequisities:	

Requirements for passing the course:

Active participation in exercises. The student takes control tests during the semester. The test will focus on the issues that were covered in the last exercises. To successfully pass the control test, it is necessary for the student to achieve a minimum of 6 points from a maximum of 10 points. The result of the control test will be announced to the student after the end of the exercises or one day before the start of next exercises. If the student gets less than 6 points, he/she is evaluated Fx. If a student obtains two times Fx from control tests during the semester, he/she will not be admitted to the final exam due to the theoretical failure of the subject. The results of control tests will be part of the final overall evaluation of the student.

During the semester, each student prepares a semester work on a predetermined topic, which he is obliged to submit according to the instructions of the teacher.

After the end of the semester and the fulfillment of all conditions given by the teacher, each student passes a final written examination, which is aimed to verify the theoretical knowledge acquired during the semester. To successfully complete the final written examination, the student must obtain at least 80% of points.

The overall evaluation of the student will consist of the evaluation of control tests, evaluation of the semester work, evaluation of the final written examination and evaluation of the activity in the exercises. The teacher has the right to change the written examination to oral, which he must inform in advance. The student has the right to correction term in accordance with the study regulations of Faculty of Health, CU Ružomberok.

Learning outcomes of the course:

Objective of the course - aims of the course unit: to learn the principles of writing a final thesis and work with literature in accordance with the Rector's Directive KU No. 2/2017 on the requirements of final, rigorous and habilitation theses, their bibliographic registration, control of originality, storage and access. Master the standards, ethical principles and techniques of citation and work with bibliographic references. To master the principles of formal arrangement of the final work, the way of its presentation and publication.

Theoretical knowledge: to master the basic theory of writing the final thesis, masters the basic differences between different types of works, rules of work with literature, rules and ethics of citation, paraphrasing, basic principles of formal and content of the final thesis.

Practical skills: write the final thesis in accordance with the directive of the Rector of KU no. 2/2017, prepare a presentation of the final work, present their work and publish the results of their work in professional periodicals

Course contents:

1. Final thesis, definition, types of final theses, final thesis assignment, thesis annotation.
2. Structure and requisites of the final thesis - (cover, title page, assignment of the final thesis, statement on the number of characters).
3. Structure and requisites of the final work - (thanks, abstract in the state language, abstract in a foreign language, content).
4. Structure and requisites of the final work - (list of illustrations and list of tables, list of abbreviations and symbols, dictionary).
5. Main text part of the work - (introduction, core, conclusion, list of used literature).
6. The main text part of the work - (current state of the problem at home and abroad).
7. The main text part of the work - (goal of the work, methodology of research and methods of research, results of work, discussion).
8. Work with literature, citations and bibliographic references.
9. Formal arrangement of the final work.
10. Attachments and list of attachments.
11. Submission of the final work, control of originality.
12. Presentation of the final work and publication of the obtained results.

Recommended or required literature:

1. HANÁČEK, J, JAVORKA, K. Vedecká príprava. Martin: Osveta, 2010. 220 s. ISBN 978-80-8063-328-8
2. HOVORKA, D. a kol. Ako písať a komunikovať. Martin: Osveta, 2011. 247 s. ISBN 978-80-8063-370-7
3. MALÍKOVÁ, K. a kol.2008. Príprava a písanie záverečnej práce. (manuál). 2 vyd. Ružomberok : FZ KU, 2008. 63 s. ISBN 978-80-8084-279-6
4. MEŠKO, D., KATUŠČÁK, D., FINDRA, J. a kol. Akademická príručka. Martin: Osveta, 2005. 496 s.
5. SILVERMAN, D. Ako robiť kvalitatívny výskum. Bratislava: Ikar, 2005. 327 s. ISBN 80-551-0904-4
6. Smernica rektora KU č. 4/2011 o náležitostiach záverečných, rigoróznych a habilitačných prác, ich bibliografickej registrácii, kontrole originality, uchovávaní a sprístupňovaní.
7. STAROŇOVÁ, K. Vedecké písanie. Martin: Osveta, 2011. 246 s. ISBN 978-80-8063-359-2

Language of instruction:

Slovak

Notes:

Course evaluation:

Assessed students in total: 87

A	B	C	D	E	FX
98.85	0.0	1.15	0.0	0.0	0.0

Name of lecturer(s): Ing. Martin Bereta, PhD.

Last modification: 22.02.2023

Supervisor(s):

Person responsible for the delivery, development and quality of the study programme:

doc. MUDr. Pavol Dubinský, PhD.

COURSE INFORMATION SHEET

University: Catholic University in Ružomberok	
Faculty: Faculty of Health	
Course code: KRAT/54T1048W/22	**Course title:** Final Thesis Seminar 2
Type and range of planned learning activities and teaching methods: **Form of instruction:** Seminar **Recommended study range:** **hours weekly:** 2 **hours per semester:** 24 **Teaching method:** on-site	
Credits: 1	**Working load:** 25 hours
Recommended semester/trimester: 6.	
Level of study: I.	
Prerequisities: KRAT/54T1038W/22	

Requirements for passing the course:

Active participation in exercises. The student takes control tests during the semester. The test will focus on the issues that were covered in the last exercises. To successfully pass the control test, it is necessary for the student to achieve a minimum of 6 points from a maximum of 10 points. The result of the control test will be announced to the student after the end of the exercises or one day before the start of next exercises. If the student gets less than 6 points, he/she is evaluated Fx. If a student obtains two times Fx from control tests during the semester, he/she will not be admitted to the final exam due to the theoretical failure of the subject. The results of control tests will be part of the final overall evaluation of the student.

During the semester, each student prepares a semester work on a predetermined topic, which he is obliged to submit according to the instructions of the teacher.

After the end of the semester and the fulfillment of all conditions given by the teacher, each student passes a final written examination, which is aimed to verify the theoretical knowledge acquired during the semester. To successfully complete the final written examination, the student must obtain at least 80% of points.

The overall evaluation of the student will consist of the evaluation of control tests, evaluation of the semester work, evaluation of the final written examination and evaluation of the activity in the exercises. The teacher has the right to change the written examination to oral, which he must inform in advance. The student has the right to correction term in accordance with the study regulations of Faculty of Health, CU Ružomberok.

Learning outcomes of the course:

Objective of the course - aims of the course unit: to master the principles of writing a final thesis and work with literature in accordance with the directive of the Rector of KU no. 2/2017 on the requisites of final, rigorous and habilitation theses, their bibliographic registration, control of originality, storage and access.

Control:

- standards, ethical principles and techniques of citation and work with bibliographic references.
- principles of formal arrangement of the final work, the way of its presentation and publication.
- basics of creating and using questionnaires, case reports and other research and research methods.
- preparation of the obtained data for analysis, including the creation of a coding book.
- basics of using inductive and deductive statistics

• basics of using MS Excel, MS Word, MS PowerPoint, IBM SPSS Statistics.
Theoretical knowledge: theoretically master the basic theory of writing a thesis, basic differences between types of work, rules of literature, ethics and ethics of citation, paraphrasing, basic principles of formal and content of the thesis, preparation of research, research, preparation for the use of research / research methods , data preparation for their analysis, basics of statistical analysis of obtained data and their correct interpretation, methods of preparation for effective presentation and presentation of obtained data and conclusions.
Practical skills: write the final thesis in accordance with the directive of the Rector of KU no. 2/2017, prepare a presentation of the final thesis, present their work and publish the results of their work within the defense of the final thesis and in professional periodicals.

Course contents:
1. Directive of the Rector of KU no. 2/2017 on the requisites of final, rigorous and habilitation theses, their bibliographic registration, control of originality, preservation and access - updated edition.
2. Basics of creating self-designed questionnaires, including electronic form in Google forms, creation of a coding book, coding of the obtained data and their preparation for analysis, use of standardized questionnaires.
3. Basics of creating a Case Study / case study, its analysis and methods of interpretation.
4. Basics of observation and experiment, creation of documentation and possibilities of their processing and interpretation.
5. Basics of analysis of obtained data using deductive statistics using MS Excel and interpretation options.
6. Basics of analysis of obtained data using inductive statistics using IBM SPSS Statistics and the possibility of their interpretation.
7. Creation of tables and graphs using MS Word and MS Excel.
8. Creation of presentations of obtained data within MS PowerPoint.

Recommended or required literature:
1. MALÍKOVÁ, K. a kol.2008. Príprava a písanie záverečnej práce. (manuál). 2 vyd. Ružomberok : FZ KU, 2008. 63 s. ISBN 978-80-8084-279-6
2. MEŠKO, D., KATUŠČÁK, D., FINDRA, J. a kol. Akademická príručka. Martin: Osveta, 2005. 496 s.

Language of instruction:
Slovak

Notes:

Course evaluation:
Assessed students in total: 81

A	B	C	D	E	FX
95.06	3.7	1.23	0.0	0.0	0.0

Name of lecturer(s): Ing. Martin Bereta, PhD.

Last modification: 22.02.2023

Supervisor(s):
Person responsible for the delivery, development and quality of the study programme:
doc. MUDr. Pavol Dubinský, PhD.

COURSE INFORMATION SHEET

University: Catholic University in Ružomberok	
Faculty: Faculty of Health	
Course code: KRAT/54T1008W/22	**Course title:** First Aid
Type and range of planned learning activities and teaching methods: **Form of instruction:** Lecture / Seminar **Recommended study range:** **hours weekly:** 1 / 1 **hours per semester:** 12 / 12 **Teaching method:** on-site	
Credits: 2	**Working load:** 50 hours
Recommended semester/trimester: 1.	
Level of study: I.	
Prerequisities:	

Requirements for passing the course:

During semester: During semester there will be a written test in exercises, the student can gain 40 pts maximum. To participate in the exam, it is necessary to gain at least 20 pts from test. In the final exam, the student can gain 60 pts maximum.

Final evaluation: The final evaluation will be based on the total points gained from test and oral exam.

The subject evaluation:

A – 100 % - 93 %
B – 92 % - 85 %
C – 84 % - 77 %
D – 76 % - 69 %
E – 68 % - 61 %
FX – 60 % - 0 %

Learning outcomes of the course:

To analyse system, organisation, law aspects of the first aid, to know the general principles of the first aid and to develop professional knowledge and skills of the students of the study programme and to use the modern methods of work in this field.

Theoretical knowledge:

The student has a knowledge of the urgent medicine, masters cardiopulmonary resusciation, is able to orientate onself in providing of the first aid and in case of the other acute conditions.

Practical skills: to master procedures, the algorithm of the first aid in the sudden states and special situations. To know the law aspects, system and organisation of the first aid.

Course contents:

1. The introduction of the subject, the basic terms of the first aid.
2. Pre-hospital urgent healthcare.
3. The system, organisation, law aspects, and general principles of the firs aid.
4. The organisation, technique and protocols of the first aid in case of the mass accidents and special situations (material equipment and show).
5. History, phases, grades and procedures of urgent cardiopulmocerebral resuscitation.
6. Algorithms of the urgent resuscitation of adults and children.

7. The first aid in case of sudden states and training of first aid providing.
8. The first aid in the gynecology and obsterics.
9. The complications in the CPCR.
10. Ethic problems in the resuscitations.
11. The most common types of poisoning and the first aid in these cases.
12. The antidote and tools.

Recommended or required literature:

1. BYDŽOVSKÝ J. 2011. Predlekářska první pomoc. Praha : Grada Publishing, 2011, 117 s. ISBN 978-80-247-2334-1
2. KELNAROVÁ, J. a kol. 2012. První pomoc I. Praha : Grada, 2012, 100 s. ISBN 978-80-247-4199-4
3. KELNAROVÁ, J. a kol. 2013. První pomoc II. Praha : Grada, 2013, 180 s. ISBN 978-80-247-4200-7
4. LEJSEK JAN a kol. 2013. První pomoc. Praha : Karolinum, 2013, 271 s. ISBN 978-80-246-2090-9

Language of instruction:
Slovak language

Notes:

Course evaluation:
Assessed students in total: 101

A	B	C	D	E	FX
95.05	4.95	0.0	0.0	0.0	0.0

Name of lecturer(s): Ing. Bc. Michal Sekerák, MPH

Last modification: 22.02.2023

Supervisor(s):
Person responsible for the delivery, development and quality of the study programme:
doc. MUDr. Pavol Dubinský, PhD.

COURSE INFORMATION SHEET

University: Catholic University in Ružomberok	
Faculty: Faculty of Health	
Course code: KRAT/54T1002Y/22	**Course title:** German Language 1
Type and range of planned learning activities and teaching methods: **Form of instruction:** Seminar **Recommended study range:** **hours weekly:** 2 **hours per semester:** 24 **Teaching method:** on-site	
Credits: 1	**Working load:** 25 hours
Recommended semester/trimester: 1.	
Level of study: I.	
Prerequisities:	
Requirements for passing the course: During semester: At the beginning of every seminar a short test from the previous lesson will take place. If a student will get A from all these tests (except one other mark than A (not FX) or one absence) the seminar will be automatically registered in the university system. The students, who will not meet this condition, must pass an oral exam in the exam period. The participation in the final exam is conditioned by a maximum of two absences during the semester or two FX from the tests. The course evaluation: A – 100 %-93 % B – 92 %-85 % C – 84 %-77 % D – 76 %-69 % E – 68 %-60 % FX – 59 %- 0 %	
Learning outcomes of the course: The aim of the subject: To head the students towards individual work with the german text, to command the translation of a german medical text, to develop the students communication skills. Theoretical knowledge: The student is able to use grammar correctly during the conversation on the medical topic. Practical knowledge: The student can actively and promptly communicate in the hospital.	
Course contents: 1. First day in the hospital job. Expectations and wishes. 2. Hierarchy in the hospital. Introducing to the colleaques. 3. The hospital, the department. 4. In the hospital, in the lab. 5. Graduation of the adjectives. 6. Verbs with additions. Personal pronouns.	

7. Ordinal numbers.
8. Requests and Imperative.
9. Respiratory system.
10. The blood.
11. From healing potions to transfusions.
12. Separable verbs. Reflexive pronouns. Verbs with accusative and dative.

Recommended or required literature:

1. HANÁKOVÁ, A. 2021. Němčina pro nelekařské zdravotnické obory. Praha: Grada, 2021, 232 s. ISBN 978-80-271-1717-8..
2. MOKROŠOVÁ, I. – BAŠTOVÁ, L. 2020. Němčina pro lékaře. Praha: Grada, 2004, 416 s. ISBN 978-80-247-2127-9.
3. DŽUGANOVÁ, B. – BARNAU, A. 2017. Nemčina pre lekárov a pracovníkov v zdravotníctve. Praha: Easton Books, 2017, 288 s. ISBN 978-80-810-9319-7.

Language of instruction:
German language, Slovak language

Notes:
This subject is taught during the winter semester and is evaluated in the exam period of the winter semester.

Course evaluation:
Assessed students in total: 3

A	B	C	D	E	FX
66.67	33.33	0.0	0.0	0.0	0.0

Name of lecturer(s): PaedDr. Martin Pinkoš

Last modification: 22.02.2023

Supervisor(s):
Person responsible for the delivery, development and quality of the study programme:
doc. MUDr. Pavol Dubinský, PhD.

COURSE INFORMATION SHEET

University: Catholic University in Ružomberok	
Faculty: Faculty of Health	
Course code: KRAT/54T1004Y/22	**Course title:** German Language 2
Type and range of planned learning activities and teaching methods: **Form of instruction:** Seminar **Recommended study range:** **hours weekly:** 2 **hours per semester:** 24 **Teaching method:** on-site	
Credits: 1	**Working load:** 25 hours
Recommended semester/trimester: 2.	
Level of study: I.	
Prerequisities: KRAT/54T1002Y/22	
Requirements for passing the course: Conditional subject: German language 1 During semester: At the beginning of every seminar a short test from the previous lesson will take place. If a student will get A from all these tests (except one other mark than A (not FX) or one absence) the seminar will be automatically registered in the university system. The students, who will not meet this condition, must pass an oral exam in the exam period. The participation in the final exam is conditioned by a maximum of two absences during the semester or two FX from the tests. Course evaluation: A – 100 %-93 % B – 92 %-85 % C – 84 %-77 % D – 76 %-69 % E – 68 %-60 % FX – 59 %- 0 %	
Learning outcomes of the course: The aim of the subject: To head the students towards individual work with the german text, to command the translation of a german medical text, to develop the students communication skills. Theoretical knowledge: The student is able to use grammar correctly during the conversation on the medical topic. Practical knowledge: The student can actively and promptly communicate in the hospital.	
Course contents: 1. The Body parts. 2. Treatment interview and methods. 3. Health problems. The pain inteview. 4. Grammar: subordinate clauses. 5. The digestive system. 6. Medicine history: Wilhelm Conrad Röntgen. 7. Medical history: Jan Jesenius. 8. The cells and the tissues. 9. Grammar: modal verbs. 10. Measurement. The numbers 1-1000. Use of measuring instruments. 11. Documentation in the hospital. 12. Abdominal organs.	

Recommended or required literature:

1. HANÁKOVÁ, A. 2021. Němčina pro nelekařské zdravotnické obory. Praha: Grada, 2021, 232 s. ISBN 978-80-271-1717-8..
2. MOKROŠOVÁ, I. – BAŠTOVÁ, L. 2020. Němčina pro lékaře. Praha: Grada, 2004, 416 s. ISBN 978-80-247-2127-9.
3. DŽUGANOVÁ, B. – BARNAU, A. 2017. Nemčina pre lekárov a pracovníkov v zdravotníctve. Praha: Easton Books, 2017, 288 s. ISBN 978-80-810-9319-7.

Language of instruction:

German language, Slovak language

Notes:

This subject is taught during the summer semester and is evaluated during the exam period of the summer semester.

Course evaluation:

Assessed students in total: 3

A	B	C	D	E	FX
100.0	0.0	0.0	0.0	0.0	0.0

Name of lecturer(s): PaedDr. Martin Pinkoš

Last modification: 22.02.2023

Supervisor(s):

Person responsible for the delivery, development and quality of the study programme:

doc. MUDr. Pavol Dubinský, PhD.

COURSE INFORMATION SHEET

University: Catholic University in Ružomberok	
Faculty: Faculty of Health	
Course code: KRAT/54T1006Y/22	**Course title:** German Language 3
Type and range of planned learning activities and teaching methods: **Form of instruction:** Seminar **Recommended study range:** **hours weekly:** 2 **hours per semester:** 24 **Teaching method:** on-site	
Credits: 1	**Working load:** 25 hours
Recommended semester/trimester: 3.	
Level of study: I.	
Prerequisities: KRAT/54T1004Y/22	
Requirements for passing the course: During the semester: active participation in the exercises. During exercises the students apply current topic based on internet references in German. The students prepare seminar work in the field of their study and of their interest. They are focused on grammatical phenomena under supervision of teacher. The attendance at final test is allowed after submission of seminar work in the appropriate quality. The final evaluation: The has to gain at least 60% points of final written test. Course evaluation: A - 100% -93% B - 92% -85% C - 84% -77% D - 76% -69% E - 68% -60% FX - 59% - 0%	
Learning outcomes of the course: Objective of the course: to lead the student to work independently with a foreign language text, to master the laws of correct translation and to communication skills. The student should acquire professional vocabulary and communication skills in the thematic areas set out in the brief syllabus. Theoretical knowledge: the student is able to correctly apply grammatical phenomena listed in the brief syllabus of the subject in the interview to the given thematic areas. Practical skills: the student actively masters communication in a foreign language on given professional topics and is able to compare the foreign and home environment	
Course contents: 1. Grammatik: Zeitangaben und Ortsangaben. 2. Aufnahme-und Anamnesegespräch 3. Hilfsmittel benennen. Pflegeanamnese erheben. Krankengeschichte erfragen 4. Erbkrankheiten. Ein Infarkt kündigt sich an. 5. Erkrankungen. Fachwortschatz deutsch benennen. 6. Grammatik: Perfekt und Satzklammer. 7. Die Atmungsorgane. Fachwortschatz deutsch benennen. 8. Die Vorbereitung zur Operation. Narkoseprotokoll lesen. 9. Die Operation. Instrumente benennen. Über die Operation informieren. 10. Die Übergabe aus dem Operationssaal. 11. Medizingeschichte: Ernst Abbe. 12. Grammatik: Zeitangaben mit temporalen Präpositionen.	

Recommended or required literature:

1. FIRNHABER-SENSEN, U. – RODI, M. 2013. Deutsch im Krankenhaus. München : Klett-LangenscheidtGmbH, 2013, 128 s. ISBN 978-3-12-606179-7
2. DŽUGANOVÁ, B. – BARNAU, A. 2017.Nemčina pre lekárov a pracovníkov v zdravotníctve. Bratislava : EastoneBooks, 2017, 274 s. ISBN 978-80-8109-319-7.
3. HANÁKOVÁ, A. 2021. Nemčina: pro nelékařskézdravotnické obory. Praha : GradaPublishing, 2021, 231 s. ISBN 978-80-271-1717-8.
4. DŽUGANOVÁ, B. – GEREISS, K.2003. DeutschfürMediziner.Martin : Osveta, 2003, 369 s. ISBN 80-8063-129-8.

Language of instruction:

Slovak language, German language

Notes:

The course is taught in the winter semester and is evaluated in the corresponding examination period of winter semester of the academic year.

Course evaluation:

Assessed students in total: 8

A	B	C	D	E	FX
62.5	25.0	12.5	0.0	0.0	0.0

Name of lecturer(s): PaedDr. Martin Pinkoš

Last modification: 22.02.2023

Supervisor(s):

Person responsible for the delivery, development and quality of the study programme:

doc. MUDr. Pavol Dubinský, PhD.

COURSE INFORMATION SHEET

University: Catholic University in Ružomberok	
Faculty: Faculty of Health	
Course code: KRAT/54T1008Y/22	**Course title:** German Language 4
Type and range of planned learning activities and teaching methods: **Form of instruction:** Seminar **Recommended study range:** **hours weekly:** 2 **hours per semester:** 24 **Teaching method:** on-site	
Credits: 1	**Working load:** 25 hours
Recommended semester/trimester: 4.	
Level of study: I.	
Prerequisities: KRAT/54T1006Y/22	
Requirements for passing the course: During semester: At the beginning of each each seminar, there will be a written test from the accomplished matter in previous lecture. In the case, when student gains the mark A from all the test during semester, or have the different mark (excluding FX) and will have 100% attendance, the final mark will be given at the end of semester without participation on exam. The students, which will not fulfill this condition, must attend the oral exam. The conditions for attendance in the exam: 100% attendance in exercises during semester and two FX marks at maximum from the tests of vocabulary during semester or the two absences at maximum during semester. The subject evaluation: A – 100 %-93 % B – 92 %-85 % C – 84 %-77 % D – 76 %-69 % E – 68 %-60 % FX – 59 %- 0 %	
Learning outcomes of the course: Objective of the course: to lead the student to work independently with a foreign language text, to master the laws of correct translation and to communication skills. The student should acquire professional vocabulary and communication skills in the thematic areas set out in the brief syllabus. Theoretical knowledge: the student is able to correctly apply grammatical phenomena listed in the brief syllabus of the subject in the interview to the given thematic areas. Practical skills: the student actively masters communication in a foreign language on given professional topics and is able to compare the foreign and home environment	
Course contents: 1. Die Visite, die Diagnostik und die Pflegemaβnahmen 2. Anordnungen von Untersuchungen, Therapien und Eingriffen. 3. Die Übergabe. Pflegeberichte verfassen. Wunde beschreiben. Wundvesorgung. 4. Grammatik: Passiv 5. Das Kreislaufsystem 6. Die Medikamente, Der Beipackzettel	

7. Anordnung von Medikamenten, Darreichungsformen
8. Grammatik: Nebensätze mit wil und wenn
9. Die Wirbelsäule. Wortschatz erarbeiten.
10. Wunddokumentation.
11. Allegemeine Infektionslehre.
12. Grammatik: Vergleiche: Adjektive im Komparativ.

Recommended or required literature:

1. FIRNHABER-SENSEN, U. – RODI, M. 2013. Deutsch im Krankenhaus. München : Klett-Langenscheidt GmbH, 2013, 128 s. ISBN 978-3-12-606179-7
2. DŽUGANOVÁ, B. – BARNAU, A. 2017.Nemčina pre lekárov a pracovníkov v zdravotníctve. Bratislava : Eastone Books, 2017, 274 s. ISBN 978-80-8109-319-7.
3. HANÁKOVÁ, A. 2021. Nemčina: pro nelékařskézdravotnické obory. Praha : Grada Publishing, 2021, 231 s. ISBN 978-80-271-1717-8.
4. DŽUGANOVÁ, B. – GEREISS, K.2003. Deutsch fürMediziner. Martin : Osveta, 2003, 369 s. ISBN 80-8063-129-8.

Language of instruction:

Slovak language, German language

Notes:

The course is taught in the summer semester and is evaluated in the corresponding examination period of summer semester of the academic year.

Course evaluation:

Assessed students in total: 8

A	B	C	D	E	FX
100.0	0.0	0.0	0.0	0.0	0.0

Name of lecturer(s): PaedDr. Martin Pinkoš

Last modification: 22.02.2023

Supervisor(s):

Person responsible for the delivery, development and quality of the study programme:

doc. MUDr. Pavol Dubinský, PhD.

COURSE INFORMATION SHEET

University: Catholic University in Ružomberok	
Faculty: Faculty of Health	
Course code: KRAT/54T1054W/22	**Course title:** Internal Medicine
Type and range of planned learning activities and teaching methods: **Form of instruction:** Lecture / Seminar **Recommended study range:** **hours weekly:** 3 / 1 **hours per semester:** 36 / 12 **Teaching method:** on-site	
Credits: 3	**Working load:** 75 hours
Recommended semester/trimester: 3.	
Level of study: I.	
Prerequisities: KRAT/54T1002W/22	
Requirements for passing the course: Conditions for completing the course: During the semester: Attendance at lectures The final evaluation: Oral exam. Subject evaluation: A – 100%-91% B – 92%-85% C – 84%-77% D – 76%-69% E – 68%-60% FX – 59%- 0%	
Learning outcomes of the course: Learning outcomes: Objective of the course: Internal medicine is an extensive clinical discipline. Knowledge from preclinical disciplines is integrally used in etiopathogenesis, diagnosis, treatment and prevention of individual diseases. The aim is for students to gain knowledge about the clinical picture (subjective and objective symptoms) by obtaining a history by performing a basic physical examination, which is taught by clinical propaedeutic, which is an introduction to internal medicine. Students also need to have knowledge of modern diagnostics and treatment of internal diseases. Theoretical knowledge: Within internal medicine, individual subdivisions are distinguished (cardiology, angiology, pneumology, nephrology, gastroenterology, endocrinology, rheumatology, immunology, hematology). Based on the symptoms of individual diseases, the student recognizes and distinguishes these diseases. It lists the main subjective difficulties and objective symptoms of the disease. Knowledge of clinical propaedeutic facilitates this approach for the student. An overview of modern diagnostics and treatment of diseases clarifies his diagnostic and treatment procedures. When examining you, take into account the relevant disease, which sometimes requires special training; be aware of the possible complications in performing the examination. Practical skills: Obtaining anamnesis, performing a basic physical examination, evaluation of vital functions. The student uses knowledge about individual diseases in the interpretation of anamnestic data and	

objective findings. He can also use his knowledge in performing professional examinations, which can affect the result of the examination.

Course contents:

Course contents:

1. Types of anamnesis, main symptoms in diseases of the respiratory, cardiovascular, gastroenterological, genitourinary, and locomotor system
2. Physical examination, vital functions
3. Basics of ECG, USG, blood pressure measurements
4. Diseases of the circulatory system
5. Diseases of the respiratory system.
6. Diseases of the gastrointestinal system
7. Diseases of the genitourinary system
8. Diseases of the endocrine system.
9. Diseases of the hematological and locomotor system
10. Acute conditions in internal medicine
11. Physical causes of diseases

Recommended or required literature:

1. LACKO, A. a kol. 2019. Základy klinickej propedeutiky rádiológie a nukleárnej medicíny pre nelekárske zdravotnícke odbory. Martin: Osveta, 2019 126 s. ISBN 978-80-8063-477-3.
2. LACKO, A. , NOVYSEDLÁKOVÁ, M. a kol. 2018. Vnútorné lekárstvo a ošetrovateľská starostlivosť pre nelekárske zdravotnícke vedy. Martin: Osveta, 2018.268 s. ISBN 978-80-8063-464-3

Language of instruction:

Notes:

Course evaluation:

Assessed students in total: 117

A	B	C	D	E	FX
7.69	11.11	18.8	18.8	27.35	16.24

Name of lecturer(s): prof. MUDr. Anton Lacko, CSc., MUDr. Antonín Hruboň, PhD.

Last modification: 22.02.2023

Supervisor(s):

Person responsible for the delivery, development and quality of the study programme:

doc. MUDr. Pavol Dubinský, PhD.

COURSE INFORMATION SHEET

University: Catholic University in Ružomberok

Faculty: Faculty of Health

Course code: KRAT/54T3001Z/22	**Course title:** Introduction to Military Healthcare

Type and range of planned learning activities and teaching methods:
Form of instruction: Lecture / Seminar
Recommended study range:
hours weekly: 2 / 4 **hours per semester:** 24 / 48
Teaching method: on-site

Credits: 2	**Working load:** 50 hours

Recommended semester/trimester: 4.

Level of study: I.

Prerequisities:

Requirements for passing the course:

Learning outcomes of the course:

Course contents:

Recommended or required literature:

Language of instruction:

Notes:

Course evaluation:
Assessed students in total: 9

A	B	C	D	E	FX
55.56	44.44	0.0	0.0	0.0	0.0

Name of lecturer(s): PhDr. Andrea Ševčovičová, PhD., MPH

Last modification: 15.11.2023

Supervisor(s):
Person responsible for the delivery, development and quality of the study programme:
doc. MUDr. Pavol Dubinský, PhD.

COURSE INFORMATION SHEET

University: Catholic University in Ružomberok	
Faculty: Faculty of Health	
Course code: KRAT/54T1010W/22	**Course title:** Latin Language
Type and range of planned learning activities and teaching methods: **Form of instruction:** Seminar **Recommended study range:** **hours weekly:** 2 **hours per semester:** 24 **Teaching method:** on-site	
Credits: 1	**Working load:** 25 hours
Recommended semester/trimester: 1.	
Level of study: I.	
Prerequisities:	

Requirements for passing the course:

During the semester: Individual or group work on exercises with active solution of model situations and practical mastery of the subject.

Final assessment: The written form of the final exam includes the curriculum of the whole semester, in which students demonstrate the level of their knowledge. At the written final exam, the student can get max. 60 points. 100% active participation in the exercises is required for admission to the exam, any non-participation must be justified or replaced at another date of the exercise in parallel disciplines.

Course evaluation:

A - 100% -93%

B - 92% -85%

C - 84% -77%

D - 76% -69%

E - 68% -60%

FX - 59% - 0%

Learning outcomes of the course:

Objective of the course - aims of the course unit: To obtain a minimum of Latin grammar, which is a condition for mastering the basics of Latin medical terminology.

Theoretical knowledge:: The student has to demonstrate knowledge of medical terminology in Latin-Greek form with an inner understanding of its structure.

Practical skills: The student should be able to use the acquired knowledge in practical professional activities, in the study of professional literature and in parallel professional subjects, to use medical terminology accurately and linguistically in oral and written form.

Course contents:

1. Historical and linguistic introduction to medical Latin, Latin and Greek in medical nomenclature, structure of multiword terms.
2. Latin pronunciation, basic grammatical terms, practice of correct reading of Latin medical terms.
3. Declension of nouns with a focus on the frequency of the genitive, the accusative and the ablative.
4. Adjectives, their declension and connection with nouns, use of degrees.

5. Adverbs, use of prepositions in medical terminology and their connection with nouns in accusative and ablative.
6. Numerals, their use and declension, expression of quantity.
7. Verbs in pharmaceutical terminology, recipe.
8. Latin and Greek prefixes and suffixes, terms with Latin and Greek basis.
9. Greek equivalents of basic anatomical terms and terminology used in the clinic. Advocacy of suffixes.
10. Compound words. Principles of composite formation. Simple diagnoses.
11. Latin sentences still valid today. Active work with terminological expressions.
12. Practical exercises and tasks, creating multiword terms and automation of common connections.
13. Systematization and verification of acquired knowledge.

Recommended or required literature:

1. ŠIMON, F. - BUJALKOVÁ, M. 2012. Latinský jazyk pre medikov. Košice : Knihy Hanzluvka, 2012. 169 s. ISBN 978-80-89546-06-0
2. KÁBRT, J. 2010. Latinský jazyk. Martin: Osveta, 2010. 156 s. ISBN 978-80-8063-353-0
3. ŠIMON, F.: Latinská lekárska terminológia. Martin: Osveta, 1990, 184 s. ISBN 8021702974.

Language of instruction:

Slovak language, Latin language.

Notes:

The course is taught only in the winter semester.

Course evaluation:

Assessed students in total: 40

A	B	C	D	E	FX
47.5	22.5	7.5	7.5	5.0	10.0

Name of lecturer(s): PhDr. Mária Macková

Last modification: 22.02.2023

Supervisor(s):

Person responsible for the delivery, development and quality of the study programme:

doc. MUDr. Pavol Dubinský, PhD.

COURSE INFORMATION SHEET

University: Catholic University in Ružomberok	
Faculty: Faculty of Health	
Course code: KRAT/54T1010W/23	**Course title:** Latin Language
Type and range of planned learning activities and teaching methods: **Form of instruction:** Seminar **Recommended study range:** **hours weekly:** 2 **hours per semester:** 24 **Teaching method:** on-site	
Credits: 2	**Working load:** 50 hours
Recommended semester/trimester: 1.	
Level of study: I.	
Prerequisities:	
Requirements for passing the course: During the semester: Individual or group work on exercises with active solution of model situations and practical mastery of the subject. Final assessment: The written form of the final exam includes the curriculum of the whole semester, in which students demonstrate the level of their knowledge. At the written final exam, the student can get max. 60 points. 100% active participation in the exercises is required for admission to the exam, any non-participation must be justified or replaced at another date of the exercise in parallel disciplines. Course evaluation: A - 100% -93% B - 92% -85% C - 84% -77% D - 76% -69% E - 68% -60% FX - 59% - 0%	
Learning outcomes of the course: Objective of the course - aims of the course unit: To obtain a minimum of Latin grammar, which is a condition for mastering the basics of Latin medical terminology. Theoretical knowledge:: The student has to demonstrate knowledge of medical terminology in Latin-Greek form with an inner understanding of its structure. Practical skills: The student should be able to use the acquired knowledge in practical professional activities, in the study of professional literature and in parallel professional subjects, to use medical terminology accurately and linguistically in oral and written form.	
Course contents: 1. Historical and linguistic introduction to medical Latin, Latin and Greek in medical nomenclature, structure of multiword terms. 2. Latin pronunciation, basic grammatical terms, practice of correct reading of Latin medical terms. 3. Declension of nouns with a focus on the frequency of the genitive, the accusative and the ablative. 4. Adjectives, their declension and connection with nouns, use of degrees.	

5. Adverbs, use of prepositions in medical terminology and their connection with nouns in accusative and ablative.
6. Numerals, their use and declension, expression of quantity.
7. Verbs in pharmaceutical terminology, recipe.
8. Latin and Greek prefixes and suffixes, terms with Latin and Greek basis.
9. Greek equivalents of basic anatomical terms and terminology used in the clinic. Advocacy of suffixes.
10. Compound words. Principles of composite formation. Simple diagnoses.
11. Latin sentences still valid today. Active work with terminological expressions.
12. Practical exercises and tasks, creating multiword terms and automation of common connections.
13. Systematization and verification of acquired knowledge.

Recommended or required literature:

1. ŠIMON, F. - BUJALKOVÁ, M. 2012. Latinský jazyk pre medikov. Košice : Knihy Hanzluvka, 2012. 169 s. ISBN 978-80-89546-06-0
2. KÁBRT, J. 2010. Latinský jazyk. Martin: Osveta, 2010. 156 s. ISBN 978-80-8063-353-0
3. ŠIMON, F.: Latinská lekárska terminológia. Martin: Osveta, 1990, 184 s. ISBN 8021702974.

Language of instruction:

Slovak language, Latin language.

Notes:

The course is taught only in the winter semester.

Course evaluation:

Assessed students in total: 67

A	B	C	D	E	FX
47.76	23.88	14.93	2.99	5.97	4.48

Name of lecturer(s): PhDr. Mária Macková

Last modification: 16.08.2023

Supervisor(s):

Person responsible for the delivery, development and quality of the study programme:

doc. MUDr. Pavol Dubinský, PhD.

COURSE INFORMATION SHEET

University: Catholic University in Ružomberok	
Faculty: Faculty of Health	
Course code: KRAT/54T1047W/22	**Course title:** Law and Legislation
Type and range of planned learning activities and teaching methods: **Form of instruction:** Lecture **Recommended study range:** **hours weekly:** 2 **hours per semester:** 24 **Teaching method:** on-site	
Credits: 1	**Working load:** 25 hours
Recommended semester/trimester: 5.	
Level of study: I.	
Prerequisities:	
Requirements for passing the course: During semester: lectures Final evaluation: in the final oral exam, the student can gain 60 pts maximum - they response to 3 questions from three basic fields - the general healthcare legislation, the competence of the healthcare worker and the case study. The subject evaluation: A – 100%-93% B – 92%-85% C – 84%-77% D – 76%-69% E – 68%-60% FX – 59%- 0%	
Learning outcomes of the course: The course objective: The purpose of the law and its function in society, the application of the law in nursing, the acquiring of the basic terms, the rights and competences, the law responsibility of the healthcare worker and definition of their competence. Theoretical knowledge: To teach the students to understand the basics of law and competences of healthcare workers. Practical skills: The students gains complex knowledge and skills in approach to the case clinics studies from the clinical practice.	
Course contents: 1. The basic law terms. 2. The basic human rights and freedoms. 3. The work law of the healthcare workers. 4. The employment-law and criminal-law responsibility for damage. 5. The law aspects of healthcare. 6. The law position of the healthcare worker. 7. The health legislation norms, patient rights and healthcare documentation. 8. The protection and support of public health. 9. The safety and health protection at work.	

10. The administrative action - the law aspects.
11. The case clinics study.

Recommended or required literature:

1.1. SIMOČKOVÁ, V. PEŘINA,J. 2019. Legislatíva verzus zdravotníci. Martin : Osveta, 2019. 159 s. 978-80-8063-483-4.
2. SIMOČKOVÁ, V. 2019. Minimum pracovného práva pre zdravotníkov : učebné texty sú zamerané na pracovnoprávne ustanovenia. Košice : Multiprint. 2019, 75 s. 978-80-89551-33-0.
3. TÓTH, K. a kol. 2008. Právo a zdravotníctvo. Bratislava: Herba. 2008. 388 s. ISBN 978-80-89171-57-6.
4. TÓTH, K. a kol. 2013. Právo a zdravotníctvo II. Bratislava: Herba. 2013. 432 s. ISBN 978-80-89631-08-7.
5. VLČEK, R., HRUBEŠOVÁ, Z. 2007. Zdravotnícke právo. Bratislava: Epos. 2007. 319 s. ISBN 978-80-8057-705-6.
6. VONDRÁČEK, Ľ.2005. Právní předpisy nejen pro hlavní, vrchní, staniční sestry. Praha: Grada. 2005.100 s. ISBN 80-247-1198-2.

Language of instruction:
Slovak language

Notes:

Course evaluation:
Assessed students in total: 87

A	B	C	D	E	FX
100.0	0.0	0.0	0.0	0.0	0.0

Name of lecturer(s): doc. MUDr. Ivan Solovič, CSc.

Last modification: 22.02.2023

Supervisor(s):
Person responsible for the delivery, development and quality of the study programme:
doc. MUDr. Pavol Dubinský, PhD.

COURSE INFORMATION SHEET

University: Catholic University in Ružomberok	
Faculty: Faculty of Health	
Course code: KRAT/54T1005W/22	**Course title:** Microbiology
Type and range of planned learning activities and teaching methods: **Form of instruction:** Lecture / Seminar **Recommended study range:** **hours weekly:** 2 / 0 **hours per semester:** 24 / 0 **Teaching method:** on-site	
Credits: 1	**Working load:** 25 hours
Recommended semester/trimester: 1.	
Level of study: I.	
Prerequisities:	
Requirements for passing the course: During the semester there will be two written tests. A student may get a maximum of 20 points on each test (total of 40 points). To be allowed to take the final exam, a student must earn a minimum of 20 points (cumulative from both tests). The final mark will be determined by the number of points received on the final exam.	
Learning outcomes of the course: Course objectives: (i) to give students basic knowledge in the field of medical microbiology; (ii) to clarify the inter-disciplinary character of the course Theoretical knowledge: students will master the basics of general microbiology as well as other selected chapters from the special bacteriology	
Course contents: Course contents: 1. Introduction to Microbiology 2. Taxonomy, bacterial cell structure 3. Pathogenicity and virulency, infection 4. Normal bacterial flora 5. Diagnostic microbiology 1 6. Diagnostic microbiology 2 7. Antimicrobial substances 8. Nosocomial infections 9. General epidemiology 10. Special epidemiology of bacterial infections 1 11. Special epidemiology of bacterial infections 2 12. Special epidemiology of bacterial infections 3	

Recommended or required literature:

1. TIMKO, J. 2015. Mikrobiológia, epidemiológia. Verbum, 2015, 93 s. ISBN 978-80-561-0210-7.
2. ZAHRADNICKÝ, J. a kol. 1991. Mikrobiológia a epidemiológia 1. Osveta , 1991. 611 s. ISBN 80-217-0326-1
3. PETROVIČOVÁ, A., ŠIMKOVIČOVÁ, M. 2008. Všeobecná mikrobiológia. SZU, 2008. 107 s. ISBN 978-80-89352-01-2
4. SCHINDLER, J. 2014. Mikrobiologie pro studenty zdravotnických oborů. Grada, 2014. 215 s. ISBN 978-80-247-4771-2

Language of instruction:

Slovak language

Notes:

Course evaluation:

Assessed students in total: 42

A	B	C	D	E	FX
11.9	28.57	26.19	14.29	9.52	9.52

Name of lecturer(s): MUDr. Jozef Ficik, MPH

Last modification: 22.02.2023

Supervisor(s):

Person responsible for the delivery, development and quality of the study programme:

doc. MUDr. Pavol Dubinský, PhD.

COURSE INFORMATION SHEET

University: Catholic University in Ružomberok	
Faculty: Faculty of Health	
Course code: KRAT/54T1005W/23	**Course title:** Microbiology
Type and range of planned learning activities and teaching methods: **Form of instruction:** Lecture / Seminar **Recommended study range:** **hours weekly:** 2 / 0 **hours per semester:** 24 / 0 **Teaching method:** on-site	
Credits: 2	**Working load:** 50 hours
Recommended semester/trimester: 1.	
Level of study: I.	
Prerequisities:	
Requirements for passing the course: During the semester there will be two written tests. A student may get a maximum of 20 points on each test (total of 40 points). To be allowed to take the final exam, a student must earn a minimum of 20 points (cumulative from both tests). The final mark will be determined by the number of points received on the final exam.	
Learning outcomes of the course: Course objectives: (i) to give students basic knowledge in the field of medical microbiology; (ii) to clarify the inter-disciplinary character of the course Theoretical knowledge: students will master the basics of general microbiology as well as other selected chapters from the special bacteriology	
Course contents: Course contents: 1. Introduction to Microbiology 2. Taxonomy, bacterial cell structure 3. Pathogenicity and virulency, infection 4. Normal bacterial flora 5. Diagnostic microbiology 1 6. Diagnostic microbiology 2 7. Antimicrobial substances 8. Nosocomial infections 9. General epidemiology 10. Special epidemiology of bacterial infections 1 11. Special epidemiology of bacterial infections 2 12. Special epidemiology of bacterial infections 3	

Recommended or required literature:

1. TIMKO, J. 2015. Mikrobiológia, epidemiológia. Verbum, 2015, 93 s. ISBN 978-80-561-0210-7.
2. ZAHRADNICKÝ, J. a kol. 1991. Mikrobiológia a epidemiológia 1. Osveta , 1991. 611 s. ISBN 80-217-0326-1
3. PETROVIČOVÁ, A., ŠIMKOVIČOVÁ, M. 2008. Všeobecná mikrobiológia. SZU, 2008. 107 s. ISBN 978-80-89352-01-2
4. SCHINDLER, J. 2014. Mikrobiologie pro studenty zdravotnických oborů. Grada, 2014. 215 s. ISBN 978-80-247-4771-2

Language of instruction:

Slovak language

Notes:

Course evaluation:

Assessed students in total: 63

A	B	C	D	E	FX
49.21	11.11	22.22	6.35	11.11	0.0

Name of lecturer(s): MUDr. Jozef Ficik, MPH

Last modification: 16.08.2023

Supervisor(s):

Person responsible for the delivery, development and quality of the study programme:

doc. MUDr. Pavol Dubinský, PhD.

COURSE INFORMATION SHEET

University: Catholic University in Ružomberok	
Faculty: Faculty of Health	
Course code: KRAT/54T25S/22	**Course title:** Nuclear Medicine
Type and range of planned learning activities and teaching methods: **Form of instruction:** **Recommended study range:** **hours weekly:** **hours per semester:** **Teaching method:** on-site	
Credits: 5	**Working load:** 125 hours
Recommended semester/trimester: 5., 6..	
Level of study: I.	
Prerequisities:	

Requirements for passing the course:

The student has successfully completed all study requirements for the bachelor study programme in radiologic technology (successfully completed the study programme's compulsory and optional courses, according to the student's decision following structure determined by the study programme) and obtained at least 152 credits. The student registers for the state exam via the academic information system and submits a signed application for the state exam and completed diary of clinical practice. Final evaluation: based on final points gained in state exam.

The subject evaluation:

A – 100 % - 93 %
B – 92 % - 85 %
C – 84 % - 77 %
D – 76 % - 69 %
E – 68 % - 60 %
FX – 59 % - 0 %

Learning outcomes of the course:

The course objective:

The student shows the professional theoretical knowledge, which are necessary to perform the work of the qualified healthcare worker, gained during studying of study programme radiologic technician.

Theoretical knowledge:

The student shows theoretical knowledge mainly from the key subjects of the study programme from the field of nuclear medicine and radiation oncology and close subjects. They are able to define, describe and compare particular health and radiologic techniques and their relation to the radiologic imaging and radiotherapeutic procedurs. They understand the relevant terms and facts. They gain theoretical knowledge and apply them logically in the concrete field and are able to express in professional terminology.

Practical skills:

The students have a command in the modern methods of work with patient in radiologic, radiooncological techniques and by particular methods of nuclear medicine. They have practical skills, which are necessary to manage various situations during their future job. They are able to

self-perform professional procedures, with respect to radiation protection rules when working with ionizing radiation sources.

Course contents:

The course contents is defined in the subject information sheets of the subjects Radiologic physics 1,2, Radiobiology, Nuclear medicine 1,2,3, Clinical oncology, Radiation oncology 1,2,3, Radiation protection, Nursing, The law and legislation.

The nuclear radiation and its effects on living matter (units, physical properties, genetic effects, effects on the level of organs). Radiopharmaceuticals. Radionuclide generators. Detection of the ionizing radiation (scintillation detector, scintillation camera, computer analyzing device). New imaging methods in nuclear medicine (SPECT, PET, imunoscintigraphy). The principles of radiosaturation analysis. The principles of evaluation of the scintigraphic findings. Radionuclide diagnostics of the thyroid gland diseases. Radionuclide diagnostics of the central nervous system diseases. Radionuclide diagnostics of the lung diseases. Radionuclide diagnostics of the heart diseases. Radiinuclide diagnostics of the hepatobiliar dystem and spleen. Radionuclide diagnostics of the kidney diseases. Radionuclide diagnostics of the bone and joint diseases. Radionuclide diagnostics of the tumor diseases. Therapy by using radionuclides. Radionuclide diagnostics of the sentinel nodes. Technical equipment of the nuclear medicine, conception of the nuclear medicine.

The principles of the radiation protection at work with ionizing radiation. The therapy of patients in case of the kidney diseases. The therapy of patients in case of the bladder, urethra and prostate diseases. The therapy of patients in case of the spinal and spinal cord diseases. The therapy of patients in case of the non-tumor and tumor diseases of brain. The therapy of patients in case of the esophagus, stomach, small and large intestine diseases, bile ducts and pancreas diseases. The therapy of patients in case of the tumors in the thorax, mediastinum and abdomen. The therapy of patients in case of the large vessels and heart diseases. The therapy of patients in case of the lymphatic system diseases. The therapy of patients in case of the gynecology diseases and breast diseases. The therapy in case of the thyroid gland, lung and bone diseases. The intervention methods using the imaging methods. The cystostatics in therapy. Technical equipment and conception of radiation oncology departments.

Recommended or required literature:

The literature is listed in particular key subjects of the study programme (Radiological physics 1, 2, Radiobiology, Nuclear medicine 1,2,3, Clinical oncology, Radiation oncology 1,2,3, Radiation protection, Nursing, The law and legislation).

Language of instruction:

Slovak language

Notes:

Course evaluation:

Assessed students in total: 82

A	B	C	D	E	FX
67.07	13.41	10.98	6.1	1.22	1.22

Name of lecturer(s):

Last modification: 22.02.2023

Supervisor(s):

Person responsible for the delivery, development and quality of the study programme:

doc. MUDr. Pavol Dubinský, PhD.

COURSE INFORMATION SHEET

University: Catholic University in Ružomberok	
Faculty: Faculty of Health	
Course code: KRAT/54T1028W/22	**Course title:** Nuclear Medicine 1
Type and range of planned learning activities and teaching methods: **Form of instruction:** Lecture / Seminar **Recommended study range:** **hours weekly:** 4 / 2 **hours per semester:** 48 / 24 **Teaching method:** on-site	
Credits: 4	**Working load:** 100 hours
Recommended semester/trimester: 3.	
Level of study: I.	
Prerequisities:	
Requirements for passing the course: Conditions for completing the course: During the semester: Attendance at lectures. The final evaluation: Written test before the oral exam, obtaining 60% of points from the test is a condition of the oral exam. Subject evaluation: A – 100% - 91% B – 92% - 85% C – 84% - 77% D – 76% - 69% E – 68% - 60% Fx – 59% - 0%	
Learning outcomes of the course: Learning outcomes: Objective of the course: Nuclear medicine and molecular imaging. Introduce students to the principles of examinations in nuclear medicine. They will get acquainted with the most modern examination and treatment methods using radiopharmaceuticals. Principles based on monitoring the metabolism of labeled molecules and their use in medicine. Theoretical knowledge: The student will get acquainted with the principles of nuclear medicine, will be able to describe the methods of data analysis, and will understand the basic principles of measurement, on which the quality of the work of a radiological assistant depends. Can list all diagnostic methods of which radiopharmaceuticals are used for which method. They can describe the examination procedure and how to set up the equipment. Practical skills: The graduate will be in full control of all procedures and, based on the doctor's assignment, will be able to perform any of the nuclear medicine examinations independently. Prepare the patient for the examination, prepare a dose of the radiopharmaceutical and set the patient for detection, assist the doctor in the application of the radiopharmaceutical. He is able to inform the patient about	

the performed procedure, monitor the recorded data in the patient, and assess the quality of the performed study and the cases when he informs the doctor.

Course contents:

Course contents:

1. Introduction to nuclear medicine (NM) - principles and history of nuclear medicine and mission of radiological technician.
2. The concept of the department of nuclear medicine in Slovakia and EU requirements. Relationship to other health professions and medical disciplines. Organization of work in the department of nuclear medicine.
3. Radiopharmaceuticals, definition and classification according to types and principles of use. Production of radionuclides - cyclotron, reactor and generators.
4. Preparation of radiopharmaceuticals and separation of doses in the workplace and safety of work with open emitters.
5. Technique in nuclear medicine: measuring and imaging devices in nuclear medicine. Basic methods of ionizing radiation detection. Instruments for detecting ionizing radiation, types of detectors.
6. Devices for detection of ionizing radiation, types of detectors.
7. Principles of measurement and the influence of detector properties on the quality of radioactive radiation measurement
8. Influence of object properties and its surroundings, measurement geometry and radioactivity measurement - measurement errors and statistics, collimation and collimators, detection efficiency, dead time.
9. Non-imaging (functional) methods of NM, accumulation, clearance and dilution tests - significance and position in the current NM.
10. The role of computers in nuclear medicine - Data processing from detectors using computers. LIS and RIS requirements for databases for nuclear medicine - specifics.
11. Principles of telemedicine - advantages and limitations, risks and challenges.
12. Written test.

Recommended or required literature:

LEPEJ, J., LACKO, A. 2018. Nukleárna medicína 1,2,3. Košice: Equilibria, 2018. 1.202 s. ISBN 978-80-8143-222-4., 2.114 s. ISBN978-80-8143-223-1., 3.232 s. ISBN 978-80-8143-232-3.

Language of instruction:

Notes:

Course evaluation:

Assessed students in total: 94

A	B	C	D	E	FX
78.72	8.51	8.51	4.26	0.0	0.0

Name of lecturer(s): prof. MUDr. Anton Lacko, CSc.

Last modification: 22.02.2023

Supervisor(s):

Person responsible for the delivery, development and quality of the study programme:

doc. MUDr. Pavol Dubinský, PhD.

COURSE INFORMATION SHEET

University: Catholic University in Ružomberok	
Faculty: Faculty of Health	
Course code: KRAT/54T1036W/22	**Course title:** Nuclear Medicine 2
Type and range of planned learning activities and teaching methods: **Form of instruction:** Lecture / Seminar **Recommended study range:** **hours weekly:** 4 / 2 **hours per semester:** 48 / 24 **Teaching method:** on-site	
Credits: 4	**Working load:** 100 hours
Recommended semester/trimester: 4.	
Level of study: I.	
Prerequisities: KRAT/54T1028W/22	
Requirements for passing the course: Conditions for completing the course: During the semester: Attendance at lectures. The final evaluation: Written test before the oral exam, obtaining 60% of points from the test is a condition of the oral exam. Subject evaluation: A – 100% - 91% B – 92% - 85% C – 84% - 77% D – 76% - 69% E – 68% - 60% Fx – 59% - 0%	
Learning outcomes of the course: Learning outcomes: Objective of the course: Introduce students to the principles of examinations in nuclear medicine. They will obtain the information about most modern examination and treatment methods in NM. Principles based on monitoring the metabolism of labeled molecules and their use in medicine. Theoretical knowledge: The student will get acquainted with the principles of nuclear medicine, will be able to describe the methods of data analysis, and will understand the basic principles of measurement, on which the quality of the work of a radiological assistant depends. Can name all diagnostic methods, describe the procedure for their implementation, which radiopharmaceuticals are used for which method and if they have properties - for which conditions the individual types of radiopharmaceuticals are chosen. They can describe the procedure of examination and the method of setting up the equipment, the procedure for dealing with the patient and the specifics of the approach to children and elderly patients. They can identify the causes and possible sources of errors in the examination that may affect the result and thus the evaluation of the result of the examination by a doctor. They anticipate possible complications and are ready to solve them. Practical skills:	

The graduate will be in full control of all procedures and, based on the doctor's assignment, will be able to perform any of the nuclear medicine examinations independently. Prepare the patient for the examination, prepare a dose of the radiopharmaceutical, and set the patient for detection, assist the doctor in the application of the radiopharmaceutical. He is able to inform the patient about the performed procedure, monitor the recorded data at the patient, and assess the quality of the performed study and the cases when he informs the doctor. Process basic evaluations of the study, preparation of photo documentation for the description and archiving of results. Can fully inform the patient of complications, radio hygienic measures and appropriate behavior of the patient after the application of the radiopharmaceutical.

Course contents:

Course contents:

1. Planar and whole-body scintigraphy - recording and image processing.
2. Dynamic scintigraphy, sequential, gated recording - principles of data and image quantification. ROI analysis, functional curves, parametric and functional images.
3. Tomographic detection technique - Single photon emission tomography (SPECT), reconstruction techniques, image filtering.
4. Positron emission tomography (PET), reconstruction techniques, image filtration.
5. Principles and division of diagnostic tomographic methods in nuclear medicine. Importance of combining morphological and functional information - fusion images and hybrid systems - PET/CT, SPECT/CT, PET/MRI.
6. Principles and division of diagnostic methods from the perspective of evidence-based medicine (EBM). Evaluation of diagnostic methods - various procedures.
7. Sensitivity, specificity, positive and negative predictive value. Methods of evaluation and their practical use. Logistic problems in the diagnostic process
8. Principles of selection of imaging method for individual dg areas.
9. Overview of examination methods according to organs and systems in nuclear medicine.
10. Nuclear medicine in endocrinological diagnostics - scintigraphy of the thyroid gland, parathyroid glands and whole-body examination in the diagnosis of thyroid tumours. Use of nuclear medicine methods in surgery - perioperative detection.
11. Radionuclide diagnostics of patients with hematopoietic diseases and scintigraphy of bone marrow and spleen, radionuclide diagnostics of inflammatory processes and tumours. Immunological principles in the radionuclide diagnostics.
12. Written exam.

Recommended or required literature:

LEPEJ, J., LACKO, A. 2018. Nukleárna medicína 1,2,3. Košice: Equilibria, 2018. 1.202 s. ISBN 978-80-8143-222-4., 2.114 s. ISBN978-80-8143-223-1., 3.232 s. ISBN 978-80-8143-232-3.

Language of instruction:

Notes:

Course evaluation:

Assessed students in total: 95

A	B	C	D	E	FX
55.79	24.21	9.47	8.42	1.05	1.05

Name of lecturer(s): prof. MUDr. Anton Lacko, CSc., doc. MUDr. Otakar Kraft, Ph.D.

Last modification: 22.02.2023

Supervisor(s):

Person responsible for the delivery, development and quality of the study programme:
doc. MUDr. Pavol Dubinský, PhD.

COURSE INFORMATION SHEET

University: Catholic University in Ružomberok	
Faculty: Faculty of Health	
Course code: KRAT/54T1043W/22	**Course title:** Nuclear Medicine 3
Type and range of planned learning activities and teaching methods: **Form of instruction:** Lecture / Seminar **Recommended study range:** **hours weekly:** 4 / 2 **hours per semester:** 48 / 24 **Teaching method:** on-site	
Credits: 4	**Working load:** 100 hours
Recommended semester/trimester: 5.	
Level of study: I.	
Prerequisities: KRAT/54T1036W/22	
Requirements for passing the course: Conditions for completing the course: During the semester: Attendance at lectures. The final evaluation: Written test before the oral exam, obtaining 60% of points from the test is a condition of the oral exam. Subject evaluation: A – 100% - 91% B – 92% - 85% C – 84% - 77% D – 76% - 69% E – 68% - 60% Fx – 59% - 0%	
Learning outcomes of the course: Learning outcomes: Objective of the course: Introduce students to the principles of examinations in nuclear medicine. They will obtain the information about most modern examination and treatment methods in NM. Principles based on monitoring the metabolism of labeled molecules and their use in medicine. Theoretical knowledge: The student will get acquainted with the principles of nuclear medicine, will be able to describe the methods of data analysis, and will understand the basic principles of measurement, on which the quality of the work of a radiological assistant depends. Can name all diagnostic methods, describe the procedure for their implementation, which radiopharmaceuticals are used for which method and if they have properties - for which conditions the individual types of radiopharmaceuticals are chosen. They can describe the procedure of examination and the method of setting up the equipment, the procedure for dealing with the patient and the specifics of the approach to children and elderly patients. They can identify the causes and possible sources of errors in the examination that may affect the result and thus the evaluation of the result of the examination by a doctor. They anticipate possible complications and are ready to solve them. Practical skills:	

The graduate will be in full control of all procedures and, based on the doctor's assignment, will be able to perform any of the nuclear medicine examinations independently. Prepare the patient for the examination, prepare a dose of the radiopharmaceutical, and set the patient for detection, assist the doctor in the application of the radiopharmaceutical. He is able to inform the patient about the performed procedure, monitor the recorded data at the patient, and assess the quality of the performed study and the cases when he informs the doctor. Process basic evaluations of the study, preparation of photo documentation for the description and archiving of results. Can fully inform the patient of complications, radio hygienic measures and appropriate behavior of the patient after the application of the radiopharmaceutical.

Course contents:

Course contents:

1. Radionuclide diagnostics in diseases of the heart, large vessels and lymphatic system
2. Radionuclide diagnostics in diseases of the vascular system and lymphatic system.
3. Radionuclide diagnostics of brain diseases - neurological and psychiatric diseases, specifics of diagnostics in old age.
4. Radionuclide diagnostics of lung diseases and pulmonary embolism
5. SPECT/CT – Single photon emission computerized tomography examinations in the tumor diagnosis.
6. PET/CT – Positron emission tomography examinations in the tumors diagnosis.
7. Radionuclide diagnostics of kidneys, urinary tract and genitals, specifics of diagnostics in childhood.
8. Radionuclide diagnostics of the liver and gastrointestinal tract.
9. Radionuclide diagnostics of the locomotor system.
10. Therapy of hyper functional conditions and tumors of the thyroid gland using radioactive iodine - the role of radiology technician
11. Radiological assistants, physical aspects and radio hygienic security.
12. Radionuclide treatment in other organs and systems.
13. Written test.

Recommended or required literature:

LEPEJ, J., LACKO, A. 2018. Nukleárna medicína 1,2,3. Košice: Equilibria, 2018. 1.202 s. ISBN 978-80-8143-222-4., 2.114 s. ISBN978-80-8143-223-1., 3.232 s. ISBN 978-80-8143-232-3.

Language of instruction:

Notes:

Course evaluation:

Assessed students in total: 87

A	B	C	D	E	FX
79.31	14.94	3.45	1.15	1.15	0.0

Name of lecturer(s): prof. MUDr. Anton Lacko, CSc., doc. MUDr. Otakar Kraft, Ph.D.

Last modification: 22.02.2023

Supervisor(s):

Person responsible for the delivery, development and quality of the study programme:

doc. MUDr. Pavol Dubinský, PhD.

COURSE INFORMATION SHEET

University: Catholic University in Ružomberok	
Faculty: Faculty of Health	
Course code: KRAT/54T1006W/22	**Course title:** Nursing Fundamentals
Type and range of planned learning activities and teaching methods: **Form of instruction:** Lecture / Seminar **Recommended study range:** **hours weekly:** 1 / 1 **hours per semester:** 12 / 12 **Teaching method:** on-site	
Credits: 2	**Working load:** 50 hours
Recommended semester/trimester: 1.	
Level of study: I.	
Prerequisities:	
Requirements for passing the course: Conditions for passing the course: During the semester: Active participation at lectures and practice, writing inspection of knowledge, practical mastery of learned nursing perfomances at practice. Final rating: writting exam, practical exam Subject rating: A – 100%-93% B – 92%-85% C – 84%-77% D – 76%-69% E – 68%-60% FX – 59%- 0%	
Learning outcomes of the course: Objective of the course: To acquaint student with basic concepts and resorts in nursing with a focus on rehabilitation and with basic nursing care, define the needs of a patient, define self-care and self-sufficiency. Learn to administer oxygen and to measure physiological rates. Theoretical knowledge: Student lists the basic concepts and outcomes used in nursing with a focus on rehabilitation. He analysis mutual determination of a person, health and environment in a relationship with nursing, to know the reasons and philosophy of changes in nursing. Student has the theoretical knowledge of needs, nursing process and physiological measures. Practical skills: Student masters measuring of physiological rates and their meaning. He acquires the skills with practical application of ECG device and with using the modern technologies connected with nursing-rehabilitation interventions. Student acquires preventive measures which prevent complications in immobile patients.	
Course contents: Lectures: 1. Nursing as a scientific discipline. 2. Nursing unions, historic view at nursing. Methods of providing nursing care. Nursing profession in global context. 3. National health promotion program. 4. Respiratory demand characteristics, nutrition, urinary and faecal excretion, hygiene. 5. Characteristics of need for self-sufficiency and self-care, sleep and rest, pain, physical activity. 6. Meeting needs using the method of nursing process. Nursing process- characteristics, steps. 7. Management of nursing process,quality and audit of nursing care. 8. Care for emptying and the hygiene of the sick. Pressure ulcer prevention. 9. Patients eating, immobilized patient feeding. 10. Working with central oxygen distribution. 11. Physiological functions measuring and documentation. 12. Ethical aspects in nursing. Practise: 1. Satisfying the need of breathing. 2. Satisfying the need of eating. 3. Satisfying the need of urinary and faecal excretion. 4. Satisfying the need of hygiene. 5. Satisfying the need of self-sufficiency and self-care. 6. Satisfying the need of pain. 7. Satisfying the need of physical activity. 8. Satisfying the needs using nursing process method. Documentation. 9. Pressure ulcer prevention. 10. Eating of the sick, feeding	

the immobilized patients. 11. Oxygen administration. 12. Measuring physiological functions and documentation.

Recommended or required literature:

1. KOZIEROVÁ, B., ERBOVÁ, G., OLIVIEROVÁ, R. 2004. Ošetrovateľstvo 1, 2. 2. slov. vyd. Martin : Osveta, 2004. 1474 s. ISBN 80-217-0528-0.
2. KRIŠKOVÁ, A. et al. 2006. Ošetrovateľské techniky. 2. vyd. Martin : Osveta, 2006. 780 s. ISBN 80-8063-202-2.
3. MUSILOVÁ, M. et al. 1993. Vybrané kapitoly z ošetrovateľstva. Martin : Osveta, 193, 226 s. ISBN 80-217-0573-6.

Language of instruction:

Slovak language

Notes:

Course evaluation:

Assessed students in total: 101

A	B	C	D	E	FX
99.01	0.99	0.0	0.0	0.0	0.0

Name of lecturer(s): doc. PhDr. Jozef Babečka, PhD.

Last modification: 22.02.2023

Supervisor(s):

Person responsible for the delivery, development and quality of the study programme:

doc. MUDr. Pavol Dubinský, PhD.

COURSE INFORMATION SHEET

University: Catholic University in Ružomberok	
Faculty: Faculty of Health	
Course code: KRAT/54T1013W/22	**Course title:** Pathology
Type and range of planned learning activities and teaching methods: **Form of instruction:** Lecture / Seminar **Recommended study range:** **hours weekly:** 3 / 1 **hours per semester:** 36 / 12 **Teaching method:** on-site	
Credits: 3	**Working load:** 75 hours
Recommended semester/trimester: 2.	
Level of study: I.	
Prerequisities: KRAT/54T1002W/22	

Requirements for passing the course:

Conditions for completing the course:
During the semester: active participation in lectures. To participate in the exam, it is necessary to participate for min. 10 lectures and successful completion of 1 continuous written evaluation - min. at 60%.
The final evaluation: Oral examination.
Subject evaluation:
A – 100%-93%
B – 92%-85%
C – 84%-77%
D – 76%-69%
E – 68%-60%
FX – 59%- 0%

Learning outcomes of the course:

Learning outcomes:
Objective of the course: Nuclear medicine and molecular imaging.
Pathology explains how individual diseases and their manifestations arise. Gain knowledge about the change in the structure and function of individual organs during the disease. To know the basic terminology in the field, to know the etiology, pathogenesis and prevention of individual diseases.
Theoretical knowledge:
The student defines the nature of the disease and health, has knowledge of the etiology, pathogenesis and disease prevention, the importance of heredity in the pathogenesis of the disease, has knowledge of inflammation, apoptosis and cell necrosis, malignant cell transformation, thermoregulation disorders, water and electrolyte management, shock, collapse states, stress, etc. He has knowledge of the pathogenesis of diseases of individual organs.
Practical skills:
In practice, he is able to apply theoretical knowledge about the basic pathomorphological and functional changes of individual organs in disease processes into clinical practice and uses them in assessing the patient's condition.

Course contents:

Course contents:
1. Characteristics of the field, definition of the disease and health. Etiology, pathogenesis and disease prevention. The importance of heredity in the pathogenesis of diseases, stress.
2. Inflammation (types and forms, inflammatory mediators), malignant cell transformation, pain.
3. Fever, disorders of aqueous and electrolyte metabolism and the internal environment.
4. Pathophysiology of shock, collapse states, syncope.
5. Pathogenesis of atherosclerosis and heart disease.
6. Pathophysiology of the vascular system, pathogenesis of hypertension.
7. Pathophysiology of the respiratory system and diseases of the respiratory system.
8. Pathogenesis and diseases of the uropoietic system.
9. Pathogenesis and pathophysiology of endocrine diseases and diabetes mellitus.
10. Pathogenesis of GIT disease and GIT disease.
11. Pathogenesis of blood and hematopoietic system.
12. Pathogenesis of the musculoskeletal system

Recommended or required literature:

1. LACKO, A., KALIŠ, a kol. 2017. Vybrané kapitoly z patológie pre nelekárske zdravotnícke odbory. Ružomberok: KU Verbum, 2017, 212 s. ISBN 978-80-561-0745-4.
2. ROKYTA, R. a kol.2015. Fyziologie a patologická fyziologie pro klinickou praxi. Praha: Grada, 2015, 680 s. ISBN 978-80-247-4867-2.
3. PLANK, L., HANÁČEK, J., LAUKO, L. a kol. 2007.Patologická anatómia a patologická fyziológia pre nelekárske odbory. Martin: Osveta, 2007, 286 s. ISBN 978-80-8063-241-0.

Language of instruction:

Notes:

Course evaluation:
Assessed students in total: 97

A	B	C	D	E	FX
30.93	4.12	23.71	26.8	13.4	1.03

Name of lecturer(s): prof. MUDr. Anton Lacko, CSc., MUDr. Adrian Kališ, PhD.

Last modification: 22.02.2023

Supervisor(s):
Person responsible for the delivery, development and quality of the study programme:
doc. MUDr. Pavol Dubinský, PhD.

COURSE INFORMATION SHEET

University: Catholic University in Ružomberok	
Faculty: Faculty of Health	
Course code: KRAT/54T1007W/22	**Course title:** Pedagogy, Psychology and Sociology
Type and range of planned learning activities and teaching methods: **Form of instruction:** Lecture **Recommended study range:** **hours weekly:** 2 **hours per semester:** 24 **Teaching method:** on-site	
Credits: 1	**Working load:** 25 hours
Recommended semester/trimester: 5.	
Level of study: I.	
Prerequisities:	
Requirements for passing the course: During semester: Active participation in the lectures. Final evaluation: Written test. The subject evaluation: A – 100 % - 93 % B – 92 % - 85 % C – 84 % - 77 % D – 76 % - 69 % E – 68 % - 60 % FX – 59 % - 0 %	
Learning outcomes of the course: The course objective: The aim of the subject is to get to know the students with the basic sociological terms and categories, to show to the students the current state of the sociology and to provide the information about the main sociological theories and directions. Theoretical knowledge: Based on the theoretical knowledge, the student knows to identify the important social phenomenons, social institutions and behavior forms, which are necessary for human life in society.	
Course contents: 1. The sociology position in the system of sciences, the subject, the nature and the classifications of sociology. 2. The sociology development and main sociological theories. 3. The social interaction and their types. The social relation and social networks. 4. Social groups and organisations. The hospital as a social organisation. 5. Society. The typology of society. The perception of society. 6. Culture and their parts. Cultural etnocentrism and cultural relativism. 7. The standards in society. The creators of standards. Sanctions. Social control. 8. The components of the social structure - social status, social role, social institution. The role on nurse, patient and doctor. 9. The socialization. Sociological theories of socialization. 10. Social conformity, non-conformity and deviation.	

11. Social institutions: marriage, family religion, health.
12. Health and illness from the view of sociology.

Recommended or required literature:

1. ALMAŠIOVÁ, A. Sociológia. Verbum, 2012.
2. BÁRTLOVÁ, S. Sociologie mediciny a zdravotnictví. GRADA, 2005.
3. JANDOUREK, J. Průvodce sociologií. Grada, 2008.
4. KELLER, J. Dějiny klasické sociologie. Sociologické nakladatelství, 2007.
5. BAUMAN, Z. Myslet sociologicky. Sociologické nakladatelství, 2010.

Language of instruction:
Slovak language

Notes:

Course evaluation:
Assessed students in total: 61

A	B	C	D	E	FX
70.49	11.48	13.11	3.28	1.64	0.0

Name of lecturer(s): doc. PhDr. Mgr. Vladimír Littva, PhD., MPH, PhDr. Mgr. Mariana Magerčiaková, PhD., MPH, MBA, doc. PhDr. PaedDr. Viera Simočková, PhD.

Last modification: 31.08.2022

Supervisor(s):
Person responsible for the delivery, development and quality of the study programme:
doc. MUDr. Pavol Dubinský, PhD.

COURSE INFORMATION SHEET

University: Catholic University in Ružomberok	
Faculty: Faculty of Health	
Course code: KRAT/54T1014W/22	**Course title:** Pharmacology
Type and range of planned learning activities and teaching methods: **Form of instruction:** Lecture **Recommended study range:** **hours weekly:** 2 **hours per semester:** 24 **Teaching method:** on-site	
Credits: 1	**Working load:** 25 hours
Recommended semester/trimester: 4.	
Level of study: I.	
Prerequisities:	

Requirements for passing the course:

100% active participation in lectures. The student takes control tests during the semester. The test will focus on the issues that were covered in the previous lectures. To successfully pass the control test, it is necessary for the student to achieve a minimum of 6 points from a maximum of 10 points. The result of the control test will be announced to the student one day before the of next lecture at latest. If the student gets less than 6 points, they are evaluated Fx. Each student, who failed in control test, has to retake the test from the same topic in the term given by teacher. If a student obtains two times Fx from control tests during the semester, they will not be admitted to the final exam due to the theoretical failure of the subject. The results of control tests will make 20% of the final overall evaluation of the student. At the end of the semester and the fulfillment of all conditions given by the teacher, each student passes a final written examination, which is aimed to verify the theoretical knowledge acquired during the semester. To successfully complete the final written examination, the student must obtain at least 75% of points. The results of final written examination will make 60% of overall points. The overall evaluation of the student will consist of the evaluation of control tests (40%), and the evaluation of the final written examination (60%). The student has the right to correction term in accordance with the study regulations of Faculty of Health, CU Ružomberok.
Subject evaluation:
A – 100 % - 93%
B – 92 % - 85%
C – 84 % - 77%
D – 76 % - 69%
E – 68 % - 60%
FX – 59 % - 0%

Learning outcomes of the course:

To gain knowledge of the history of the field, definitions, characteristics and tasks of pharmacology, mechanism of action of drugs, pharmacokinetics and pharmacodynamics of drugs, their resorption, transport, biotransformations, excretion, their interrelationships and interactions, side effects, types of treatment, placebo therapy, research of new drugs, drug forms. The student will gain knowledge of basic terminology in pharmacology, routes and methods of drug administration, drug dosing, principles of drug handling and administration, and mathematics in pharmacology. The student will acquire knowledge of general and special pharmacology. The student acquire the specifics

of contrast media application, the ways of their preparation, application, risks, potential allergic reactions and the possible solution from the radiological technician point of view.
Theoretical knowledge: The student gains knowledge of main effects of drugs, side effects of drugs, storage, ordering, distribution and marking of drugs. To know the particular pharmacotherapeutic groups and their profile.
Practical skills: Based on gained knowledge, the student has to know to apply particular drugs without any harm on patient.

Course contents:
1. History, definition and tasks of pharmacology, mechanism of drug effects, drug interrelationships, pharmacokinetics, pharmacodynamics, agonism, antagonism, 2. Side effect of the drug, types of treatment, placebo therapy, new drugs, drug forms, resorption, transport, biotransformation, excretion 3. Basic terminology in pharmacology, routes of drug application, drug dosing, principles and methods of drug administration, mathematics in pharmacology 4. Pharmacology of the nervous system 5. Pharmacology of the circulatory system 6. Pharmacology of the respiratory system 7. Pharmacology of the digestive system 8. Pharmacology of endocrine system 9. Pharmacology of blood and hematopoietic organs 10. Pharmacology of enzymes and vitamins 11. Pharmacology of antibiotics and chemotherapeutics, antihistamines, antiseptics and disinfectants 12. Pharmacology of chemotherapy, principles of administration

Recommended or required literature:
1. GADUŠOVÁ,M. a kol. 2017. Vybrané kapitoly z farmakológie. Ružomberok: Verbum. 2017, 167 s. ISBN 978-80-561-0468-2
2. HEGYI, L.- KRAJČÍK, Š. 2010. Geriatria, Bratislava: HERBA, 2010, 601 s. ISBN 978-80-89171-73-6
3. LEHNE, R., A. 2013. Pharmacology for Nursing Care, 10 Edition. Copyright 2019, 2013, 2010, 2007,2004, 2001, 1998, 1994, 1990 by Saunders, an imprint of Elservier Inc. Page Count: 1456 s. ISBN 978-1-4377-3582-6
4. MARTÍNKOVÁ, J. - CHLÁDEK, J.- MIČUDA, S.- CHLÁDKOVÁ J.2007. Farmakologie pro studenty zdravotnických oborů. Praha: Grada Publishing a.s. 2007. ISBN 978-80-247-1356-4
5. ZRUBÁKOVÁ, K a kol.2012. Farmakoterapia seniora z pohľadu sestry. Ružomberok: Verbum. 2012, 114 s. ISBN 978-80-8084-963-4

Language of instruction:
Slovak language, English language

Notes:

Course evaluation:
Assessed students in total: 57

A	B	C	D	E	FX
24.56	17.54	17.54	19.3	21.05	0.0

Name of lecturer(s): PharmDr. Pavol Púčať

Last modification: 22.02.2023

Supervisor(s):
Person responsible for the delivery, development and quality of the study programme:
doc. MUDr. Pavol Dubinský, PhD.

COURSE INFORMATION SHEET

University: Catholic University in Ružomberok	
Faculty: Faculty of Health	
Course code: KRAT/54T1002W/22	**Course title:** Physiology
Type and range of planned learning activities and teaching methods: **Form of instruction:** Lecture / Seminar **Recommended study range:** **hours weekly:** 3 / 1 **hours per semester:** 36 / 12 **Teaching method:** on-site	
Credits: 4	**Working load:** 100 hours
Recommended semester/trimester: 1.	
Level of study: I.	
Prerequisities:	
Requirements for passing the course: Conditions for completing the course: During the semester: Attendance at lectures. The final evaluation: Written test before the oral exam, obtaining 60% of points from the test is a condition of the oral exam. Subject evaluation: A – 100% - 91% B – 92% - 85% C – 84% - 77% D – 76% - 69% E – 68% - 60% Fx – 59% - 0%	
Learning outcomes of the course: Learning outcomes: Objective of the course: Getting acquainted with the functions of organ systems of the human body. Understanding the organism as a dynamic whole. Changes in the body during movement and physical exercise. Theoretical knowledge: The student masters professional terminology, defines the basic physiological principles of homeostasis of the internal environment of the organism. It describes the physiological activity of organ systems, illustrates the essence of individual physiological processes. It defines the basic differences between non-specific and specific immunity, between enzyme and hormone, between autonomic and somatic nervous system and the like. Can interpret physiological changes at work and exercise. Practical skills: The student demonstrates the application of theoretical knowledge to clinical practice. He orients himself in organizing his theoretical knowledge into individual clinical disciplines, such as examination of blood elements, blood transfusion, active and passive immunization, measurement of blood pressure, evaluation of heart activity according to heart sounds and ECG curves, functional	

examination of lungs using spirometry examination. enzymes, hormones, examination of urine and kidney function, principles of proper nutrition, the effect of stress on the body, etc.

Course contents:

Course contents:
1. Characteristics of the subject, cell physiology, internal environment.
2. Physiology of blood.
3. Physiology of the cardiovascular and lymphatic system.
4. Physiology of respiration.
5. Physiology of the digestive system and nutrition.
6. Physiology of the excretory system.
7. Physiology of the endocrine system.
8. Physiology of the autonomic and somatic nervous system.
9. Physiology of thermoregulation, muscles and skin.
10. Physiology of the immune system and reproduction.
11. Physiology of nutrition and sensory organs.
12. Physiology of work and physical exercises

Recommended or required literature:

1. LACKO, A. a kol. 2021. Vybrané kapitoly z fyziológie pre ošetrovateľstvo, verejné zdravotníctvo a nelekárske zdravotnícke vedy. Ružomberok: KU Verbum, 2021, 138 s. ISBN 978-80-561-0908-3..
2. KITTNAR, O. a kol. 2021. Přehled lékařské fyziologie. Praha: Grada, 2021, 336 s. ISBN 978-80-271-1025-4.
3. ROKYTA, R. a kol.2015. Fyziologie a patologická fyziologie pro klinickou praxi. Praha: Grada, 2015. 680 s. ISBN 978-80-247-4867-2.
4. ČALKOVSKÁ , A. a kol. 2010. Fyziológia človeka pre nelekárske študijné programy. Martin: Osveta, 2010, 220s. ISBN 978-80-8063-344-8.

Language of instruction:

Notes:

Course evaluation:

Assessed students in total: 103

A	B	C	D	E	FX
60.19	4.85	11.65	15.53	4.85	2.91

Name of lecturer(s): prof. MUDr. Anton Lacko, CSc.

Last modification: 22.02.2023

Supervisor(s):

Person responsible for the delivery, development and quality of the study programme:

doc. MUDr. Pavol Dubinský, PhD.

COURSE INFORMATION SHEET

University: Catholic University in Ružomberok	
Faculty: Faculty of Health	
Course code: KRAT/54T1009W/22	**Course title:** Preventive Medicine and Hygiene
Type and range of planned learning activities and teaching methods: **Form of instruction:** Lecture / Seminar **Recommended study range:** **hours weekly:** 2 / 0 **hours per semester:** 24 / 0 **Teaching method:** on-site	
Credits: 2	**Working load:** 50 hours
Recommended semester/trimester: 1.	
Level of study: I.	
Prerequisities:	

Requirements for passing the course:

During semester:

There will be at least one written test during semester where students can get a maximum of 20 points. At the final exam (written/oral) student can get a maximum of 80 points. Students can obtain together 100 points. During the lectures student will analyse assigned topics.

Final evaluation:

Final marking will be on the basis of the points obtained from the tests during semester and in exam period.

Course evaluation:

A – 100 %-93 %
B – 92 %-85 %
C – 84 %-77 %
D – 76 %-69 %
E – 68 %-60 %
FX – 59 %- 0 %

Learning outcomes of the course:

The aim of the course: Through the acquired knowledge and skills to create a comprehensive and conceptual view of prevention, preventive medicine and hygiene in the public health complex, individual sections of public health - their characteristics, content and methods of work, be able to act conceptually and preventively and think about preventive medicine, hygiene and public health in terms of preventive health care and the overall goal.

Theoretical knowledge:

To know the general and specific principles of health prevention, the scope and objectives of hygiene and public health, be able to act preventively and think about the management of the health team, department and the whole facility in terms of health care, prevention and hygiene, providing education and training of health care workers, use of prevention in individual areas of health care.

Practical knowledge:

To be able to use knowledge from individual areas of preventive medicine and hygiene departments, to be able to ensure the quality of preventive health services in the field of environment, nutrition,

hygiene of children and adolescents and preventive occupational medicine, their evaluation, including the importance of health for individuals and society.

Course contents:

The structure of the course:

1. Preventive medicine, hygiene - public health, characteristics, position, development
2. Characteristics of individual branches of public health - hygiene
3. Determinants of health and factors influencing health
4. General epidemiology and prevention of communicable diseases
5. Epidemiology of non-infectious diseases of civilization
6. Environmental hygiene - air, soil, water, noise, housing and settlements
7. Hygiene of medical facilities
8. Preventive occupational medicine man and work environment
9. Nutritional hygiene - rational nutrition, food evaluation, eating together, food production.
10. Hygiene of children and youth
11. Protection against ionizing radiation
12. National health promotion program, the state of public health in Slovakia

Recommended or required literature:

1. Rovný I.: Verejné zdravotníctvo, 125 p., Herba 2009
2. Šulcová, M.,,Čižnár, I., Fabiánová, E.: Verejné zdravotníctvo, Bratislava, Veda 2012
3. Legáth Ľ. et al.: Pracovné lekárstvo, Osveta 2020
4. Domenik, J.: Preventívne lekárstvo a hygiena, Learning material, Faculty of Health care, CU, 2019
5. Bakoss et al.: Epidemiológia. Bratislava 2011, Univerzita Komenského, 520 p.
6. Šagát, T. et al.: Organizácia zdravotníctva, Osveta Martin, 2010

Language of instruction:

Slovak language

Notes:

This course is taught during the winter semester and is evaluated during the exam period of the winter semester.

Course evaluation:

Assessed students in total: 102

A	B	C	D	E	FX
50.98	17.65	27.45	1.96	1.96	0.0

Name of lecturer(s): doc. MUDr. Jozef Domenik, PhD., MPH

Last modification: 23.02.2023

Supervisor(s):

Person responsible for the delivery, development and quality of the study programme:

doc. MUDr. Pavol Dubinský, PhD.

COURSE INFORMATION SHEET

University: Catholic University in Ružomberok	
Faculty: Faculty of Health	
Course code: KRAT/54T22S/22	**Course title:** Professional Practice
Type and range of planned learning activities and teaching methods: **Form of instruction:** **Recommended study range:** **hours weekly:** **hours per semester:** **Teaching method:** on-site	
Credits: 5	**Working load:** 125 hours
Recommended semester/trimester: 5., 6..	
Level of study: I.	
Prerequisities:	

Requirements for passing the course:
The student has successfully completed all study requirements for the bachelor study programme in radiologic technology (successfully completed the study programme's compulsory and optional courses, according to the student's decision following structure determined by the study programme) and obtained at least 152 credits. The student registers for the state exam via the academic information system and submits a signed application for the state exam and completed diary of clinical practice. Final evaluation: based on final points gained in state exam.
The subject evaluation:
A – 100 % - 93 %
B – 92 % - 85 %
C – 84 % - 77 %
D – 76 % - 69 %
E – 68 % - 60 %
FX – 59 % - 0 %

Learning outcomes of the course:
The course objective: The student shows the professional knowledge and practical skills, which are necessary for qualified healthcare worker in practice, gained during the studying of the bachelor study programme radiologic technology.
Theoretical knowledge: In practice, the student applies theoretical knowledge gained in subjects Radiology, Radiation oncology and Nuclear medicine. They are able to define, describe and compare particular techniques and radiologic devices and their effects in general, and also in the interaction with patient.
Practical skills: The work with patient, the manipulation with the device equipment. The assistance durin application, sampling techniques, injection applications during examinations procedures in radiology, nuclear medicine and radiotherapy. The documentation at workplace. The student is able tu self-perform professional procedures, respecting the rules of radiation protection when working with sources of ionizing radiation. The student shows the professional skills to solve selected specific operations and situations of radiologic imaging and radiotherapeutic methods.

Course contents:
Radiology

1. The imaging of patients in case fo of upper and lower limb diseases.
2. The examination of patients in case of lung diseases.
3. The examination of patients in case of uropoetic system (kidneys).
4. The examination of patients in case of gastrointestinal system (esophagus, stomach, small and large intestine).
5. The examination of patients in case of vascular diseases.
6. The examination of patients at CT department.
7. The examination of patients at CT department in case of brain diseases.
8. The examination of patients at MR department.
9. The imaging of patients in case of spinal diseases.
10. The imaging of patients in case of pelvic traumas and diseases.
11. The imaging of patients in case of rib cage traumas and diseases.
12. The imaging of patients in case of cranium traumas (basic and complementary projections)
13. The imaging of patients in case of cranium diseases.
14. The imaging of patients in case of cranium face part (special and targeted projections).
Nuclear medicine
1. The scintigraphy of bones (whole-body, static, SPECT).
2. The scintigraphy of thyroid and parathyroid glands.
3. The scintigraphy of brain.
4. The scintigraphy of heart.
5. The scintigraphy of kidneys.
6. The scintigraphy of lungs.
7. Radiopharmaceuticals and work with radiopharmaceuticals
Radiation oncology
1. Radiotherapy of non-tumor diseases.
2. The patient preparation before radiotherapy.
3. Radiotherapy of tumor diseases (linear accelerator)
4. Brachytherapy

Recommended or required literature:
The literature is listed in subject information sheets of particular theoretical subjects (see information sheet of Radiology, Radiation oncology and Nuclear medicine).

Language of instruction:
Slovak language

Notes:

Course evaluation:
Assessed students in total: 81

A	B	C	D	E	FX
69.14	20.99	6.17	3.7	0.0	0.0

Name of lecturer(s):

Last modification: 23.02.2023

Supervisor(s):
Person responsible for the delivery, development and quality of the study programme:
doc. MUDr. Pavol Dubinský, PhD.

COURSE INFORMATION SHEET

University: Catholic University in Ružomberok	
Faculty: Faculty of Health	
Course code: KRAT/54T24S/22	**Course title:** Radiation Oncology
Type and range of planned learning activities and teaching methods: **Form of instruction:** **Recommended study range:** **hours weekly:** **hours per semester:** **Teaching method:** on-site	
Credits: 5	**Working load:** 125 hours
Recommended semester/trimester: 5., 6..	
Level of study: I.	
Prerequisities:	

Requirements for passing the course:

The student has successfully completed all study requirements for the bachelor study programme in radiologic technology (successfully completed the study programme's compulsory and optional courses, according to the student's decision following structure determined by the study programme) and obtained at least 152 credits. The student registers for the state exam via the academic information system and submits a signed application for the state exam and completed diary of clinical practice. Final evaluation: based on final points gained in state exam.

The subject evaluation:

A – 100 % - 93 %
B – 92 % - 85 %
C – 84 % - 77 %
D – 76 % - 69 %
E – 68 % - 60 %
FX – 59 % - 0 %

Learning outcomes of the course:

The course objective: The student shows the professional theoretical knowledge, which are necessary to perform work of qualified healthcare worker, gained during studying of study programme radiologic technician. Theoretical knowledge: The student shows theoretical knowledge mainly from the key subjects of the study programme from the field of nuclear medicine and radiation oncology and close subjects. They are able to define, describe and compare particular health and radiologic techniques and their relation to the radiologic imaging and radiotherapeutic procedurs. They understand the relevant terms and facts. They gain theoretical knowledge and apply them logically in the concrete field and are able to express in professional terminology. Practical skills: The students have a command in the modern methods of work with patient in radiologic, radiooncological techniques and by particular methods of nuclear medicine. They have practical skills, which are necessary to manage various situations during their future job. They are able to self-perform professional procedures, with respect to radiation protection rules when working with ionizing radiation sources.

Course contents:

The course contents is defined in the subject information sheets of the subjects Radiologic physics 1,2, Radiobiology, Nuclear medicine 1,2,3, Clinical oncology, Radiation oncology 1,2,3, Radiation protection, Nursing, The law and legislation.
The nuclear radiation and its effects on living matter (units, physical properties, genetic effects, effects on the level of organs). Radiopharmaceuticals. Radionuclide generators. Detection of the ionizing radiation (scintillation detector, scintillation camera, computer analyzing device). New imaging methods in nuclear medicine (SPECT, PET, imunoscintigraphy). The principles of radiosaturation analysis. The principles of evaluation of the scintigraphic findings. Radionuclide diagnostics of the thyroid gland diseases. Radionuclide diagnostics of the central nervous system diseases. Radionuclide diagnostics of the lung diseases. Radionuclide diagnostics of the heart diseases. Radiinuclide diagnostics of the hepatobiliar dystem and spleen. Radionuclide diagnostics of the kidney diseases. Radionuclide diagnostics of the bone and joint diseases. Radionuclide diagnostics of the tumor diseases. Therapy by using radionuclides. Radionuclide diagnostics of the sentinel nodes. Technical equipment of the nuclear medicine, conception of the nuclear medicine.
The principles of the radiation protection at work with ionizing radiation. The therapy of patients in case of the kidney diseases. The therapy of patients in case of the bladder, urethra and prostate diseases. The therapy of patients in case of the spinal and spinal cord diseases. The therapy of patients in case of the non-tumor and tumor diseases of brain. The therapy of patients in case of the esophagus, stomach, small and large intestine diseases, bile ducts and pancreas diseases. The therapy of patients in case of the tumors in the thorax, mediastinum and abdomen. The therapy of patients in case of the large vessels and heart diseases. The therapy of patients in case of the lymphatic system diseases. The therapy of patients in case of the gynecology diseases and breast diseases. The therapy in case of the thyroid gland, lung and bone diseases. The intervention methods using the imaging methods. The cystostatics in therapy. Technical equipment and conception of radiation oncology departments.

Recommended or required literature:
The literature is listed in particular key subjects of the study programme (Radiological physics 1, 2, Radiobiology, Nuclear medicine 1,2,3, Clinical oncology, Radiation oncology 1,2,3, Radiation protection, Nursing, The law and legislation).

Language of instruction:
Slovak language

Notes:

Course evaluation:
Assessed students in total: 82

A	B	C	D	E	FX
58.54	28.05	9.76	0.0	2.44	1.22

Name of lecturer(s):

Last modification: 23.02.2023

Supervisor(s):
Person responsible for the delivery, development and quality of the study programme:
doc. MUDr. Pavol Dubinský, PhD.

COURSE INFORMATION SHEET

University: Catholic University in Ružomberok	
Faculty: Faculty of Health	
Course code: KRAT/54T1027W/22	**Course title:** Radiation Oncology 1
Type and range of planned learning activities and teaching methods: **Form of instruction:** Lecture / Seminar **Recommended study range:** **hours weekly:** 4 / 2 **hours per semester:** 48 / 24 **Teaching method:** on-site	
Credits: 4	**Working load:** 100 hours
Recommended semester/trimester: 3.	
Level of study: I.	
Prerequisities:	

Requirements for passing the course:

During the course: During the course of the subject, participation in exercises will be evaluated and it must be 100%. Continuous assessment by written exam.

Final evaluation: The final evaluation will be based on the fulfillment of the criteria within the exercise and overall assessment by written and oral examination.

Course evaluation:

A – 100 % - 93 %
B – 92 % - 85 %
C – 84 % - 77 %
D – 76 % - 69 %
E – 68 % - 60 %
FX – 59 % - 0 %

Learning outcomes of the course:

Course objective:

The aim of the course is to acquaint the students with the theory and practice of therapeutic application of ionizing radiation in various diseases, especially in malignant tumors based on the knowledge of radiobiology, radiophysics and radiation techniques. To introduce technological devices used in radiation oncology. To explain procedures of treatment planning using imaging examinations and quality assurance in radiotherapy.

Theoretical knowledge:

The student masters the basics of radiobiology, radiophysics and radiation oncology, can describe radiation devices for external radiotherapy and brachytherapy, simulator, verification information systems, portal verification, characterizes techniques in radiation oncology, can clarify the principles of 3-D conformal radiotherapy and IMRT planning and quality management systems.

Practical skills:

The student applies his theoretical knowledge in clinical practice from the preparatory phase - patient information, positioning and immobilization of the patient ensuring reproducibility of the position. The student orients himself in a modelling workshop, participates in dose planning and calculation, demonstrates simulation, CT planning and virtual simulation as well as the irradiation of the patient itself, the student is orients himself in planning and dosimetry in external beam

radiotherapy and brachytherapy. The student keeps documentation throughout the irradiation process of the patient.

Course contents:

1. Introduction to radiation oncology, specialization concept in Slovakia and EU requirements, organization of institutions providing radiation treatment
2. Basic principles of radiobiology and physics - structure of matter, radioactivity
3. Physical properties of ionizing radiation
4. Interaction of radiation with matter - characteristics of electron and photon beams, half shadow
5. Dosimetry of ionizing radiation beams
6. Units characterizing the effect of radiation on matter
7. Biological properties of ionizing radiation, pathophysiology of cell damage
8. Modelling of cell survival after irradiation and the dependence of late effects on the size of an individual dose - the effect of radiation on tumors and healthy tissues
9. Therapeutic management of adverse reactions
10. Tolerance of tissues and organs to irradiation
11. Criteria for assessment of acute toxicity according to RTOG / EORTC
12. Criteria for assessment of chronic toxicity according to RTOG / EORTC, evaluation of selected acute toxicity manifestations as recommended by the World Health Organization. The role of radiotherapy in ionizing radiation treatment

Recommended or required literature:

1. ŠLAMPA, P. – PETERA, J., et al. 2007. Radiační onkologie. Praha: Galén, 2007, 457 s., ISBN 8072624690.
2. ŠLAMPA, P. – PETERA, J., et al. 2022. Radiační onkologie. Praha. Maxford, 2022, 722 s., ISBN 978-80-7345-674-0.
3. ŠLAMPA, P. – et al. 2014. Radiační onkologie v praxi, štvrté aktualizované vydanie. Masarykov onkologický ústav, Lekárska fakulta Masarykovej univerzity, Klinika radiačnej onkológie, Brno 2014, 353 s., ISBN 978-80-86793-34-4.
4. HYNKOVÁ, I., - ŠLAMPA, P., et al., 2009. Radiační onkologie – učební texty, Klinika radiační onkologie Lekářské fakulty Masarykovy university a Masarykuv onkologický ústav, Brno: Masarykuv onkologický ústav, 2009, 242 s., ISBN 978-80-210-6061-6.
5. DUBINSKÝ, P., - JURIŠOVÁ, S. – KRÁLIK, G. 2012. Zhubné nádory a ich liečba ionizujúcim žiarením? Vysokoškolské učebné texty. Vysoká škola zdravotníctva a sociálnej práce sv. Alžbety Bratislava: Vysoká škola zdravotníctva a sociálnej práce sv. Alžbety, 2012, 169 s., ISBN 978-80-89464-16-16.
6. ZÁKON č . 470/2000 Z .z. a vyhláška č.12/2001 MZ SR o požiadavkách na zabezpečenie radiačnej ochrany.
7. DOBBS, J. – BARRET, A., – ASH, D. 2005. Praktické plánovanie rádioterapie. Praha: Grada, 2005

Language of instruction:

Notes:

Course evaluation:

Assessed students in total: 96

A	B	C	D	E	FX
25.0	26.04	22.92	18.75	5.21	2.08

Name of lecturer(s): doc. MUDr. Pavol Dubinský, PhD., Ing. Anita Klačková, MUDr. Miroslava Oravcová

Last modification: 22.02.2023

Supervisor(s):

Person responsible for the delivery, development and quality of the study programme:

doc. MUDr. Pavol Dubinský, PhD.

COURSE INFORMATION SHEET

University: Catholic University in Ružomberok	
Faculty: Faculty of Health	
Course code: KRAT/54T1034W/22	**Course title:** Radiation Oncology 2
Type and range of planned learning activities and teaching methods: **Form of instruction:** Lecture / Seminar **Recommended study range:** **hours weekly:** 4 / 2 **hours per semester:** 48 / 24 **Teaching method:** on-site	
Credits: 4	**Working load:** 100 hours
Recommended semester/trimester: 4.	
Level of study: I.	
Prerequisities: KRAT/54T1027W/22	

Requirements for passing the course:

During the course: During the course of the subject, participation in exercises will be evaluated and it must be 100%. Continuous assessment by written exam.

Final evaluation: The final evaluation will be based on the fulfillment of the criteria within the exercise and overall assessment by written and oral examination.

Course evaluation:

A – 100 % - 93 %
B – 92 % - 85 %
C – 84 % - 77 %
D – 76 % - 69 %
E – 68 % - 60 %
FX – 59 % - 0 %

Learning outcomes of the course:

Course objective:

The aim of the course is to acquaint the students with the theory and practice of therapeutic application of ionizing radiation in various diseases, especially in malignant tumors based on the knowledge of radiobiology, radiophysics and radiation techniques. To introduce technological devices used in radiation oncology. To explain procedures of treatment planning using imaging examinations and quality assurance in radiotherapy.

Theoretical knowledge:

The student masters the basics of radiobiology, radiophysics and radiation oncology, can describe radiation devices for external radiotherapy and brachytherapy, simulator, verification information systems, portal verification, characterizes techniques in radiation oncology, can clarify the principles of 3-D conformal radiotherapy and IMRT planning and quality management systems.

Practical skills:

The student applies his theoretical knowledge in clinical practice from the preparatory phase - patient information, positioning and immobilization of the patient ensuring reproducibility of the position. The student orients himself in a modelling workshop, participates in dose planning and calculation, demonstrates simulation, CT planning and virtual simulation as well as the irradiation of the patient itself, the student is orients himself in planning and dosimetry in external beam

radiotherapy and brachytherapy. The student keeps documentation throughout the irradiation process of the patient.

Course contents:

1. Clinical application of radiobiological principles, radiation fractionation, modification of treatment response to radiation
2. Irradiation techniques
3. Sources of radiation in external beam radiotherapy
4. Brachytherapy, types of, planning, HDR vs LDR brachytherapy, clinical use of HDR brachytherapy
5. Principles of radiation treatment planning, planning algorithms in radiation oncology, verification systems
6. Conformal radiotherapy - physical aspects, clinical use of 3-D CRT
7. Principles of 3-D planning in conformal external beam radiotherapy and brachytherapy using topometric data derived from CT, MRI and PET examinations, delineation of the target volumes and critical organs as a basis for calculation of radiation treatment plans, optimization of treatment plans, IMRT and inverse planning
8. Radiation oncology in clinical practice
9. Systemic treatment and radiotherapy, treatment strategies
10. Perspectives of radiation oncology - corpuscular radiation, modulation of radiation beam intensity, biological target volumes
11. Quality assurance in radiation oncology
12. Radiation protection

Recommended or required literature:

1. ŠLAMPA, P. – PETERA, J., et al. 2007. Radiační onkologie. Praha: Galén, 2007, 457 s., ISBN 8072624690.
2. ŠLAMPA, P. – PETERA, J., et al. 2022. Radiační onkologie. Praha. Maxford, 2022, 722 s., ISBN 978-80-7345-674-0.
3. ŠLAMPA, P. – et al. 2014. Radiační onkologie v praxi, štvrté aktualizované vydanie. Masarykov onkologický ústav, Lekárska fakulta Masarykovej univerzity, Klinika radiačnej onkológie, Brno 2014, 353 s., ISBN 978-80-86793-34-4.
4. HYNKOVÁ, I., - ŠLAMPA, P., et al., 2009. Radiační onkologie – učební texty, Klinika radiační onkologie Lekářské fakulty Masarykovy university a Masarykuv onkologický ústav, Brno: Masarykuv onkologický ústav, 2009, 242 s., ISBN 978-80-210-6061-6.
5. DUBINSKÝ, P., - JURIŠOVÁ, S. – KRÁLIK, G. 2012. Zhubné nádory a ich liečba ionizujúcim žiarením? Vysokoškolské učebné texty. Vysoká škola zdravotníctva a sociálnej práce sv. Alžbety Bratislava: Vysoká škola zdravotníctva a sociálnej práce sv. Alžbety, 2012, 169 s., ISBN 978-80-89464-16-16.
6. ZÁKON č . 470/2000 Z .z. a vyhláška č.12/2001 MZ SR o požiadavkách na zabezpečenie radiačnej ochrany.

Language of instruction:

Notes:

Course evaluation:

Assessed students in total: 100

A	B	C	D	E	FX
31.0	19.0	21.0	14.0	8.0	7.0

Name of lecturer(s): doc. MUDr. Pavol Dubinský, PhD., Ing. Anita Klačková, MUDr. Miroslava Oravcová
Last modification: 22.02.2023
Supervisor(s): **Person responsible for the delivery, development and quality of the study programme:** doc. MUDr. Pavol Dubinský, PhD.

COURSE INFORMATION SHEET

University: Catholic University in Ružomberok	
Faculty: Faculty of Health	
Course code: KRAT/54T1042W/22	**Course title:** Radiation Oncology 3
Type and range of planned learning activities and teaching methods: **Form of instruction:** Lecture / Seminar **Recommended study range:** **hours weekly:** 4 / 2 **hours per semester:** 48 / 24 **Teaching method:** on-site	
Credits: 4	**Working load:** 100 hours
Recommended semester/trimester: 5.	
Level of study: I.	
Prerequisities: KRAT/54T1034W/22	
Requirements for passing the course: During the course: During the course of the subject, participation in exercises will be evaluated and it must be 100%. Continuous assessment by written exam. Final evaluation: The final evaluation will be based on the fulfillment of the criteria within the exercise and overall assessment by written and oral examination. Course evaluation: A – 100 % - 93 % B – 92 % - 85 % C – 84 % - 77 % D – 76 % - 69 % E – 68 % - 60 % FX – 59 % - 0 %	
Learning outcomes of the course: Course objective: The aim of the course is to acquaint the students with the theory and practice of therapeutic application of ionizing radiation in various diseases, especially in malignant tumors based on the knowledge of radiobiology, radiophysics and radiation techniques. To introduce technological devices used in radiation oncology. To explain procedures of treatment planning using imaging examinations and quality assurance in radiotherapy. Theoretical knowledge: The student masters the basics of radiobiology, radiophysics and radiation oncology, can describe radiation devices for external radiotherapy and brachytherapy, simulator, verification information systems, portal verification, characterizes techniques in radiation oncology, can clarify the principles of 3-D conformal radiotherapy and IMRT planning and quality management systems. Practical skills: The student applies his theoretical knowledge in clinical practice from the preparatory phase - patient information, positioning and immobilization of the patient ensuring reproducibility of the position. The student orients himself in a modelling workshop, participates in dose planning and calculation, demonstrates simulation, CT planning and virtual simulation as well as the irradiation of the patient itself, the student is orients himself in planning and dosimetry in external beam	

radiotherapy and brachytherapy. The student keeps documentation throughout the irradiation process of the patient.

Course contents:
1. Radiotherapy of head and neck cancer
2. Radiotherapy of gastrointestinal tract cancer
3. Radiotherapy of malignant skin tumors
4. Radiotherapy of lung cancer and breast cancer
5. Radiotherapy of female reproductive cancers
6. Radiotherapy of urological malignancies
7. Radiotherapy of male reproductive cancers
8. Radiotherapy of the central nervous system malignancies
9. Radiotherapy of childhood malignant tumors
10. Stereotactic radiotherapy
11. Palliative radiotherapy
12. Radiotherapy of benign diseases

Recommended or required literature:
1. ŠLAMPA, P. – PETERA, J., et al. 2007. Radiační onkologie. Praha: Galén, 2007, 457 s., ISBN 8072624690.
2. ŠLAMPA, P. – PETERA, J., et al. 2022. Radiační onkologie. Praha. Maxford, 2022, 722 s., ISBN 978-80-7345-674-0.
3. ŠLAMPA, P. – et al. 2014. Radiační onkologie v praxi, štvrté aktualizované vydanie. Masarykov onkologický ústav, Lekárska fakulta Masarykovej univerzity, Klinika radiačnej onkológie, Brno 2014, 353 s., ISBN 978-80-86793-34-4.
4. HYNKOVÁ, I., - ŠLAMPA, P., et al., 2009. Radiační onkologie – učební texty, Klinika radiační onkologie Lekářské fakulty Masarykovy university a Masarykuv onkologický ústav, Brno: Masarykuv onkologický ústav, 2009, 242 s., ISBN 978-80-210-6061-6.
5. DUBINSKÝ, P., - JURIŠOVÁ, S. – KRÁLIK, G. 2012. Zhubné nádory a ich liečba ionizujúcim žiarením? Vysokoškolské učebné texty. Vysoká škola zdravotníctva a sociálnej práce sv. Alžbety Bratislava: Vysoká škola zdravotníctva a sociálnej práce sv. Alžbety, 2012, 169 s., ISBN 978-80-89464-16-16.

Language of instruction:

Notes:

Course evaluation:
Assessed students in total: 83

A	B	C	D	E	FX
20.48	24.1	26.51	20.48	8.43	0.0

Name of lecturer(s): doc. MUDr. Pavol Dubinský, PhD., Ing. Anita Klačková, MUDr. Miroslava Oravcová

Last modification: 22.02.2023

Supervisor(s):
Person responsible for the delivery, development and quality of the study programme:
doc. MUDr. Pavol Dubinský, PhD.

COURSE INFORMATION SHEET

University: Catholic University in Ružomberok	
Faculty: Faculty of Health	
Course code: KRAT/54T1044W/22	**Course title:** Radiation Protection
Type and range of planned learning activities and teaching methods: **Form of instruction:** Lecture / Seminar **Recommended study range:** **hours weekly:** 3 / 1 **hours per semester:** 36 / 12 **Teaching method:** on-site	
Credits: 4	**Working load:** 100 hours
Recommended semester/trimester: 5.	
Level of study: I.	
Prerequisities: KRAT/54T1017W/22	
Requirements for passing the course: Active participation at lab exercises is necessary to pass the exam. The final evaluation is based on the results of written test and evaluation of student activity on lab exercises (given partial tasks and problems). The subject is taught in winter semester and is evaluated only in the examination period of the winter semester of the current academic year. The subject evaluation: A – 100%-93% B – 92%-85% C – 84%-77% D – 76%-69% E – 68%-60% FX – 59%- 0%	
Learning outcomes of the course: The objective of the course: To explain the expert terms from the field of radiation protection and dosimetry. To get to know with the effects of ionizing radiation on human organism. To give practical information on the rules of work with ionizing radiation sources. The rules of radiation protection and safety of work with ionizing radiation sources. The knowledge of rules and legislation standards necessary for qualified work, decisions and management of work groups. Theoretical knowledge: The student defines basic terms from the field of nuclear physics, characterizes the particular types of radiation, describes effects and consequences of ionizing radiation impact on organism. They list the basic principles of radiation protection for staff using ionizing radiation (occupational radiation protection) and for general population as well. They are able to compare the standards with the real conditions during evaluation occupational and general population radiation exposure. They describe health protection standards in the case of radioactive substances leakage into environment by accident and the ways of decontamination. They are able to check correct operation with radioactive waste. Practical skills: The student applies the knowledge from the field of radiation protection in practice, has command in a dosimetry. They are able to review the danger level in the case of radioactive substances leakage	

into environment, decides the expert operation for radiation protection management. They evaluate the radiation exposure of staff using ionizing radiation sources and general population as well.

Course contents:

1. Repetition of the basics terms from nuclear physics, nuclear reactions, radiation types, quantities and units used in the field of radiation protection.
2. The sources of ionizing radiation. The primary effects of ionizing radiation. The factors, which affect the effects of ionizing radiation.
3. The injury of organs by ionizing radiation.
4. Manifestation of the organ injury by ionizing radiation. The radiation sickness.
5. The basic principles of radiation protection. Dosimetry.
6. The dose limits, the consequences of ionizing radiaition application in medicine.
7. Dosimetry.
8. Radioactivity in the enviroment and workplace.
9. The methods using ionizing radiation in medicine and principles of radiation protection at work.
10. The accidents during use of ionizing radiation sources.
11. The legislation in the field of radiation protection.
12. The radiation risks in the world - radiation accident and catastrophes with ionizing radiation.

Recommended or required literature:

Súkupová, L. Radiační ochrana při rentgenových výkonech - to nejdůležitější pro praxi. Praha, Grada 2018. 280 s. ISBN: 978-80-271-0709-4.
Kubinyi, J. Principy radiační ochrany v nukleární medicíně a dalších oblastech práce s otevřenými radioaktivními látkami. Praha, Grada 2018. ISBN: 978-80-271-2162-5
Zachar, L. et al.: Hodnotenie vybraných parametrov kvality v projekčnej rádiografii, Ružomberok, VERBUM, 2019, 92p., ISBN 978-80-561-0726-3

Language of instruction:

Slovak language

Notes:

Course evaluation:

Assessed students in total: 87

A	B	C	D	E	FX
87.36	4.6	5.75	1.15	1.15	0.0

Name of lecturer(s): doc. MUDr. Pavol Dubinský, PhD., Ing. Martin Bereta, PhD., Ing. Anita Klačková

Last modification: 22.02.2023

Supervisor(s):

Person responsible for the delivery, development and quality of the study programme:

doc. MUDr. Pavol Dubinský, PhD.

COURSE INFORMATION SHEET

University: Catholic University in Ružomberok	
Faculty: Faculty of Health	
Course code: KRAT/54T1004W/22	**Course title:** Radiobiology
Type and range of planned learning activities and teaching methods: **Form of instruction:** Lecture / Seminar **Recommended study range:** **hours weekly:** 3 / 1 **hours per semester:** 36 / 12 **Teaching method:** on-site	
Credits: 4	**Working load:** 100 hours
Recommended semester/trimester: 4.	
Level of study: I.	
Prerequisities: KRAT/54T1003W/22	
Requirements for passing the course: During semester: The activity of the student will be evaluated by written test. Attendance at exercises must be 100%. The midterm evaluation consists of written test evaluation. Final evaluation: Final evaluation consists of semester criteria fulfilling, writtent test and oral exam evaluation. Subject evaluation: A – 100 %-93 % B – 92 %-85 % C – 84 %-77 % D – 76 %-69 % E – 68 %-60 % FX – 59 %- 0 %	
Learning outcomes of the course: bjective of the course: To aim is to acquaint the students with the effects of ionizing radiation on living matter, cells, organism, particularly tumor tissues by using of ionizing radiation in oncological diseases treatment in radiation oncology, radiology and nuclear medicine, but also in the case of radiation incidents and accidents. To get to know with application of basic principles of radiobiology in practice. Theoretical knowledge: The student has a command of basic terminology. He gains knowledge from the field of ionizing radiation, ionizing radiation sources, quantities and units used in radiobiology and radiation protection. The student defines characteristics of clinical picture of basic syndromes caused by irradiation. The student is able to classify irradiated persons and masters management of patients. He defines radiobiologic mechanisms in cell cycle, physiologic processes in irradiated cell. He has a command of tissue and organ radiobiology. He has knowledge about the clinical application of radiobiology principles. Practical skills: The student applies theoretical knowledge from the field of radiobiology in practice, namely the quantities and unit. The student is able to use the knowledge about the radiation sickness in practice. The student knows to define dose, time, fraction regimes for various radiologic procedures. He knows to define radiation toxicity, tolerance doses of health tissues. He gains knowledge about the radiobiologic properties of tumors, immediate and late toxicity, therapeutic ratio, tolerance doses of health tissues.	
Course contents: 1. The basic role of radiobiology. The frontier sciences of radiobiology. The structure of radiobiology. 2. The definition of ionising radiation, quantities and units used in radiobiology and radiation protection. The sources of ionizing radiation and their application in radiation oncology - physical properties of ionizing radiation, radioactivity, interaction of radiation with matter, the effects of radiation on cells and tissues. 3. The syndromes from irradiation (bone-marrow syndrome, gastrointestinal syndrome, central nervous system syndrome). The therapy of stochastic	

irradiated persons. The classification of patient with acute radiation syndrome. Management of individual patients. 4. The radiation sickness - Acute radiation sickness - classification, phases, therapy. The chronic radiation sickness - classification, diagnosis, therapy, prognosis. 5. The basic radiobiologic mechanisms - cell cycle and its control, radiosensitivity of cell during cell cycle, physiologic processes in cells after irradiation - "4R" principle. The effects of radiation on embryo and fetus. 6. The tissue and organ radiobiology - radiobiologic types of health tissues, radiobiologic properties of tumors, therapeutic ratio, early and late toxicity, tolerance doses of health tissues. 7. Dose, time, fraction regimes. Radiobiologic models - LO model, TCP (tumor control probability) model, NTCP (normal tissue control probability) model. 8. Radiobiology of brachytherapy (divisionsof brachytherapy, brachytherapy types, LDR, HDR, PDR brachytherapy). 9. Hypoxia - tumor microenviroment, the possibilities of tumor hypoxia influence. 10. The clinical application of radiobiology principles. 11. The importance of knowledge from the field of radiobiology for radiologic technician. 12. Written test.

Recommended or required literature:

1. FELT, D. CVEK,J.: Klinická radiobiologie. Tobiáš, 2008,102 p.

Language of instruction:

Slovak language

Notes:

Course evaluation:

Assessed students in total: 66

A	B	C	D	E	FX
27.27	19.7	21.21	16.67	9.09	6.06

Name of lecturer(s): doc. MUDr. Pavol Dubinský, PhD., Ing. Martin Bereta, PhD., Ing. Anita Klačková, RNDr. Lucián Zastko, PhD.

Last modification: 22.02.2023

Supervisor(s):

Person responsible for the delivery, development and quality of the study programme:

doc. MUDr. Pavol Dubinský, PhD.

COURSE INFORMATION SHEET

University: Catholic University in Ružomberok

Faculty: Faculty of Health

Course code: KRAT/54T1055W/22	**Course title:** Radiographic projections

Type and range of planned learning activities and teaching methods:
Form of instruction: Lecture / Seminar
Recommended study range:
hours weekly: 1 / 2 **hours per semester:** 12 / 24
Teaching method: on-site

Credits: 3	**Working load:** 75 hours

Recommended semester/trimester: 1.

Level of study: I.

Prerequisities:

Requirements for passing the course:

Learning outcomes of the course:

Course contents:

Recommended or required literature:

Language of instruction:

Notes:

Course evaluation:
Assessed students in total: 101

A	B	C	D	E	FX
100.0	0.0	0.0	0.0	0.0	0.0

Name of lecturer(s): doc. PhDr. Jozef Babečka, PhD., Mgr. Marián Gašaj

Last modification: 22.02.2023

Supervisor(s):
Person responsible for the delivery, development and quality of the study programme:
doc. MUDr. Pavol Dubinský, PhD.

COURSE INFORMATION SHEET

University: Catholic University in Ružomberok	
Faculty: Faculty of Health	
Course code: KRAT/54T1003W/22	**Course title:** Radiological Physics 1
Type and range of planned learning activities and teaching methods: **Form of instruction:** Lecture / Seminar **Recommended study range:** **hours weekly:** 3 / 2 **hours per semester:** 36 / 24 **Teaching method:** on-site	
Credits: 4	**Working load:** 100 hours
Recommended semester/trimester: 1.	
Level of study: I.	
Prerequisities:	
Requirements for passing the course: During semester: Written test, maximum 30 pts. Exercises - maximum 30 pts. Final evaluation: Written examination, maximum 40 pts. The student has to obtain 10 pts as minimum from each part of evaluation. The subject evaluation: A – 100%-93% B – 92%-85% C – 84%-77% D – 76%-69% E – 68%-60% FX – 59%- 0%	
Learning outcomes of the course: The objective of the course: To know basic physical processes in organism. To understand physical principles of transformation and transport of energy in organism, cell processes, sight, hearing and other senses, respiratory and blood circulation, locomotor apparatus, signal transport using electric fields. The student has to know the principles of processing control in organism and biological feedback. The student has to know the importance of enviromental biophysics, interaction of enviroment with organism. The student has to know the physical principles of diagnostic and therapeutic machines using ultrasound and non-ionising radiation. Theoretical knowledge: The student gains knowledge from corresponding chapters of physics, which are necessary to understand physiological processes in organism and specific parts of organism: The locomotor apparatus: force, force momentum, energy, power, elastic deformation, ultimate strength. Energy transport and transformation: Energy, heat, work, thermodynamic laws, thermodynamic potentials. Respiration: ideal gas laws, Dalton's law, gas solubility. Blood circulation: pressure, Pascal's law, hydrodinamic laes, viscosity, viscous liquid flow, laminar and turbulent flow. Cell processes: diffusion, Fick's laws, osmotic pressure, dissociation, cations and anions, electrostatic forces, polar properties of water. Sight: ligth reflection and refration, diverging and converging lens, the lens equation, aperture, transversal and angle magnification, apraxia of lid opening disease, daltonism, astigmatism, light diffraction, resolution, color interference, accommodation, light intensity. Hearing: sound, wavelength, vawe frequency and amplitude, sound velocity in various media, acoustic pressure, impedance, reflection and transmission of the sound wave through the inteface of medium, intensity, intensity level, Weber-Fechner law. Wave interference, Doppler	

effect, shockwave, oscillations, resonance. Electrical processes in organism: potential, voltage, current, Ohm´s law, current and voltage measurement. Ultrasonography: ultrasound sources, magnetostriction, piezoelectric effect, impedandance matching, diverging and converging wave, Doppler shift. Electromagnetic radiation: microwave, infrared, visible and ultraviolet radiation, black body radiation laws, thermovision, diathermy, light intensity, corpuscular properties of EM radiation, photon energy and momentum. Practical skills: The student applies theoretical knowledge in practice. He undestands physical principle of processes within organs, which is helpful for understanding the nature of basic examinations. He defines membrane potential and its detection. He is able to describe the effects of visible light, infrared radiation, ultraviolet radiation, microwave radiation. He distinguishes biological rhythms and their clinical relevance. The student is able to operate with ultrasound machine, distinguish various type of detectors and their application in clinics, he gain knowledge about the assistance by USG biopsy and sampling.

Course contents:

1. The characteristics of the subject. The basic physical processes in organism. 2. Cell biophysics. 3. Locomotor apparatus of human, smooth and skeletal (striated) muscles. 4. Respiration. 5. Blood circulation. 6. Electric processes in organism. 7. Human senses. 8. Sight. 9. Hearing. 10. Enviromental biophysics. Biophysics of mechanical stimuli, heat, gravitation and magnetic field. 11. Biophysics of sound, ultrasound, infrasound, ultrasonography. 12. The effects of AC and DC current on organism, diathermy, thermovision. Laboratory exercises: 1. Introduction. (Lab rules, lab safety, groups creation, statistical evaluation of results, requirements for protocols, evaluation criteria) 2. Blood pressure measurement. Ruffier´s test. 3. Antropometric measurements. 4. Optics (Basic principles of imaging using lenses. Measurement of focus distances of converging lenses and optical density calculation. Measurement of magnifying glass magnification). 5. Skin resistance measurement. 6. Illuminance measurement 7. Investigation of diffusion. 8. Investigation of osmosis. 9. Measurement of skin surface temperature. Termovision. 10. Ultrasonography. 11. ECG measurement principle, heart electric axis. 12. Vital capacity of the lungs measurement

Recommended or required literature:

Podzimek, F. Rádiologická fyzika – Fyzika ionizujícího záření. 1. vyd. INFOPHARM, 2013. 335 s. ISBN 978-80-87727-05-8.
Podzimek, F. Rádiologická fyzika. Příklady a otázky. 1. vyd. INFOPHARM, 2012. 271 s. ISBN 978-80-87727-00-3.

Language of instruction:

Slovak language

Notes:

Course evaluation:

Assessed students in total: 105

A	B	C	D	E	FX
19.05	23.81	9.52	17.14	22.86	7.62

Name of lecturer(s): doc. MUDr. Otakar Kraft, Ph.D., Ing. Martin Bereta, PhD., prof. MUDr. Anton Lacko, CSc.

Last modification: 22.02.2023

Supervisor(s):

Person responsible for the delivery, development and quality of the study programme:

doc. MUDr. Pavol Dubinský, PhD.

COURSE INFORMATION SHEET

University: Catholic University in Ružomberok	
Faculty: Faculty of Health	
Course code: KRAT/54T1017W/22	**Course title:** Radiological Physics 2
Type and range of planned learning activities and teaching methods: **Form of instruction:** Lecture / Seminar **Recommended study range:** **hours weekly:** 3 / 2 **hours per semester:** 36 / 24 **Teaching method:** on-site	
Credits: 4	**Working load:** 100 hours
Recommended semester/trimester: 2.	
Level of study: I.	
Prerequisities: KRAT/54T1003W/22	
Requirements for passing the course: During semester: Written test, maximum 30 pts. Exercises - maximum 30 pts. Final evaluation: Written examination, maximum 40 pts. The student has to obtain 10 pts as minimum from each part of evaluation. The subject evaluation: A – 100 – 93 % B – 92 – 85 % C – 84 – 77 % D – 76 – 69 % E – 68 – 60 % FX – <60 %	
Learning outcomes of the course: Objective of the course: To understand physical principles of ionizing radiation origin, natural and artificial radioactivity. To know the characteristics of ionizing radiation, physical processes during interaction of ionizin radiation with a matter, the ionizing radiation sources used in diagnostics and therapy in radiology, nuclear medicine and radiotherapy. To gain knowledge about the risks of diagnostics and therapy with devices using ionizing radiation. The aim is to get to know the students with methods and physical principles of device equipment used in radiology, radiation oncology and nuclear medicine. These are mainly skiagraphy, skiascopy, computerized tomography, nuclear magnetic resonance, imaging methods in nuclear medicine, positron emission tomography, gamma knife, proton therapy. The student should knows the basic functions of radiologic devices, their operation, maintenence, service, to prepare students for the work with these devices in general. Theoretical knowledge: The student has a command in particular parts of atom and nuclear physics, but also quantum physics in the range necessary for an understanding the diagnostic and therapeutic methods using ionizing radiation: They define the atom composition, the natural and artificial radioactivity, the have knowledge of ionizing radiation influence on living matter. They have a command in X-ray principles, are able to explain the principle of CT machine. The student defines radionuclides, describe their generation, distinguishes radiation types, the use of radiation in diagnostics and	

therapy. They know the basic radiologic quantities. They have a command in radiation protection and dosimetry.
The student know the principles of radiologic devices, defines particular types of conventional radiologic diagnostic methods. They have a command in the nature of CT examination. The student is able to operate with CT machine, to assist during particular examinations. They understand the nature of nuclear magnetic resonance. They know the principle and nature of angiography (DSA). The basics of digital radiography with direct and indirect conversion. They have a command in HW and SW equipment of particular radiologic departments, archiving and sending examination data into information system. They have basic knowledge of the device equipment and methods of nuclear medicine. He knows the differences between SPECT and PET method.
Practical skills: They apply the theoretical knowledge in practice. They distinguish X-ray diagnostic devices. They are able to perform skiagraphy examinations in corresponding projections, to operate with angiographic, CT, MR devices and understand the commands of doctor instructions. They have a command in hardware and software in particular radiologic departments. They are able to operate with diagnostic equipment. The know the procedures of archiving and sending of image data in the information system. During working at the radiologic deparment, the student must be able to define the nature of X-rays, they are also able to define the ionizing radiation effects by diagnostic and therapeutic application of radionuclides, both open and closed emitters. They describe the principles of radiation protection and dosimetry. They have a command in radiologic quantities and their practical use.

Course contents:
1. The basics of atom and nuclear physics. The atome composition. The natural and artificial radioactivity.
2. The basics of quantum physics. Wave-corpuscular duality, wave function, probability density. Fotoelectric effect. Compton scattering, the origin and properties of x-rays.
3. The history and evolution of radiologic machines and methods. The physical principles of X-ray imaging systems. The division of methods in radiology. Skiascopy - devices, techniques and methods. Skiagraphy - devices, techniques and methods. The methods which use contrast media.
4. X-ray devices. X-ray diagnostic machines. The universal and single-purpose devices. The diagnostic equipment. The imaging parameters calculation.
5. CT principle - computed tomography, the data acquisition. The various procedures and differences of particular devices, the explanation of specific terms for computerized tomography and image processing. Indications of contrast media application in CT diagnosis of particular organ systems. Computerized tomography in planning of radiotherapy. Computerized tomography for punctures and cytology. The special invasive techniques in CT.
6. Magnetic resonance - the basic division of MRI methods, imaging with various magnetic fields, relaxing times and the other parameters of imaging. The diagnosis of systems and organs using magnetic resonance, mainly in the fields, where MRI is the method of choice. The use of marked molecules for contrast MRI. Whole-body MRI.
7. The therapeutic devices. Therapeutic equipment. High-energy radiation sources and their development. High-energy radiation devices. Radionuclides and ionizing radiation generators.
8. Intervention radiology, angiography and digital subtraction angiography (DSA).
9. Tomographic techniques, CT, HRCT, MRI.
10. The methods of nuclear medicine. Device equipment of NM department. The gamma camera, gamma camera types. SPECT and PET gamma cameras.
11. Non-imaging and imaging techniques. The principles of tetection, various types of devices, with a focus on the modertn trends. The data processing in functional diagnostics. The role of radiologic technician in functional diagnostics. The documentation and data management, results, outputs of examination.

12. The principles of brachytherapy. The measurement of radiologic quantities. Radiation protection and dosimetry.

Recommended or required literature:
Podzimek, F. Rádiologická fyzika – Fyzika ionizujícího záření. 1. vyd. INFOPHARM, 2013. 335 s. ISBN 978-80-87727-05-8.
Podzimek, F. Rádiologická fyzika. Příklady a otázky. 1. vyd. INFOPHARM, 2012. 271 s. ISBN 978-80-87727-00-3.

Language of instruction:
Slovak language

Notes:

Course evaluation:
Assessed students in total: 95

A	B	C	D	E	FX
46.32	13.68	13.68	8.42	16.84	1.05

Name of lecturer(s): doc. MUDr. Otakar Kraft, Ph.D., Ing. Martin Bereta, PhD.

Last modification: 22.02.2023

Supervisor(s):
Person responsible for the delivery, development and quality of the study programme:
doc. MUDr. Pavol Dubinský, PhD.

COURSE INFORMATION SHEET

University: Catholic University in Ružomberok	
Faculty: Faculty of Health	
Course code: KRAT/54T23S/22	**Course title:** Radiology
Type and range of planned learning activities and teaching methods: **Form of instruction:** **Recommended study range:** **hours weekly:** **hours per semester:** **Teaching method:** on-site	
Credits: 5	**Working load:** 125 hours
Recommended semester/trimester: 5., 6..	
Level of study: I.	
Prerequisities:	

Requirements for passing the course:

The student has successfully completed all study requirements for the bachelor study programme in radiologic technology (successfully completed the study programme's compulsory and optional courses, according to the student's decision following structure determined by the study programme) and obtained at least 152 credits. The student registers for the state exam via the academic information system and submits a signed application for the state exam and completed diary of clinical practice. Final evaluation: based on final points gained in state exam.

The subject evaluation:

A – 100 % - 93 %
B – 92 % - 85 %
C – 84 % - 77 %
D – 76 % - 69 %
E – 68 % - 60 %
FX – 59 % - 0 %

Learning outcomes of the course:

The course objective: The student shows the professional theoretical knowledge, which are necessary to perform work of qualified healthcare worker, gained during studying of study programme radiologic technician.

Theoretical knowledge: The student shows theoretical knowledge mainly from the key subjects of the study programme from the field of radiology and close subjects. They are able to define, describe and compare particular health and radiologic techniques and their relation to the radiologic imaging and radiotherapeutic procedurs. They understand the relevant terms and facts. They gain theoretical knowledge and apply them logically in the concrete field and are able to express in professional terminology.

Practical skills: The students have a command in the modern methods of work with patient in radiologic techniques and have practical skills, which are necessary to manage various situations during their future job. They are able to self-perform professional procedures, with respect to radiation protection rules when working with ionizing radiation sources.

Course contents:

The course contents is defined in the subject information sheets of the subjects Radiological physics 1,2, Radiobiology, Topographic anatomy 1,2, Radiology 1,2,3,4; Angiography and intervention radiology, Radiation protection, Nursing, The law and legislation. The principles of the radiation protection. The diagnostics of patients in case of the kidney diseases, bladder, urethra and prostate diseases. The diagnostics of patients in case of the spine, spinal cord, non-tumor and tumor diseases of brain. The diagnostics of patients in case of the esophagus, stomach, bile ducts, pancreas, liver, spleen, small and large intestine. The diagnostics of patients in case of large vessels diseases, lymphatic system and heart disease. The diagnostics of patients in case of the gynecologic diseases, breast diseases. The diagnosis in the case of bone traumas, limb tumor diseases. The diagnostics od the patients in case of the thyroid gland diseases, lung diseases, thorax, mediastinum and abdomen tumor diseases. The intervention methods using imaging methods. The contrast media in patient diagnostics. The technical equipment of radiology departments, conception of radiology.

Recommended or required literature:
The literature is listed in particular key subjects of the study programme (Radiological physics 1, 2, Radiobiology, Nuclear medicine 1,2,3, Clinical oncology, Radiation oncology 1,2,3, Radiation protection, Nursing, The law and legislation).

Language of instruction:
Slovak language

Notes:

Course evaluation:
Assessed students in total: 82

A	B	C	D	E	FX
58.54	29.27	4.88	4.88	2.44	0.0

Name of lecturer(s):

Last modification: 23.02.2023

Supervisor(s):
Person responsible for the delivery, development and quality of the study programme:
doc. MUDr. Pavol Dubinský, PhD.

COURSE INFORMATION SHEET

University: Catholic University in Ružomberok	
Faculty: Faculty of Health	
Course code: KRAT/54T1018W/22	**Course title:** Radiology 1
Type and range of planned learning activities and teaching methods: **Form of instruction:** Lecture / Seminar **Recommended study range:** **hours weekly:** 4 / 2 **hours per semester:** 48 / 24 **Teaching method:** on-site	
Credits: 4	**Working load:** 100 hours
Recommended semester/trimester: 2.	
Level of study: I.	
Prerequisities:	
Requirements for passing the course: During semester: Active participation in the lectures. The final evaluation: Oral examination. The subject evaluation: A – 100%-93% B – 92%-85% C – 84%-77% D – 76%-69% E – 68%-60% FX – 59%- 0%	
Learning outcomes of the course: The course objective: To get to know with the native skiagraphic and skiascopic techniques. To have a command of the field of native examination of soft tissues, thorax and skeleton, including special projections. The positioning and special projection in the case of trauma and acute conditions. Skiagraphy and skiascopy in the diagnosis of the thorax and abdomen. Theoretical knowledge: The student has a command of the expert terminology, skiagraphic anatomy of cranium, spine and limbs, skiagraphic anatomy of thorax and abdomen. They have command of the traumas of cranium, spine, limbs and thorax. They describe the radiodiagnostic symptomes of inflammatory and traumatic changes in the thorax, symptoms of acute abdomen and native changes in the images, like calcificates, contrast concrements, cavities with hydoraeric phenomenon and foreign body. The student has a command of the profile phenomenons in examination of cavities and tubular structures. Practical skills: The student applies the theoretical knowledge in clinical practice.They perform skiagraphic examinations of thorax, abdomen and skeleton in corresponding projections. They have command of the HW and SW at the skiagraphic department, archive and upload images into information system.	
Course contents:	

1. The subject characteristics, the properties and characteristics of X-ray radiation.
2.The origin of X-ray image, skiascopy, skiagraphy, the geometry of X-ray image.
3. Direct and indirect analog techniques, digital techniques.
4. Radiation absorption. The native contrast.
5. The contrast media in radiology.
6. Radiologic anatomy of bone.
7. Skiagraphy in the diagnosis of limb bones trauma and disease.
8. Skiagraphy in the diagnosis of spinal and pelvic trauma and disease.
9. Skiagraphy in the diagnosis of cranium trauma and disease.
10. Skiagraphy and skiascopy of thorax and mediastinum.
11. Special skiagraphic projections.
12. Written test

Recommended or required literature:

1. HEŘMAN, M., et al. 2014. Základy rádiológie, Olomouc, UP 2014, 320s., ISBN 9788024429014.
2. SEIDL, Z., et al. 2012. Rádiológie pro studium i praxi. Praha, Grada, 2012, 372s. ISBN 9788024741086.
3. ZACHAR L., et al. 2019. Hodnotenie vybraných parametrov kvality v projekčnej rádiografii, Ružomberok, VERBUM, 2019, 92s., ISBN 978-80-561-0726-3

Language of instruction:
Slovak language

Notes:

Course evaluation:
Assessed students in total: 97

A	B	C	D	E	FX
9.28	24.74	28.87	24.74	11.34	1.03

Name of lecturer(s): doc. MUDr. Pavol Dubinský, PhD., MUDr. Ján Kodaj, MUDr. Martin Kováč

Last modification: 23.02.2023

Supervisor(s):
Person responsible for the delivery, development and quality of the study programme:
doc. MUDr. Pavol Dubinský, PhD.

COURSE INFORMATION SHEET

University: Catholic University in Ružomberok	
Faculty: Faculty of Health	
Course code: KRAT/54T1026W/22	**Course title:** Radiology 2
Type and range of planned learning activities and teaching methods: **Form of instruction:** Lecture / Seminar **Recommended study range:** **hours weekly:** 4 / 2 **hours per semester:** 48 / 24 **Teaching method:** on-site	
Credits: 5	**Working load:** 125 hours
Recommended semester/trimester: 3.	
Level of study: I.	
Prerequisities: KRAT/54T1018W/22	
Requirements for passing the course: During semester: Active participation in the lectures. Final evaluation: Written test before oral exam. To proceed to oral exam, the student has to gain 60% from the test. The course is taught only in winter semester and is evaluated in the corresponding examination period of winter semester of the academic year. The subject evaluation: A – 100%-93% B – 92%-85% C – 84%-77% D – 76%-69% E – 68%-60% FX – 59%- 0%	
Learning outcomes of the course: The course objective: To get to know with the methods of digitization and the use of X-ray digital image. The basics and principles of CT imaging techniques. The basics and principles of USG imaging techniques. The basics and principles of MR imaging techniques. The PET imaging. To get to know with the basic examinations of gastrointestinal system, liver, spleen, bile ducts and pancreas and in the diseases of kidneys and urinary tracts. To get to know with the basic neurologic diagnostics. Theoretical knowledge: The student has a command of the expert terminology. They have a command of the CT, USG and MR imaging techniques for the gastrointestinal system, liver, bile ducts, pancreas, kidneys and urinary tracts. They have a command of the basic diagnoses of the mentioned organs and in the cases of lung and mediastinum diseases. They have command of the X ray anatomy of mentioned organs. The student knows the benefits of particular examinations, gets to know with the diagnostic procedure and is able to determine the algorithm of examination at concrete diagnosis. Practical skills: The student applies theoretical knowledge in clinical practice. He assists in the CT, USG and MR examination of abdomen, parenchymatic organs, lungs, mediastinum and heart. They have	

command of the HW and SW of the corresponding department, archive and upload examination data in information system.

Course contents:

1. Subtraction and digital subtraction, digital processing of X-ray image.
2. CT examination principle, types of CT images, CT protocols.
3. MR examination principles, types of MR images, MR protocols and sequences.
4. USG examination principles, types of USG images.
5. The skiagraphic native and contrast methods of gastrointestinal system examination.
6. The diseases, diagnostics and algorithm of gastrointestinal system, gallbladder and bile ducts examination.
7. The diseases, diagnostics and algorithm of liver, spleen and pancreas examination.
8.The diseases, diagnostics and algorithm of kidneys and urinary tracts examination.
9. The diseases, diagnostics and algorithm in gynecology and obstetrics examination.
10. The diseases, diagnostics and algorithm lungs and mediastinum examination.
11. The diseases, diagnostics and algorithm of heart examination.
12. Written test.

Recommended or required literature:

HEŘMAN, M., et al. 2014. Základy rádiológie, Olomouc, UP 2014, 320s., ISBN 9788024429014.
2. SEIDL, Z., et al. 2012. Rádiológie pro studium i praxi. Praha, Grada, 2012, 372s. ISBN 9788024741086.
3. ZACHAR L., et al. 2019. Hodnotenie vybraných parametrov kvality v projekčnej rádiografii, Ružomberok, VERBUM, 2019, 92s., ISBN 978-80-561-0726-3

Language of instruction:

Slovak language

Notes:

Course evaluation:

Assessed students in total: 94

A	B	C	D	E	FX
28.72	19.15	15.96	15.96	19.15	1.06

Name of lecturer(s): MUDr. Terézia Vrabeľová, doc. MUDr. Pavol Dubinský, PhD.

Last modification: 22.02.2023

Supervisor(s):

Person responsible for the delivery, development and quality of the study programme:

doc. MUDr. Pavol Dubinský, PhD.

COURSE INFORMATION SHEET

University: Catholic University in Ružomberok	
Faculty: Faculty of Health	
Course code: KRAT/54T1033W/22	**Course title:** Radiology 3
Type and range of planned learning activities and teaching methods: **Form of instruction:** Lecture / Seminar **Recommended study range:** **hours weekly:** 4 / 2 **hours per semester:** 48 / 24 **Teaching method:** on-site	
Credits: 4	**Working load:** 100 hours
Recommended semester/trimester: 4.	
Level of study: I.	
Prerequisities: KRAT/54T1026W/22	
Requirements for passing the course: During semester: Active participation in the lectures. Final evaluation: Written test before oral exam. To proceed to oral exam, the student has to gain 60% from the test. The course is taught only in summer semester and is evaluated in the corresponding examination period of summer semester of the academic year. The subject evaluation: A – 100%-93% B – 92%-85% C – 84%-77% D – 76%-69% E – 68%-60% FX – 59%- 0%	
Learning outcomes of the course: The course objective: to get to know with the most common disease in neurology, ORL, oncology and angiology. The basics, technique a and principles of application of particular radiodiagnostic methods for these diseases. Theoretical knowledge: The student has a command in the expert terminolody. They have command of the CT, USG and MR imaging techniques for brain, spine, spinal cord, neck. They know the corresponding X-ray anatomy. They know the anatomy and patophysiology of blood vesssels. The student knows the benefits of particular examinations, gets to know the diagnostic procedure, and is able to self-state the procedure algorithm in a concrete diagnosis. Practical skills: The student applies theoretical knowledge in clinical practice. They assist by CT, USG and MR examinations of brain, spinal cord, spine, neck and middle ear. They have command of anatomy and pathophysiology of blood vessels. They have a command of the mammography and following special examinations. They have command of HW and SW of corresponding departments and send examination data to information system.	
Course contents: 1. The diseases, diagnostics and algorithm for examination of brain diseases and trauma . 2. The diseases, diagnostics and algorithm for examination of spine and spinal cord diseases and trauma. 3. The diseases, diagnostics and algorithm for examination of cranium and neck diseases and trauma. 4. The diseases, diagnostics and algorithm for examination in the ORL and ophthalmology. 5.The diseases, diagnostics and algorithm for examination of limb vessels.	

6. The diseases, diagnostics and algorithm for examination of aorta and large veins.
7. The diseases, diagnostics and algorithm for examination of coronary vessels.
8. The diseases, diagnostics and algorithm for examination of brain vessels.
9. The diseases, diagnostics and algorithm for examination of vein and lymphatic system.
10. Radiodiagnostics of the soft tissues, mammography, galactography.
11. Radiodiagnostics in the special conditions - fistulography, sialography, etc.
12. Written test.

Recommended or required literature:

1. HEŘMAN, M., et al. 2014. Základy rádiológie, Olomouc, UP 2014, 320s., ISBN 9788024429014.
2. SEIDL, Z., et al. 2012. Rádiológie pro studium i praxi. Praha, Grada, 2012, 372s. ISBN 9788024741086.
3. ZACHAR L., et al. 2019. Hodnotenie vybraných parametrov kvality v projekčnej rádiografii, Ružomberok, VERBUM, 2019, 92s., ISBN 978-80-561-0726-3

Language of instruction:
Slovak languge

Notes:

Course evaluation:
Assessed students in total: 94

A	B	C	D	E	FX
22.34	40.43	31.91	3.19	1.06	1.06

Name of lecturer(s): doc. MUDr. Pavol Dubinský, PhD., MUDr. Libor Danihel, PhD.

Last modification: 22.02.2023

Supervisor(s):
Person responsible for the delivery, development and quality of the study programme:
doc. MUDr. Pavol Dubinský, PhD.

COURSE INFORMATION SHEET

University: Catholic University in Ružomberok	
Faculty: Faculty of Health	
Course code: KRAT/54T1041W/22	**Course title:** Radiology 4
Type and range of planned learning activities and teaching methods: **Form of instruction:** Lecture / Seminar **Recommended study range:** **hours weekly:** 4 / 2 **hours per semester:** 48 / 24 **Teaching method:** on-site	
Credits: 4	**Working load:** 100 hours
Recommended semester/trimester: 5.	
Level of study: I.	
Prerequisities: KRAT/54T1033W/22	
Requirements for passing the course: During semester: Active participation in the lectures. Final evaluation: Oral exam. The course is taught only in the winter semester and is evaluated in the corresponding examination period of the winter semester of the academic year. The subject evaluation: A – 100%-93% B – 92%-85% C – 84%-77% D – 76%-69% E – 68%-60% FX – 59%- 0%	
Learning outcomes of the course: The course objective: To get to know the special conditions in the case of high-demanding radiodiagnostic and intervention procedures. To get to know with the possible complications during examination and operation and the solution in these situations. Pre- and post-procedure patient care. Telemedicine. Discussions and preparation of the bachelor thesis. Theoretical knowledge: The student has a command of special conditions of the work in polytraumatic, pediatric and oncologic patient. The student is able to work with the professional literature, actively search relevant literature and works, is familiar in the field of chosen thesis topic and literature as well. Practical skills: The student works independently in all the diagnostic and radiological intervention processes. They are able to independently work in complicated polytrauma procedures, with pediatric and oncological patients.	
Course contents: 1. The radiodiagnostic specifics of trauma and polytrauma. 2. The radiodiagnostic specifics of pediatric patients. 3. The radiodiagnostic specifics of oncologic patients.	

4. The specific procedure in patient preparation for contrast medium application and intervention act.
5. Post-intervention patient care.
6. Telemedicine, the perspectives of the development in this field.
7. The discussion on the bachelor theses writing.
8. The preparation for the final state exam.
9. The preparation for the final state exam.

Recommended or required literature:

1. HEŘMAN, M., et al. 2014. Základy rádiológie, Olomouc, UP 2014, 320s., ISBN 9788024429014.
2. SEIDL, Z., et al. 2012. Rádiológie pro studium i praxi. Praha, Grada, 2012, 372s. ISBN 9788024741086.
3. ZACHAR L., et al. 2019. Hodnotenie vybraných parametrov kvality v projekčnej rádiografii, Ružomberok, VERBUM, 2019, 92s., ISBN 978-80-561-0726-3

Language of instruction:
Slovak language

Notes:

Course evaluation:
Assessed students in total: 86

A	B	C	D	E	FX
29.07	34.88	31.4	2.33	1.16	1.16

Name of lecturer(s): MUDr. Ján Kodaj, MUDr. Martin Kováč, prof. MUDr. Anton Lacko, CSc.

Last modification: 22.02.2023

Supervisor(s):
Person responsible for the delivery, development and quality of the study programme:
doc. MUDr. Pavol Dubinský, PhD.

COURSE INFORMATION SHEET

University: Catholic University in Ružomberok	
Faculty: Faculty of Health	
Course code: KRAT/54T1037W/22	**Course title:** Research in Healthcare
Type and range of planned learning activities and teaching methods: **Form of instruction:** Lecture / Seminar **Recommended study range:** **hours weekly:** 1 / 1 **hours per semester:** 12 / 12 **Teaching method:** on-site	
Credits: 1	**Working load:** 25 hours
Recommended semester/trimester: 4.	
Level of study: I.	
Prerequisities:	

Requirements for passing the course:

Active participation in exercises. The student takes control tests during the semester. The test will focus on the issues that were covered in the last exercises. To successfully pass the control test, it is necessary for the student to achieve a minimum of 6 points from a maximum of 10 points. The result of the control test will be announced to the student after the end of the exercises or one day before the start of next exercises. If the student gets less than 6 points, he/she is evaluated Fx. If a student obtains two times Fx from control tests during the semester, he/she will not be admitted to the final exam due to the theoretical failure of the subject. The results of control tests will be part of the final overall evaluation of the student.

During the semester, each student prepares a semester work on a predetermined topic, which he is obliged to submit according to the instructions of the teacher.

After the end of the semester and the fulfillment of all conditions given by the teacher, each student passes a final written examination, which is aimed to verify the theoretical knowledge acquired during the semester. To successfully complete the final written examination, the student must obtain at least 80% of points.

The overall evaluation of the student will consist of the evaluation of control tests, evaluation of the semester work, evaluation of the final written examination and evaluation of the activity in the exercises. The teacher has the right to change the written examination to oral, which he must inform in advance. The student has the right to correction term in accordance with the study regulations of Faculty of Health, CU Ružomberok.

Learning outcomes of the course:

Objective of the course - aims of the course unit: to acquire basic knowledge about research, research methods - quantitative and qualitative. Master the stages of research and be able to publish research results.

Theoretical knowledge: to master the theory of research in emergency health care, basic terminology in research, ethics in research, basics of qualitative and quantitative research, stages and phases of research, research methodology, principles of presentation of research results.

Practical skills: to master the application of ethical and legal aspects in research work, to prepare the final thesis, compile a research on the topic of semester and final work, critically assess own and acquired documents, to present the methodology of own work, to compile individual research methods of data collection (questionnaire, survey, interview, case study, observation, document

analysis), prepare the obtained data for statistical evaluation, process the results of the final work, prepare a presentation and present the final work, research results.

Course contents:

1. Research theory, research process and its stages - conceptual phase of research - definition of research problem
2. Research process and its stages - conceptual phase of research - overview of sources, theoretical framework, hypotheses
3. Work with literature, research sources and databases
4. Research process and its stages - design and planning phase - empirical phase
5. Research process and its stages - analytical phase - dissemination phase
6. Methods of empirical data collection - questionnaire, observation, experiment, Case Study / case study
7. Measurement and measuring tools
8. Statistical methods - deductive statistics
9. Statistical research methods - inductive statistics
10. Qualitative research
11. Publication of results and their presentation
12. Final thesis - Rector's directive KU no. č. VP-KU-35

Recommended or required literature:

1. HANÁČEK, J, JAVORKA, K. Vedecká príprava. Martin: Osveta, 2010. 220 p.
2. HOVORKA, D. a kol. Ako písať a komunikovať. Martin: Osveta, 2011. 247 p.
3. KATUŠČÁK, D. Ako písať vysokoškolské a kvalifikačné práce. Nitra: Enigma, 2009. 162 p.
4. KEITH F. PUNCH. Základy kvantitativního šetření. Praha: Portál, 2008. 152 p.
5. LAJČIAKOVÁ, P. Ako spracovať výskum. Ružomberok: Verbum, 2010. 180 p.
6. MEŠKO, D., KATUŠČÁK, D., FINDRA, J. a kol. Akademická príručka. Martin: Osveta, 2005. 496 p.
7. SILVERMAN, D. Ako robiť kvalitatívny výskum. Bratislava: Ikar, 2005. 327 p.
8. Smernica dekana FZ o ukončení štúdia
9. Smernica rektora KU č. č. VP-KU-35
10. STAROŇOVÁ, K. Vedecké písance. Martin: Osveta, 2011. 246 p.

Language of instruction:

Slovak

Notes:

Course evaluation:

Assessed students in total: 63

A	B	C	D	E	FX
3.17	11.11	25.4	39.68	20.63	0.0

Name of lecturer(s): PhDr. Bc. Marek Šichman, PhD., MPH, MBA, DPH, DSc.

Last modification: 28.01.2023

Supervisor(s):

Person responsible for the delivery, development and quality of the study programme:

doc. MUDr. Pavol Dubinský, PhD.

COURSE INFORMATION SHEET

University: Catholic University in Ružomberok

Faculty: Faculty of Health

Course code: KRAT/54T2001Y/22	**Course title:** Slovenský jazyk 1

Type and range of planned learning activities and teaching methods:
Form of instruction: Seminar
Recommended study range:
hours weekly: 2 **hours per semester:** 24
Teaching method: on-site

Credits: 1	**Working load:** 25 hours

Recommended semester/trimester: 1.

Level of study: I.

Prerequisities:

Requirements for passing the course:

Learning outcomes of the course:

Course contents:

Recommended or required literature:

Language of instruction:

Notes:

Course evaluation:
Assessed students in total: 2

A	B	C	D	E	FX
0.0	50.0	0.0	0.0	0.0	50.0

Name of lecturer(s): Mgr. Lucia Kravčáková

Last modification: 22.02.2023

Supervisor(s):
Person responsible for the delivery, development and quality of the study programme:
doc. MUDr. Pavol Dubinský, PhD.

COURSE INFORMATION SHEET

University: Catholic University in Ružomberok

Faculty: Faculty of Health

Course code: KRAT/54T2002Y/22	**Course title:** Slovenský jazyk 2

Type and range of planned learning activities and teaching methods:
Form of instruction: Seminar
Recommended study range:
hours weekly: 2 **hours per semester:** 24
Teaching method: on-site

Credits: 1	**Working load:** 25 hours

Recommended semester/trimester: 2.

Level of study: I.

Prerequisities: KRAT/54T2001Y/22

Requirements for passing the course:

Learning outcomes of the course:

Course contents:

Recommended or required literature:

Language of instruction:

Notes:

Course evaluation:
Assessed students in total: 1

A	B	C	D	E	FX
100.0	0.0	0.0	0.0	0.0	0.0

Name of lecturer(s): Mgr. Lucia Kravčáková

Last modification: 22.02.2023

Supervisor(s):
Person responsible for the delivery, development and quality of the study programme:
doc. MUDr. Pavol Dubinský, PhD.

COURSE INFORMATION SHEET

University: Catholic University in Ružomberok	
Faculty: Faculty of Health	
Course code: KRAT/54T1016W/22	**Course title:** Surgery and Traumatology 1
Type and range of planned learning activities and teaching methods: **Form of instruction:** Lecture / Seminar **Recommended study range:** **hours weekly:** 3 / 1 **hours per semester:** 36 / 12 **Teaching method:** on-site	
Credits: 3	**Working load:** 75 hours
Recommended semester/trimester: 2.	
Level of study: I.	
Prerequisities: KRAT/54T1001W/22	

Requirements for passing the course:

During semester: Active participation in the lectures. There will be two written tests during semeter. To attend the final exam, the student musts gain at least 60% of each test during semester.
The final evaluation will be based on the final test, the minimum 60% for passing it. The successful passing of final test is necessary condition for participation in final oral exam.
The subject evaluation:
A – 100 % - 91 %
B – 92 % - 85 %
C – 84 % - 77 %
D – 76 % - 69 %
E – 68 % - 60 %
FX – 59 % - 0 %

Learning outcomes of the course:

The course objective: to show the knowledge of general and special surgery and specialized surgery fields, to characterize special diagnostic procedures and basic principles of surgical therapy of adults, children in acute and planned surgery, lists devices used in surgery and describes their function.
Theoretical knowledge: based on the theoretical knowledge, the student identify diseases and sudden health disorders also of traumatic origin, analyzes of symptomes, sythesizes diagnostic conclusion and evaluate the need of surgical treatment. The student is able to explain the nature and cause of disease and also logical therapeutic procedure in the particular diseases. The student has a command of health status information, patient examination, evalute the serioussness of patient state in hospital care.
Practical skills: The student apply the theoretical knowledge in practice, which are based of the nursing practice and urgent health care. They are able to evaluate the seriuosness of patient state and to manage the patient transfer to the specialized department.

Course contents:

1. The characteristics of the field, history, the interdisciplinary position.
2. The basics of the surgical propaedeutics.
3. The preparation before surgery.

4. The basics of surgery technique.
5. The sepsis and antisepsis in surgery. Anaesthesia.
6. The infections in the surgery - inflammations in general, general symptomes.
7. The anaerobic infections, the surgical treatment of inflammations.
8. The general basics of injuries.
9. The bandaging technique.
10. The head surgery.
11. The neck surgery - thyroid gland, parathyroid glands, surgical therapy.
12. Sudden events and shock states in surgery.

Recommended or required literature:

1. Haruštiak, S. editor. Princípy chirurgie II. Bratislava : SAP, 2010.
2. Pafko, P. - Kabát J. - Janík V. Náhlé příhody břišní. Praha : Grada, 2006.
3. Pafko, P. Základy speciální chirurgie. Praha : Galén, Karolinum, 2008.
4. Siman, J. editor. Princípy chirurgie. Bratislava : SAP, 2007.
5. Zeman, M. - Krška Z. et al. Chirurgická propedeutika. Praha : Grada Publishing, 2011.

Language of instruction:
Slovak language

Notes:

Course evaluation:
Assessed students in total: 89

A	B	C	D	E	FX
34.83	23.6	20.22	11.24	8.99	1.12

Name of lecturer(s): MUDr. Viliam Kubas, PhD.

Last modification: 22.02.2023

Supervisor(s):
Person responsible for the delivery, development and quality of the study programme:
doc. MUDr. Pavol Dubinský, PhD.

COURSE INFORMATION SHEET

University: Catholic University in Ružomberok	
Faculty: Faculty of Health	
Course code: KRAT/54T1024W/22	**Course title:** Surgery and Traumatology 2
Type and range of planned learning activities and teaching methods: **Form of instruction:** Lecture / Seminar **Recommended study range:** **hours weekly:** 3 / 1 **hours per semester:** 36 / 12 **Teaching method:** on-site	
Credits: 3	**Working load:** 75 hours
Recommended semester/trimester: 3.	
Level of study: I.	
Prerequisities: KRAT/54T1016W/22	

Requirements for passing the course:

During semester: Active participation in the lectures. There will be two written tests during semeter. To attend the final exam, the student musts gain at least 60% of each test during semester.
The final evaluation will be based on the final test, the minimum 60% for passing it. The successful passing of final test is necessary condition for participation in final oral exam.
The subject evaluation:
A – 100 % - 91 %
B – 92 % - 85 %
C – 84 % - 77 %
D – 76 % - 69 %
E – 68 % - 60 %
FX – 59 % - 0 %

Learning outcomes of the course:

The course objective: to show the knowledge of general and special surgery and specialized surgery fields, to characterize special diagnostic procedures and basic principles of surgical therapy of adults, children in acute and planned surgery, lists devices used in surgery and describes their function.
Theoretical knowledge: based on the theoretical knowledge, the student identify diseases and sudden health disorders also of traumatic origin, analyzes of symptomes, sythesizes diagnostic conclusion and evaluate the need of surgical treatment. The student is able to explain the nature and cause of disease and also logical therapeutic procedure in the particular diseases. The student has a command of health status information, patient examination, evalute the serioussness of patient state in hospital care.
Practical skills: The student apply the theoretical knowledge in practice, which are based of the nursing practice and urgent health care. They are able to evaluate the seriuosness of patient state and to manage the patient transfer to the specialized department.

Course contents:

1. The thorax surgery - rib and sternum fractures, fixations.
2. The thorax surgery - hemothorax, pneumothorax, drainage. Cardiosurgery.

3. The abdominal surgery and gastrointestinal tract surgery - acute abdomen - diagnostics, therapy, inflammatory acute abdomen.
4. The abdominal surgery and gastrointestinal tract surgery - inpenetrability of intestine, blooding into gastrointestinal tract, diagnostics and surgical therapy.
5. The spinal surgery - traumas, the surgical therapy.
6. The surgery of the limbs - traumas of limbs, crush sy., blast sy., compartment sy.
7. The surgery of the limbs - injuries of blood vessels, diseases of the peripheral vessels, vascular changes in diabetic patients, diabetic foot.
8. The basics of neurosurgery, injury of the cranium and brain, brain tumors, stereotactic neurosurgery.
9. Traumatology - associated injuries, polytrauma, sorting, displacement.
10. Orthopaedics - congenital and acquired disease states of locomotor apparatus, inflammations and tumors of locomotor apparatus, degenerative changes - surgical treatment.
11. Urology - urologic acute abdomen. Gerontosurgery.
12. Pediatric surgery - congenital states, surgical therapy. Rehabilitation in surgery.

Recommended or required literature:

1. Haruštiak, S. editor. Princípy chirurgie II. Bratislava : SAP, 2010.
2. Pafko, P. - Kabát J. - Janík V. Náhlé příhody břišní. Praha : Grada, 2006.
3. Pafko, P. Základy speciální chirurgie. Praha : Galén, Karolinum, 2008.
4. Siman, J. editor. Princípy chirurgie. Bratislava : SAP, 2007.
5. Zeman, M. - Krška Z. et al. Chirurgická propedeutika. Praha : Grada Publishing, 2011.

Language of instruction:
Slovak language

Notes:

Course evaluation:
Assessed students in total: 95

A	B	C	D	E	FX
26.32	23.16	29.47	6.32	14.74	0.0

Name of lecturer(s): MUDr. Viliam Kubas, PhD.

Last modification: 22.02.2023

Supervisor(s):
Person responsible for the delivery, development and quality of the study programme:
doc. MUDr. Pavol Dubinský, PhD.

COURSE INFORMATION SHEET

University: Catholic University in Ružomberok

Faculty: Faculty of Health

Course code: KRAT/54T1056W/22	**Course title:** Technical Equipment in Medicine

Type and range of planned learning activities and teaching methods:
Form of instruction: Lecture / Seminar
Recommended study range:
hours weekly: 2 / 2 **hours per semester:** 24 / 24
Teaching method: on-site

Credits: 4	**Working load:** 100 hours

Recommended semester/trimester: 3.

Level of study: I.

Prerequisities:

Requirements for passing the course:

Learning outcomes of the course:

Course contents:

Recommended or required literature:

Language of instruction:

Notes:

Course evaluation:
Assessed students in total: 94

A	B	C	D	E	FX
100.0	0.0	0.0	0.0	0.0	0.0

Name of lecturer(s): doc. MUDr. Otakar Kraft, Ph.D., Ing. Martin Bereta, PhD., prof. MUDr. Anton Lacko, CSc.

Last modification: 23.02.2023

Supervisor(s):
Person responsible for the delivery, development and quality of the study programme:
doc. MUDr. Pavol Dubinský, PhD.

COURSE INFORMATION SHEET

University: Catholic University in Ružomberok	
Faculty: Faculty of Health	
Course code: DEKZ/54Z2003W/22	**Course title:** The Basic Theme of the Bible
Type and range of planned learning activities and teaching methods: **Form of instruction:** Lecture / Seminar **Recommended study range:** **hours weekly:** 2 / 0 **hours per semester:** 24 / 0 **Teaching method:** on-site	
Credits: 2	**Working load:** 50 hours
Recommended semester/trimester: 3.	
Level of study: I.	
Prerequisities: DEKZ/54Z2002W/22	
Requirements for passing the course: a) active participation of the student in classes b) final assessment: written exam - electronic test (60-100%). The final assessment of the subject corresponds to the verbal assessment: Passed/Not passed. Credits will be awarded to a student who obtained at least 60 out of 100% from the subject for fulfilling the specified conditions.	
Learning outcomes of the course: • Knowledge: The student knows the basic literary-historical character of the Bible and can reproduce the basic elements of the message of individual books. • Skills: The student is able to read a biblical text with understanding and, on that basis, engage in religious discourse. • Competences: The student combines individual biblical ideas and, based on them, can understand the basic thought vectors of Western culture.	
Course contents: The Bible - its literary character, basic content lines. The text of the Bible in its genetic and communicative character; hermeneutic starting points. Geographical and historical-cultural context of the Bible. The message of the Old Testament books, literary, historical-theological hermeneutic prerequisites for reading their text with understanding. The person of Jesus Christ as the center of the books of the New Testament. The message of the New Testament books; literary and historical-theological hermeneutic prerequisites for reading their text with understanding.	

Recommended or required literature:

1. BIBLIA: Starý a Nový zákon. 2016. Trnava: Spolok Sv. Vojtecha, 2016, 3359 s. ISBN 978-80-8161-220-6.
2. HERIBAN, J. 2020. Sväté písmo: Nový zákon / úvod k jednotlivým spisom a poznámky. Trnava: Spolok Sv. Vojtecha, 2020, 776 s. ISBN 978-80-8161-435-4.
3. LENOX, J. C. 2021. Sedem dní, ktoré rozdeľujú svet: vznik vesmíru podľa Genezis a modernej vedy. Bratislava: Postoj Media, 2021, 215 s. ISBN 978-80-89994-34-2.
4. MACKERLE, A. 2014. Než budete číst Bibli podruhé: vybraná témata o Bibli. České Budějovice: Jihočeská univerzita v Českých Budějovicích, 2014, 232 s. ISBN 978-80-7394-450-6.
5. TRSTENSKÝ, F. 2019. Rozprávaj mi o Biblii. Ružomberok: Verbum, 2019, 88 s. ISBN 978-80-8970-138-4.
6. TRSTENSKÝ, F. 2020. Štyri evanjeliá, jeden Kristus. Kežmarok: GG Kežmarok, 2020, 103 s. ISBN 978-80-89701-45-2.

Language of instruction:

Slovak Language

Notes:

The lectures should take into account the evangelistic nature of the chosen topics.

Course evaluation:

Assessed students in total: 127

ABSOL	NEABS
97.64	2.36

Name of lecturer(s): doc. PhDr. Mgr. Vladimír Littva, PhD., MPH, PaedDr. Martin Pinkoš

Last modification: 11.09.2022

Supervisor(s):

Person responsible for the delivery, development and quality of the study programme:

doc. MUDr. Pavol Dubinský, PhD.

COURSE INFORMATION SHEET

University: Catholic University in Ružomberok	
Faculty: Faculty of Health	
Course code: DEKZ/54Z2002W/22	**Course title:** The Basic Theme of the Theology
Type and range of planned learning activities and teaching methods: **Form of instruction:** Lecture / Seminar **Recommended study range:** **hours weekly:** 2 / 0 **hours per semester:** 24 / 0 **Teaching method:** on-site	
Credits: 2	**Working load:** 50 hours
Recommended semester/trimester: 2.	
Level of study: I.	
Prerequisities:	
Requirements for passing the course: a) active participation of the student in classes b) final assessment: written exam - electronic test (60-100%). The final assessment of the subject corresponds to the verbal assessment: Passed/Not passed. Credits will be awarded to a student who obtained at least 60 out of 100% from the subject for fulfilling the specified conditions.	
Learning outcomes of the course: • Knowledge: The student will acquire basic knowledge about the religious phenomenon and will know the basic attributes of Christianity in the context of other religions. • Skills: The student can distinguish the specifics of Christian identity and apply them in cultural, ecumenical and interreligious dialogue. • Competences: The student can independently reflect on the essential features and truths of Christianity and communicate them.	
Course contents: The importance of religion in the life of an individual - a person is capable of faith. Religion and the meaning of life, the role of religion in shaping critical thinking. Christianity in the context of other religions (interreligious dialogue). Christianity, its origin and the person of the founder. Basic truths of Christianity and the Catholic faith (ecumenical dialogue). Jesus Christ, the only Savior of mankind.	

Recommended or required literature:

1. Katechizmus Katolíckej cirkvi. 2007. Trnava: Spolok sv. Vojtecha, 2007, 918 s. ISBN 978-80-7162-657-2.
2. EGGER, P. 2020. Svetové náboženstvá z kresťanského pohľadu. Nitra: Gorazd, 2020, 143 s. ISBN 978-80-89481-54-5.
3. FUNDA, O.A. 2017. K filozofii náboženství. Praha: Karolinum, 2017, 103 s. ISBN 978-80-246-3748-8.
4. HRABOVECKÝ, P. 2020. Základy fundamentálnej teológie a religionistiky. Ružomberok: Verbum, 2020, 151 s. ISBN 978-80-561-0760-7.
5. SARKA, R. 2010. Teológia náboženstiev kontexte minulosti a súčasnosti. Ružomberok: Verbum 2010, 180 s. ISBN 978-80-8084-578-0.
6. WALDENFELS H. 1999. Fenomén křesťanství. Křesťanská univerzalita v pluralite náboženství. Praha: Vyšehrad, 1999, 144 s. ISBN 80-7021-329-9.
7. RATZINGER, J. 2007. Úvod do kresťanstva. Trnava: Dobrá Kniha, 2007, 305 s. ISBN 978-80-7141-562-6.

Language of instruction:
Slovak language

Notes:

Course evaluation:
Assessed students in total: 153

ABSOL	NEABS
96.08	3.92

Name of lecturer(s): doc. PhDr. Mgr. Vladimír Littva, PhD., MPH, PaedDr. Martin Pinkoš

Last modification: 11.09.2022

Supervisor(s):
Person responsible for the delivery, development and quality of the study programme:
doc. MUDr. Pavol Dubinský, PhD.

COURSE INFORMATION SHEET

University: Catholic University in Ružomberok	
Faculty: Faculty of Health	
Course code: KRAT/54T1012W/22	**Course title:** Topographic Anatomy 1
Type and range of planned learning activities and teaching methods: **Form of instruction:** Lecture / Seminar **Recommended study range:** **hours weekly:** 3 / 1 **hours per semester:** 36 / 12 **Teaching method:** on-site	
Credits: 3	**Working load:** 75 hours
Recommended semester/trimester: 2.	
Level of study: I.	
Prerequisities: KRAT/54T1001W/22	
Requirements for passing the course: During the semester: active participation in presentations. After completing the presentations, a written examination. To participate in the exam, it is necessary to obtain 6 points from the 10-point test. Final evaluation Course evaluation A – 100%-93% B – 92%-85% C – 84%-77% D – 76%-69% E – 68%-60% FX – 59%- 0%	
Learning outcomes of the course: To expand the knowledge acquired in the previous study of the subject of anatomy and physiology. To know landmarks and lines on the surface of the body, relationships of organs to the skeleton (skeletotopia) and mutual relations neighboring organs (syntopy). To Get to be acquainted with methods in topography. To master topographic division of the human body. Be able to apply the acquired knowledge in radiological disciplines, specially in radiodiagnostics. Theoretical knowledge: Based on his knowledge of systematic anatomy, the student will master the synthopic relations of organs in individual regions of the human body and this will allow him to understand the topographic relationships of the skiagraphic and sciascopic projections and in postprocessing econstructions during CT and MR examinations Practical skills: The student will be able to continue further based on the knowledge of topographic anatomy a study where he will be acquainted with the performance of sciascopic and sciagraphic projections and postprocessing reconstructions on CT and MR examinations	
Course contents: 1. Introduction - subject and meaning of topographic anatomy. 2. Skeletotopy, syntopy, surface projection. 3. Landmarks and lines. 4. Working methods in topographic anatomy.	

5. Topographic division of the human body.
6. Topographic anatomy of the head. Topographic anatomy of the neck.
7. Topographic anatomy of the chest.
8. Topographic anatomy of the abdomen.
9. Topographic anatomy of the pelvis.
10. Topographic anatomy of the upper limb.
11. Topographic anatomy of the lower limb.
12. Topographic anatomy and modern imaging methods.

Recommended or required literature:

1. ABRAHAMS P., ZLATOŠ, J.: Ľudské telo. Ottovo nakl..2004
2. DYLEVSKÝ, L.: Funkčná anatómia. Praha. Grada, 2012, 544p.
3. GALLUCI, M. CAPOCCIA, S.: Radiographic Atlas of skelet and BrainAnatomy. Springer, 2005
4. PLATZER, N.: Alas topografické anatómie. Praha: Grada, 2012, 290 p.

Language of instruction:
Slovak language

Notes:

Course evaluation:
Assessed students in total: 93

A	B	C	D	E	FX
18.28	34.41	23.66	9.68	13.98	0.0

Name of lecturer(s): MUDr. Libor Danihel, PhD., MUDr. Peter Filipp, doc. PhDr. Jozef Babečka, PhD.

Last modification: 22.02.2023

Supervisor(s):
Person responsible for the delivery, development and quality of the study programme:
doc. MUDr. Pavol Dubinský, PhD.

COURSE INFORMATION SHEET

University: Catholic University in Ružomberok	
Faculty: Faculty of Health	
Course code: KRAT/54T1023W/22	**Course title:** Topographic Anatomy 2
Type and range of planned learning activities and teaching methods: **Form of instruction:** Lecture / Seminar **Recommended study range:** **hours weekly:** 3 / 1 **hours per semester:** 36 / 12 **Teaching method:** on-site	
Credits: 3	**Working load:** 75 hours
Recommended semester/trimester: 3.	
Level of study: I.	
Prerequisities: KRAT/54T1012W/22	
Requirements for passing the course: During the semester: active participation in presentations. After completing the presentations, a written examination. To participate in the exam, it is necessary to obtain 60 points from the 100-point test. Final evaluation Course evaluation: A - 100% -93% B - 92% -85% C - 84% -77% D - 76% -69% E - 68% -60% FX - 59% - 0%	
Learning outcomes of the course: the aims of the course: To expand the knowledge acquired in the previous study of the subject of anatomy and physiology. To know landmarks and lines on the body surface, the relations of organs to the skeleton (skeletotopia) and the mutual relations of neighboring organs (syntopy). Get acquainted with working methods in topography. Acquire the topographic division of the human body. Be able to apply the acquired knowledge in radiological fields, especially in radiodiagnostics. Theoretical knowledge: Based on their knowledge of systematic anatomy, the student will acquire syntopic relationships of organs in the individual regions of the human body and this will enable him to understand topographic relationships in sciagraphic and sciascopic projections and in postprocessing reconstructions in CT and MR examinations. Practical skills: Based on the knowledge of topographic anatomy, the student will be able to continue in the next study, where he will be acquainted with the implementation of sciascopic and sciagraphic projections of postprocessing reconstructions on CT and MR examinations.	
Course contents: 1. Basics of topographic imaging on CT and MR.	

2. Individual planes of sections on CT and MR in the abdomen
3. Individual planes of sections on CT and MR in the abdomen continued
4. Imaging of the organs of the thoracic cavity in all planes on CT and MR
5. Skull and brain in the axial plane on CT and MR.
6. Other planes of sections in the imaging of the skull and brain on CT and MR
7. Display of the pelvis on CT and MR in all planes
8. Display of the axial skeleton on CT and MR in all planes
9. Display of the upper limb on CT and MR in all planes
10. Imaging of the lower limb on CT and MR in all planes
11. Imaging of the vascular system on CT and MR
12. Advantages and disadvantages of 3D models in diagnostic imaging

Recommended or required literature:

1. DYLEVSKÝ, L.: Funkčná anatómia. Praha. Grada, 2012, 544p.
2. GALLUCI, M. CAPOCCIA, S.: Radiographic Atlas of skelet and Brain Anatomy. Springer, 2005
3. PLATZER, N.: Atlas topografické anatómie. Praha: Grada, 2012, 290 p.

Language of instruction:
Slovak language

Notes:

Course evaluation:
Assessed students in total: 93

A	B	C	D	E	FX
20.43	34.41	29.03	7.53	8.6	0.0

Name of lecturer(s): MUDr. Libor Danihel, PhD., MUDr. Peter Filipp

Last modification: 22.02.2023

Supervisor(s):
Person responsible for the delivery, development and quality of the study programme:
doc. MUDr. Pavol Dubinský, PhD.